Public Works and Development
Lima Plaza Campus – Arapahoe Room
6954 S. Lima St., Centennial, CO 80112

SPECIAL MEETING OF THE ARAPAHOE COUNTY PLANNING COMMISSION TUESDAY, NOVEMBER 22, 2016 AT 6:30 P.M.

REGULAR ITEMS

ITEM 1:	**CASE NO. L16-007, RUSH CREEK 345 KV TRANSMISSION LINE / L&E**		
LOCATION:	East of Deer Trail	**VOTE:**	
ACREAGE:	13.5 Miles with Approximately 300 Acres of Right of Way	**7**	**IN FAVOR**
EXISTING ZONING:	AE & A1	**0**	**OPPOSED**
PROPOSED USE:	345 kV Transmission Line	**0**	**ABSENT**
APPLICANT:	Xcel Energy / Public Service Co of Colorado	**0**	**ABSTAIN**
CASE MANAGERS:	Planner, Sherman Feher; Engineer, Sue Liu		
REQUEST:	To Approve Location & Extent Case	☐ **CONTINUED TO:**	
MOTION SUMMARY:	Approved with Staff findings and conditions	**Date:** _____	
ITEM 2:	**CASE NO. ASI16-003, RUSH CREEK 345 KV TRANSMISSION LINE / 1041 PERMIT**		
LOCATION:	East of Deer Trail	**VOTE:**	
ACREAGE:	13.5 Miles with Approximately 300 Acres of Right of Way	**7**	**IN FAVOR**
EXISTING ZONING:	AE & A1	**0**	**OPPOSED**
PROPOSED USE:	345 kV Transmission Line	**0**	**ABSENT**
APPLICANT:	Xcel Energy / Public Service Co of Colorado	**0**	**ABSTAIN**
CASE MANAGERS:	Planner, Sherman Feher; Engineer, Sue Liu		
REQUEST:	To Recommend Approval of 1041 Permit	☐ **CONTINUED TO:**	
MOTION SUMMARY:	Recommended Approval with Staff findings and conditions; BOCC action required.	**Date:** _____	
ITEM 3:	**CASE NO. L16-002, PROSPER WASTEWATER TREATMENT PLANT / L&E**		
LOCATION:	South of I-70 & West of Watkins Rd – Part of the Prosper Development	**VOTE:**	
ACREAGE:	8.5 Acres		**IN FAVOR**
EXISTING ZONING:	MU-PUD		**OPPOSED**
PROPOSED USE:	Wastewater Treatment Plant		**ABSENT**
APPLICANT:	Prosper Regional Water & Sanitation District		**ABSTAIN**
CASE MANAGERS:	Planner, Sherman Feher; Engineer, Sue Liu		
REQUEST:	To Approve Location & Extent Case	☐ **CONTINUED TO:**	
MOTION SUMMARY:	Delayed and will be noticed for December 20, 2016 (no action taken by the Planning Commission).	**Date:** _____	
ITEM 4:	**CASE NO. ASI16-001, PROSPER WASTEWATER TREATMENT PLANT / 1041 PERMIT**		
LOCATION:	South of I-70 & West of Watkins Rd – Part of the Prosper Development	**VOTE:**	
ACREAGE:	8.5 Acres		**IN FAVOR**
EXISTING ZONING:	MU-PUD		**OPPOSED**
PROPOSED USE:	Wastewater Treatment Plant		**ABSENT**
APPLICANT:	Prosper Regional Water & Sanitation District		**ABSTAIN**
CASE MANAGERS:	Planner, Sherman Feher; Engineer, Sue Liu		
REQUEST:	To Recommend Approval of 1041 Permit	☐ **CONTINUED TO:**	
MOTION SUMMARY:	Delayed and will be noticed for December 20, 2016 (no action taken by the Planning Commission).	**Date:** _____	

ANNOUNCEMENTS:

- **The next regular Planning Commission meeting is scheduled for December 6, 2016.**
- **Planning Commission agendas, Board of County Commissioner agendas, and other important Arapahoe County information may be viewed online at *www.arapahoegov.com* or you may contact the Planning Division at 720-874-6650.**

PLANNING COMMISSION MEMBERS:

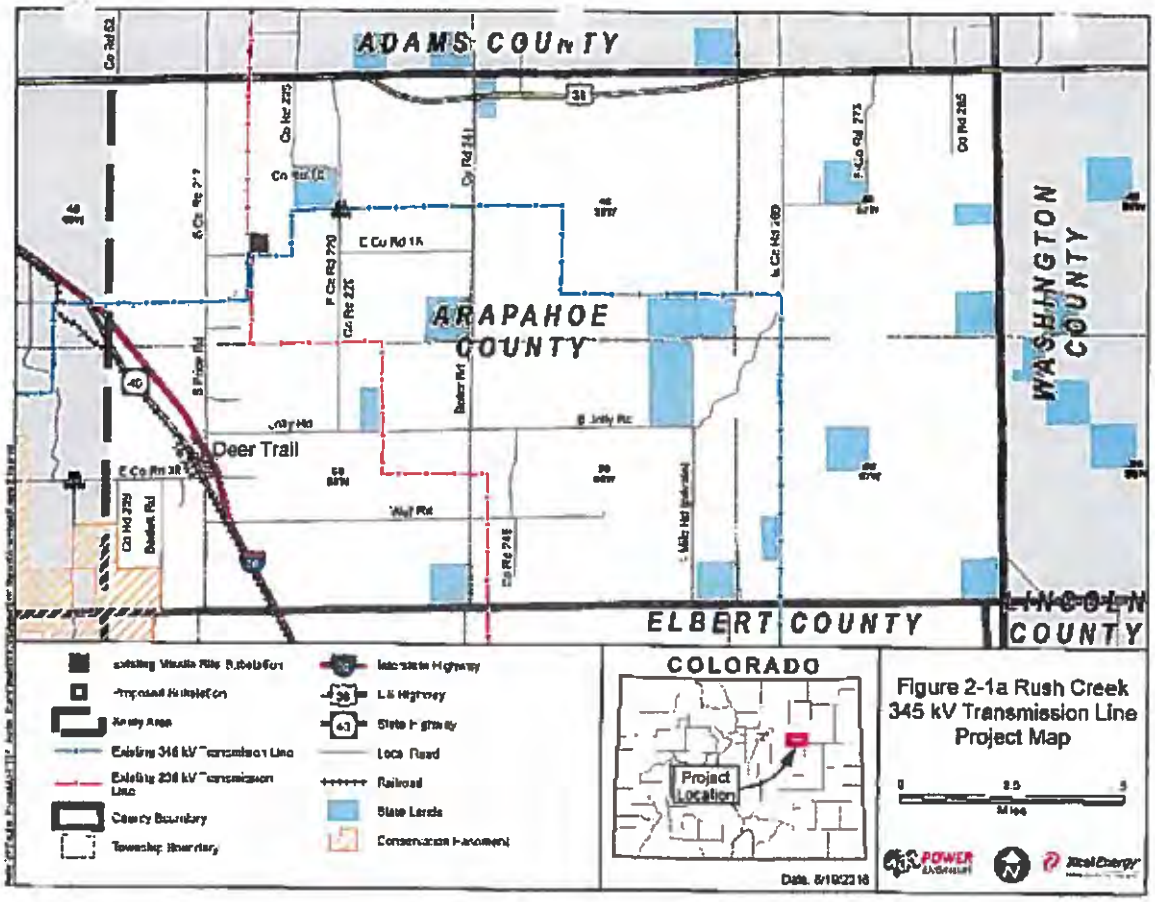
Mark Brummel – Present	**Richard Rader – Present**	**Paul Rosenberg, Chair– Present**
Diane Chaffin – Present	**Jane Rieck – Present**	**Richard Sall – Present**
Brian Weiss, Chair Pro-Tem – Present		

Arapahoe County is committed to making its public meetings accessible to persons with disabilities. Please contact the Planning Division at 720-874-6650 or TTY 711, at least three (3) days prior to a meeting, should you require special accommodations.

ARAPAHOE COUNTY PLANNING COMMISSION
PUBLIC HEARING
November 22, 2016
6:30 P.M.

SUBJECT: L16-007 – RUSH CREEK TRANSMISSION LINE LOCATION & EXTENT
Sherman Feher, Senior Planner **November 14, 2016**

VICINITY MAP: The property is located East of Deer Trail and North of the Southern border of Arapahoe County. This application is in Commissioner District No. 3.



Applicant's Proposed Project Shown in Red

ADJACENT SUBDIVISIONS, ZONING, AND LAND USES:

North	-	None; A-E; Agriculture
South	-	None; A-E; Agriculture
East	-	None; A-E; Agriculture
West	-	None; A-E & A-1; Agriculture

South of Wall Road

North of Jolly Road

PROPOSAL:

The applicant, Public Service Company of Colorado (PSCo), acting on behalf of itself and various property owners, is requesting Planning Commission approval for a Location and Extent case, known as the Rush Creek Transmission Line. PSCo seeks to construct approximately 13.5 miles of new 345 kilovolt transmission line in Arapahoe County from wind farms in Cheyenne, Kit Carson, Elbert and Lincoln County and a transmission line that enters Arapahoe County along some 100 to 200- foot wide easements in the following sections: Sections 20, 29, and 32, Township 4 South, Range 59 West; Sections 3-5, 10, 15, 22-24, Township 5 South, Range 59 West; Sections 19, 30 and 31, Township 5 South, Range 58 West of the 6th P.M. in Arapahoe County. The overall project area of transmission line easements is roughly 300 acres based on an easement width of 150 feet

The proposed design for the overhead transmission line towers are single circuit brown steel H-frame structures and three-pole guyed brown steel structures for all angles. These structures will be approximately 80-140 feet tall. There will be typical spacing of 600-900 feet between pole locations. The number of pole structures needed in Arapahoe County is in the range of 90-130. The applicant is proposing a 20 acre construction staging area in Arapahoe County near Woodis Road (Section 19, Township 5 South, Range 58 West).

When fully operational, the Rush Creek Wind Power Project will generate up to 600 MW of power from Wind Turbine Generators located in Kit Carson, Cheyenne, Lincoln and Elbert Counties. There will be approximately 80-93 miles (depending on the preferred alternative) of 345 kV transmission line that will traverse the four counties.

This Location and Extent (L&E) case is being done in conjunction with a 1041 Permit Case. Both of these cases will be heard by the Planning Commission. The Planning Commission will make the final decision on the L&E case and make a recommendation to the BOCC for the 1041 Permit case. The BOCC will make the final decision on the 1041 Permit case. The Location and Extent case primarily reviews the general location and overall extent of the project. The 1041 Permit case reviews environmental and socio-economic factors that are related to the project.

RECOMMENDATION:

Staff: Staff is recommending approval of this case with conditions, based on the findings listed in the staff report.

I. BACKGROUND

Zoning
The properties are currently zoned A-E and A-1.

II. DISCUSSION

Staff review of this application included a comparison of the project to policies and goals outlined in the Comprehensive Plan, a review of pertinent zoning regulations, background activity, and analysis of referral comments.

1. The Comprehensive Plan

The Comprehensive Plan designation for this area is primarily Tier 2 and to a lesser extent Tier 3. As such, this proposal is allowed in both Tier 2 and 3. Also Policy PFS 1.6 stipulates that the County shall, "Consider Power Energy Needs to Support Growth and Development of the Region."

2. Regulatory Review and additional Background Information

Chapter 13, Section 13-700 of the Land Development Code, covers the policy and regulatory aspects of a Location and Extent. This includes a specific review of – Location and Extent, Section 13-702 – General Requirements and Procedure. A Location and Extent does not have specific approval criteria but may be approved upon the finding that:

13-702.01A	No road, park, public way, ground, or space, no public building or structure, and no major facility of a public utility shall be constructed or authorized in the unincorporated areas of Arapahoe County unless and until the proposed location and extent thereof has been submitted to and approved by the Arapahoe County Planning Commission.
13-702.05	The Planning Commission and the Board of County Commissioners, when applicable, may approve the facilities as submitted, approve it with conditions, or deny the facility. The conditions to be imposed are those necessary, in the discretion of the Planning Commission and Board of County Commissioners, to mitigate or eliminate any adverse impacts of the proposed facility on the surrounding area, and may include the posting of sufficient performance guarantees with the County to guarantee the construction of any improvements.

SUBMITTAL REQUIREMENTS - The applicant is in compliance with Section 13-703, sub-section 13-703.01, by submitting all of the required materials.

3. Referral Comments

The following table is an overview of referral comments. A copy of all referral comments follows the staff report. The Applicant's response is in italics

Engineering Services	-	Comments on L&E Exhibit, utility easements and permits, *The applicant has addressed or will address these comments. Some of these items will be conditions of approval.*
Mapping	-	Comments on L&E Exhibit. *The applicant has addressed or will address these comments.*
Zoning Administrator	-	No comments.
Open Spaces	-	Would like the applicant to consider existing and future trail connection along the proposed ROW. *Applicant will consider trail connections with the County but the County will need to obtain its own separate land rights from property owners for trail easements.*
Weed Control		No response.
Sheriff's Department		No comments.
Deer Trail Fire District	-	No response.
Town of Deer Trail		No response.
Colorado Parks & Wildlife	-	Comments regarding raptors, swift fox, burrowing owls, short-grass prairie, riparian areas and Best Management Practices. *See Applicant's extensive response to CPW comments in Xcel Energy's referral comments response letter dated 11/10/16.*
Army Corps of Engineers	-	No response.
Assessor's Office	-	No response.
Elbert County		No response.
Tri-County Health	-	Initial referral letter, dated November 7, 2016, referred to pipelines instead of transmission line.. *Applicant addressed pipeline comments as if they were transmission line comments.* There were comments regarding on-site wastewater treatment systems, groundwater quality protection, wastewater disposal and fugitive dust. *Comments noted; will be*

		addressed as appropriate. County received a second letter, dated November 10, 2016 which referred to transmission line instead of pipelines.
REAP		REAP is supportive of this project.
IREA	-	No response.
East End Advisory Committee	-	Arnold Hollingsworth: No comments; No response from other members.
Deer Trail Conservation. District		No response.

We also received a letter of support from the Kit Carson County Board of County Commissioners.

III. STAFF FINDINGS

Staff has visited the site and has reviewed the plans and supporting documentation and referral comments. Based upon review of applicable policies and approval standards in the Land Development Code and analysis of referral comments, our findings include:

1. The application for the transmission line L&E complies with the Arapahoe County Comprehensive Plan.

2. The submitted L&E application is in conformance with the submittal and processing requirements of the Land Development Code.

3. Staff finds that the request for approval of Location and Extent for transmission line is in conformance with policies and goals outlined in the Land Development Code for a Location & Extent.

4. There are some Engineering issues that need to be addressed such as recording of utility easements and obtaining necessary permits.

IV. RECOMMENDATION:

Considering the findings and other information provided herein, the staff recommends approval of this case Rush Creek Transmission (Case No. L16-006), subject to the following conditions:

1. The applicant makes any minor modifications to plans, as requested by the Public Works and Development Department.

2. The applicant agrees to address the Division of Engineering Services' comments and concerns as identified within the various Division of Engineering Services reports.
3. The applicant will execute and record all utility easements and provide the Public Works and Development Department with a copy prior to construction of the project.
4. The applicant will obtain all necessary permits prior to commencing project.

This is based upon:

- The proposed use is acceptable and consistent with the standards as determined by the Land Development Code.
- The proposed use benefits and serves the interest of the citizens of Arapahoe County.

V. DRAFT MOTIONS:

A. APPROVAL: In the case of L16-007, Rush Creek Transmission Line Location and Extent, we have read the staff report and received testimony at the public hearing. We find ourselves in agreement with staff findings including all plans and attachments as set forth in the staff report dated November 14, 2016, and move to approve this case, subject to the following conditions:

1. The applicant makes any minor modifications to plans, as requested by the Public Works and Development Department.
2. The applicant agrees to address the Division of Engineering Services' comments and concerns as identified within the various Division of Engineering Services reports.
3. The applicant will execute and record all utility easements and provide the Public Works and Development Department with a copy prior to construction of the project.
4. The applicant will obtain all necessary permits prior to commencing project.

B. DENIAL (This recommendation would not be consistent with the Staff recommendation. Any alternate motion must include new findings and conditions in support of the motion for Approval where those differ from the Staff-recommended findings and conditions)*:*

In the case of L16-007, Rush Creek 345 KV Transmission Line Location and Extent, we have read the staff report and received testimony at the public hearing. We find ourselves not in agreement with staff findings regarding the draft plan and attachments as set forth in the staff report dated November 14, 2016, and DENY the Location and Extent case.
Findings:

1. State new or amended findings to support Planning Commission recommendation of "Denial" as part of the motion.
2.

A. *<u>CONTINUE</u>: In the case of L16-007, Rush Creek 345 KV Transmission Line, Location and Extent case, I move to continue the decision on this request to [DATE], 2016, date certain, at 6:30 p.m., at this same location [to receive further information] [to further consider information presented during the hearing].*

Attachments:
- Application
- Response Letter
- Referral Letters
- Location and Extent Exhibit

Arapahoe County Colorado's First	Public Works and Development 6924 S. Lima Street Centennial, Colorado 80112 Phone: 720-874-6650 www.arapahoegov.com	**Land Development Application** Form must be complete Land Development Application materials received after 2pm shall be date stamped received the following working day.

APPLICANT/REPRESENTATIVE: Erin A. Degutis	ADDRESS: 1800 Larimer Street, 4th Floor, Denver, CO 80202 PHONE: 303.571.7735 FAX: 303.294.2088 EMAIL:	SIGNATURE: NAME: Erin A. Degutis, RLA, AICP, LEED AP Xcel Energy | Responsible By Nature Senior Agent, Siting and Land Rights TITLE:
OWNER(S) OF RECORD: Public Service Company of Colorado1	ADDRESS: 1800 Larimer Street, 4th Floor, Denver, CO 80202 PHONE: 303.571.7735 FAX: 303.294.2088 EMAIL:	SIGNATURE: NAME: Erin A. Degutis, RLA, AICP, LEED AP Xcel Energy | Responsible By Nature Senior Agent, Siting and Land Rights TITLE:
ENGINEERING FIRM: N/A	ADDRESS: PHONE: FAX: EMAIL:	CONTACT PERSON:

Pre-Submittal Case Number: Q16-044	Pre-Submittal Planner: Sherman Feher	Pre-Submittal Engineer: Sue Liu

Parcel ID no. (AIN no.)	1989-00-0-00-016 and 2071-00-0-00-099
Parcel Address or Cross Streets:	Arapahoe County
Subdivision Name & Filing No.:	N/A
Related Case Numbers: (Preliminary/Final Development Plan, Rezoning, and / or Plat)	Similar to East Colorado Connect submitted by NextEra Energy Serivces.

	EXISTING	PROPOSED
Zoning:	A-E, A-1, USBR	same as exisitng
Case/Project/Subdivision Name:	N/A	Rush Creek 345 kV Transmission Line Project
Site Area (Acres):	~ 300	same as existing
Floor Area Ratio (FAR):	N/A	N/A
Density (Dwelling Units/Acre):	N/A	N/A
Building Square Footage:	N/A	N/A
Disturbed Area (Acres):		TBD based on engineering design

CASE TYPE (Administrative Case types are shaded in Gray)

☐ Preliminary Development Plan or Major Amendment ☐	☑ Location & Extent or Major Amendment ☐	☐ Administrative Site Plan	☐ Preliminary Plat
☐ Master Development Plan or Major Amendment ☐	☐ Rezoning - Conventional	☐ Administrative Amendment to _____(PDP, FDP, etc.)	☐ Final Plat
☐ Final Development Plan or Major Amendment ☐	☐ Land Development Code Amendment	☐ Technical Amendment to _____(PDP, FDP, etc.)	☐ Minor Subdivision
☐ Planned Sign Program or Major Amendment ☐	☐ Use by Special Review or Major Amendment ☐	☐ Commercial Mobile Radio Service (CMRS/cellular antennas)	☐ Subdivision Exemption
☐ Vacation of Right of Way/Easement/Plat	☐ Use by Special Review – Oil and Gas	☐ Plat Correction	☐ Replat (Major)
☐ 1041 – Areas & Activities of State Interest – Use by Special Review ☐	☐ Special District Title 30 ☐ Title 32 ☐	☐ Administrative Oil & Gas Use by Special Review (AOGUSR)	☐ Administrative Replat
☐ Comprehensive Plan	☐ Rural Cluster	☐ Street Name Change	☐ _____

THIS SECTION FOR OFFICE USE ONLY

Case No:		Planning Manager:		Engineering Manager:	

Planning Fee:	Y	N	$	Engineering Fee:	Y	N	$	TCHD Fee? ☐	$	

This application shall be submitted with all applicable application fees. Submittal of this application does not establish a vested property right in accordance with C.R.S. 24-68-105(1). Processing and review of this application may require the submittal of additional information, subsequent reviews, and/or meetings, as outlined in the Arapahoe County Land Development Code.

Arapahoe County Location and Extent Application
Rush Creek 345 kV Transmission Line Project

Submitted by Public Service Company of Colorado
1800 Larimer Street, 4th Floor
Denver, Colorado 80202

LETTER OF INTENT

Through this application, Public Service Company of Colorado (PSCo) respectfully requests approval of a Land and Extent Application to construct, operate, and maintain approximately 13.5 miles of 345 kilovolt (kV) transmission line in eastern Arapahoe County (the "Project"). As is customary with all land use applications to locate and construct major utility facilities in Colorado, PSCo is applying pursuant to CRS 29-20-108, which relates to local government processing of such applications.

As discussed in our pre-application and follow up consultation meetings with County staff, the proposed transmission line in Arapahoe County is one component of the proposed Rush Creek Wind Project, which consists of 600 MW of new wind generation and 90 new miles of transmission in eastern Colorado. In May 2016 PSCo filed an application for a Certificate of Public Convenience and Necessity (CPCN) with the Colorado Public Utilities Commission (CPUC) for the Rush Creek Project. Details about the overall project can be found on the CPUC website under Docket #16A-0117E.

The transmission line proposed in Arapahoe County will deliver wind energy from Rush Creek to PSCo's grid by way of the existing Missile Site Substation. During the construction period, temporary staging areas of approximately 20-acres in size will be required to house construction materials and equipment. While the locations of these staging areas are yet to be identified, at least one such area will likely be located in Arapahoe County.

The Project Area within Arapahoe County covered by the 1041 Permit Application for Areas and Activities of State Interest and Location and Extent Application is approximately 300 acres, based on an easement width of 150-feet. PSCo is currently negotiating with landowners to acquire easements for construction, operation, and maintenance of the Project. Based on progress to date, we anticipate executing easements or easement option agreements by early fall of this year.

Xcel Energy℠
PUBLIC SERVICE COMPANY

Siting and Land Rights
1800 Larimer Street, Suite 400
Denver, Colorado 80202

Telephone: 303.571.7751

November 10, 2016

Arapahoe County Development Services & Infrastructure Management
Mr. Sherman Feher
6924 South Lima Street
Centennial, Colorado 80112

RE: **Rush Creek 345kV Transmission Line – 1041 Application for Areas and Activities of State Interest (Case No. ASI16-003) and Location and Extent Application (Case No. L16-007)**
Response to Agency Referral Comments

Dear Mr. Feher,

Public Service Company of Colorado (PSCo) is pleased to receive the Agency Referral Comments the Rush Creek 345kV Transmission Line Project dated October 7, 2016. We reviewed the comments and respectfully submit our responses for your consideration.

Arapahoe County Planning

1. If the temporary storage construction yard(s) in Arapahoe County is not known by the time of the Planning Commission hearing, Xcel may have to obtain a Special Exception Use or a Temporary Use Permit for that site(s). If it will be at the Missile Site Substation then it needs to be indicated on the L&E exhibit.

   Response: PSCo may have up to two (2) temporary storage yards in Arapahoe County. One temporary storage construction yard is secured through a lease agreement with the landowner and is indicated on the revised Locations and Extent exhibit, and included with this application (submitted November 3rd, 2016. PSCo understands that if a second temporary storage construction yard is needed, a Special Exception Use or a Temporary Use Permit will be required for the second location.

Arapahoe County Open Spaces

1. After analysis Arapahoe County Open Spaces requests that the applicant considers existing and future trail connections along the utility alignments. Trails provide maintenance access for the utility company while simultaneously providing a tremendous public asset. However, it is hard to determine exact routes when they are proposed as alternative in the site plan as well as due to the large scale of the map.

   Response: PSCo generally allows public trail connections along transmission corridor alignments and will work with the County to grant access within PSCo's easement corridor upon review and approval of the County's proposed trail plans. Arapahoe County will need to secure its own separate land rights and permission for such trail connections from the individual property owners along PSCo's transmission line easement for proposed trails.

Tri-County Health Department

1. On-Site Wastewater Treatment Systems: Houses and other buildings equipped with plumbing facilities on properties located along the preferred and alternate pipeline routes are serviced by Onsite Wastewater Treatment Systems (OWTS). Our review of the pipeline routes indicates that sections of the pipeline routes may encroach on OWTS on some properties. TCHD recommends that the applicant review the locations of the pipeline routes to determine if they may encroach on OWTS. If it appears that encroachment will occur, it may be necessary to revise the pipeline location or relocate the OWTS. TCHD can provide specific permit information and system diagrams on OWTS for the affected properties.

   Response: PSCo intends to build an overhead 345kV transmission line as part of the Rush Creek Wind Project. A pipeline is not part of this Project and PSCo assumes the word "transmission line" was intended in place of "pipeline" in this comment. As a part of the routing and siting process for the transmission line, PSCo reviews the locations of infrastructure, such as pipelines, roads, on-site wastewater treatment systems, and other transmission / distribution lines. PSCo reviewed proposed segments and routes to determine if there are any potential conflicts with infrastructure, such as on-site wastewater treatment systems. The Preferred Route (Alternative A) in Arapahoe County crosses undeveloped agricultural land, rangeland, and pasture sited away from existing residences and agricultural settlements, thus avoiding on-site wastewater treatment systems.

2. Groundwater Quality Protection: A scan of the area proposed for the pipeline routes indicates that there may be water wells on the properties where the pipeline is located. Heavy equipment may inadvertently drive over wells during construction, causing damage that may expose the water in the wells to contamination. Where wells are within or close to pipeline routes, we recommend the applicant protect the wells by identifying the areas around wells so that they are visible to vehicle operators/construction crews. This can be accomplished by delineating the area around each well with stakes, colored tape or orange plastic netting. If the pipeline routes cross over streams and/or wetlands, alluvial groundwater flow could be impacted if trenching intersects the shallow groundwater. If trench dewatering is necessary, the water will be pumped and discharged to alluvial / colluvial sediments close to the stream channel. If discharge of groundwater is necessary during construction, a discharge permit from the Colorado Department of Public Health and Environment (CDPHE), Water Quality Control Division will be necessary.

   Response: PSCo intends to build an overhead 345kV transmission line as part of the Rush Creek Wind Project. A pipeline is not part of this Project and PSCo assumes the word "transmission line" was intended in place of "pipeline" in this comment. PSCo identifies wells early in the planning process through electronic data collection and consultation with landowners and avoids wells within and immediately adjacent to the transmission line easement in order to reduce conflicts if the well needs to be maintained. PSCo intends to span all streams, wetlands, and floodplains while paralleling the existing NextEra 345kV transmission line in Arapahoe County. PSCo does not intend to trench as a part of this project as H-frame structures are placed through a direct-embed process. Concrete footings may be needs in areas where geotechnical surveys indicate that soils needed more support.

3. Wastewater Disposal: Proper wastewater management promotes effective and responsible water use, protects potable water from contaminants, and provides appropriate collection, treatment, and disposal of waste, which protects public health and the environment. The applicant does not specify how wastewater facilities will be provided at the staging areas during construction for onsite workers. We anticipate that portable toilets will be necessary during construction. TCHD has no objection to the use of portable toilets, provided they are properly maintained. TCHD recommends that the applicant address these, in terms of numbers, locations, and vendor.

   Response: Overhead high-voltage transmission lines do not generate wastewater during their operation or maintenance. PSCo intends to use portable toilets at each temporary construction storage yard and will ensure that the portable toilets are maintained on a regular basis. PSCo has not selected a vendor for the portable toilets. The number of portable toilets will be determined by the estimated number of staff and construction workers based at each temporary construction storage yard.

4. Fugitive Dust: Exposure to air pollution is associated with a number of health problems including asthma, lung cancer, heart disease, and low birth weight. Vehicle traffic on unpaved roads may contribute to increased fugitive dust emissions. We recommend that the applicant utilize all available methods to minimize fugitive dust. Control measures or procedures that may be employed include, but are not limited to, watering, chemical stabilization, carpeting roads with aggregate, and speed restrictions.

   Response: PSCo intends to control fugitive dust per the Arapahoe County Road Use Agreement. Methods identified in the Road Use Agreement, including sprinkling the road surface with water and speed restrictions. The road surface may be stabilized during the construction period and may include the use of materials like aggregate or asphalt where appropriate.

Arapahoe County Weed Control

1. Monitor for noxious weed invasion during and after the construction phase.

   Response: PSCo will monitor for noxious weeds during and after the construction phase of the project.

2. Upon any sightings of noxious weeds by County staff or the applicant, appropriate integrated weed management methods shall be implemented for the species found.

   Response: PSCo develops internal reclamation plans for disturbed areas and addresses noxious weeds. Reclamation plans shall be in conformance with agency permits and landowner agreements as to reclamation methods and seed mixes, restoring the landscape to the pre-construction conditions. PSCo will coordinate with the Farm Service Agency if Conservation Reserve Program lands are impacted.

Colorado Parks & Wildlife

1. Of high concern regarding electrical transmission lines is the potential for raptor electrocution. Through the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act, the U.S. Fish and Wildlife Service, in cooperation with the Edison Electric Institute, has developed Best Management Practices to minimize impacts to avian species. CPW recommends that both the "*Suggested Practices for Avian Protection on Power Lines, the State of the Art in 2006*" and the "*Reducing Avian Collisions with Power Lines: The State of the Art in 2012*" documents be consulted for proper design considerations to minimize raptor electrocution. These documents can be ordered at the Edison Electric Institute website (www.eei.org) or can be downloaded at the Avian Power Line Interaction Committee website (www.aplic.org). This recommendation is applicable to all segments included in the project.

   Response: PSCo adopted and regularly uses a corporate Avian Protection Plan for the entire transmission and distribution infrastructure system in Colorado, and plans to operate within such Plan for the proposed Project. This Plan incorporates many elements of the Avian Powerline Interaction Committee, of which Xcel Energy is an active member, and discusses protection measures for the prevention of avian electrocutions on overhead transmission lines, and is used for design and retrofitting transmission and distribution structures that may cause electrocution or injury of raptors. Mr. Larry Claxton, of PSCo's Denver staff, was consulted in the preparation of '*Suggested Practices for Avian Protection on Power Lines, the State of the Art in 2006*,' and '*Reducing Avian Collisions with Power Lines: the State of the Art in 2012*'.

2. CPW recommends the use of preconstruction surveys immediately prior to construction, as well as continuation of those surveys during construction, to identify raptor nests within the project area and implement appropriate restrictions. CPW recommends adherence to the recommended buffer distances and timing stipulations identified in the document "Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors". Removal or

relocation of any active raptor nests will require consultation with CPW and US Fish and Wildlife Service prior to moving.

Response: PSCo avoided known raptor nests during the routing and siting of the Preferred Alternative in Arapahoe County. PSCo will perform pre-construction raptor nests surveys and adhere to the recommended buffer distances identified in the '*Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors.*' PSCo will coordinate with both CPW and the US Fish and Wildlife Service in advance if raptor nests need to be removed or relocated.

3. In areas where ground disturbing activities are anticipated, CPW recommends reclamation with native plant species. Proper reclamation, from a wildlife perspective, involves not only stabilizing the soil and establishing ground cover, but fostering plant communities with a diversity of species and plant types (grasses, woody plants, and broadleaf forbs) which will fully serve the nutritional and cover needs of wildlife.

   Response: PSCo utilizes internal revegetation and stabilization practices as well as adhering to revegetation requirements stipulated in state Stormwater Pollution Protection Plans and the County's Grading, Erosion and Sediment Control Manual. PSCo will coordinate with the Farm Service Agency if Conservation Reserve Program lands are impacted. The seed / plant mix will contain certified weed-free seeds and native plants appropriate to the USDA climatic zone and ecologic habitat to the extent possible. PSCo may substitute specific plants based upon permit requirements and commercial availability.

4. Also essential is the implementation of a systematic and thorough noxious weed control program. Consistent and long-term monitoring is necessary to ensure the establishment of adequate native vegetative cover.

   Response: PSCo utilizes internal revegetation and stabilization practices as well as adhering to revegetation requirements stipulated in state Stormwater Pollution Protection Plans and the County's Grading, Erosion and Sediment Control Manual. PSCo will coordinate with the Farm Service Agency if Conservation Reserve Program lands are impacted. The seed / plant mix will contain certified weed-free seeds and native plants appropriate to the USDA climatic zone and ecologic habitat to the extent possible. PSCo may substitute specific plants based upon permit requirements and commercial availability..

5. Of concern to CPW are the locations of *raptor nest sites* identified in preliminary survey results, both within the project boundaries and in the surrounding 2-mile buffer area. Those species identified from the pre-construction surveys that recently nested in the area include ferruginous hawk, red-tailed hawk, Swainson's hawk, great-horned owl, and a currently unoccupied golden eagle nest. CPW requests that final siting of transmission lines and infrastructure also be carried out in accordance with the guidance and the recommended raptor buffer zones. CPW would also request notification if Xcel and/or its consultants/contractors observe new and/or active raptor nests within the project area.

   Response: PSCo will perform pre-construction surveys for raptor nests within the Preferred Route corridor. PSCo will notify CPW if any new and/or active nests are discovered during the pre-construction surveys and apply the recommended raptor buffer zones during the construction phase of the project. The siting of the H-frame transmission line structures is based upon the raptor nest surveys during the planning phase of the project and PSCo's intention to match the NextEra 345kv structure placement to the extent possible while avoiding streams and wetlands.

6. Swift fox (*Vulpes velox*) is a species of state special concern that is known to occur within the proposed project area. The potential overlap with swift fox should be considered in survey protocols and timing of construction activities to identify and avoid all maternal swift fox den sites. Swift foxes are in the area year-round, breed during December, and raise their young into the next fall. It is recommended that swift fox surveys include daylight

searches for den areas and nighttime spotlight searches during August and September. Destruction of dens from December 15 through August 15 should be avoided and CPW recommends steps be taken to minimize disturbance near active dens during this time period to the extent possible. CPW would also request notification if Xcel and/or its consultants/contractors observe swift fox within the project area.

Response: Swift fox is not a species that is a listed or candidate species at the state or federal level. However, PSCo agrees to integrate policies to minimize to the extent possible disturbance of active dens into construction and operations plans in the event that swift fox dens are found within the transmission line corridor area. PSCo will survey for active swift fox dens in the spring and modify construction plans accordingly. PSCo intends to provide CPW with location and observation data of swift fox during the construction period.

7. Prairie dog colony locations have been indicated within the project area and CPW recommends surveys to determine the presence/absence of *burrowing owls* (*Athene cunicularia*), a state threatened bird. If development or construction in prairie dog towns occurs from February 1 to October 31, the presence of burrowing owls and whether they are actively nesting should be determined. If nesting burrowing owls are present, please notify CPW, and no human encroachment should occur within 150 ft. of nesting burrows from March 15 to October 31. If burrowing owls merely occupy the site, it is recommended that earthmoving and other disturbance activities be delayed until late fall after they have migrated.

   Response: PSCo will perform surveys of prairie dog colonies to determine the presence or absence of burrowing owls, especially if construction is planned from February 1 to October 31. If nesting burrowing owls are present at a prairie dog town, PSCo will notify CPW staff and prohibit encroachment or activity within 150 feet of nesting burrows between March 15 and October 31. If burrowing owls are present at a location other than a prairie dog town, construction will be paused to determine if the animal is nesting. If the burrowing owl(s) establishes a nest, PSCo will inform CPW and prohibit encroachment or activity within 150 feet of nesting burrows between March 15 and October 31.

8. The project area for the Rush Creek portion within Arapahoe County crosses the mainstem of (and tributaries to) Muddy Creek, and a high watershed tributary to First Creek. CPW recommends minimal impact to the stream beds, both during construction and after, and the stream bed should be handled as a stream crossing whether or not water is present at the time of construction. CPW recommends a ground disturbance buffer with minimal activities or operations within 300 feet of any lake, reservoir, wetland or stream. Erosion and sediment control precautions should be in place to avoid deposition into water ways. Destruction of riparian vegetation and truck/heavy machinery stream crossings should be avoided.

   Response: PSCo will adhere to the regulations in the Stormwater and Pollution Prevention and Control Plan and the Grading Erosion, and Sediment Control Plan, which will direct work and activity in the vicinity of streams, lakes, and wetlands. PSCo will maintain to the extent possible a buffer between lakes, reservoirs, wetlands, or streams of up to 300 feet; however, there may be minimal encroachment within 300 feet in order to maintain a structure-for-structure placement of the proposed H-frame structures.

9. CPW further recommends crossing riparian corridors and streams at a perpendicular angle, in order to reduce impacts to natural resources, as well as spanning the corridors with structures located outside the riparian and stream zones.

   Response: PSCo will cross riparian corridors and streams at a perpendicular angle to the extent possible in order to reduce impacts to natural resources. PSCo plans on spanning riparian corridors, wetlands, and streams and locating structures landward of these areas.

10. CPW recommends avoiding treed areas of cottonwood and willow, as these areas provide bird and wildlife habitat.

    Response: PSCo avoided to the extent possible treed areas of cottonwood and willows. However, there may be selective removal of trees that occur within the transmission line easement. Large woody species and trees are required to be removed per the National Electric Safety Code (NESC) regulations for vegetation management. PSCO will survey any tree that needs to be removed within the transmission line easement for raptor nests prior to removal and will coordinate and comply with CPW regulations if a raptor nest is present.

11. During construction, stream crossing by construction vehicles should be avoided. CPW requests that any new service roads that are proposed for construction in conjunction with the project avoid crossing creeks or stream beds to avoid impacts to wildlife and habitat. If any new access or maintenance roads will be constructed that cross stream habitat, CPW would like to be consulted on best management practices and options for construction to minimize impacts. A construction design for any new or reconstructed riparian crossing that actively minimizes barriers to fish passage at all water levels and mitigates any existing barriers where possible would minimize the negative impact of the project on native fish species.

    Response: PSCo will avoid stream crossings by construction vehicles and new service roads proposed for construction will avoid crossing creeks or streams. PSCo will consult with CPW on best management practices and options for construction to minimize impacts if any new access or maintenance roads cross stream habitat.

12. CPW recommends the following Best Management Practices when working in or near aquatic habitats.
    - Drainages should be crossed perpendicular to the flow of the stream;
    - Use existing road crossings and existing stream crossings for vehicles and other construction equipment instead of building new roads and stream crossings;
    - The width of construction should be minimized within the 100-year floodplain;
    - Stream bank, wetland restoration/improvement should be performed, where necessary; and
    - Vehicle and equipment crossing of creeks/streams should be made in locations that will cause the least erosion of banks and sedimentation.

    Response: PSCo recognizes that CPW's recommendations in the October 7th letter to Arapahoe County is purely advisory and not tied to State or Federal laws or regulations. At this time, PSCo has not selected a contractor to develop detailed construction and operation plans to erect the transmission line structures. However, PSCo will apply the following BMPs to the extent possible in the construction plans as long as the BMPs do not conflict with existing landowner agreements:
    - Drainages should be crossed perpendicular to the flow of the stream;
    - Use existing road crossings and existing stream crossings for vehicles and other construction equipment instead of building new roads and stream crossings;
    - The width of construction should be minimized within the 100-year floodplain;
    - Stream bank, wetland restoration / improvement should be performed, where necessary; and
    - Vehicle and equipment crossing of creeks / streams should be made in locations that will cause the least erosion of banks and sedimentation.

13. As for more general construction protocols, CPW recommends low speeds for construction vehicles to avoid wildlife collisions. Where new roads are required, CPW recommends that these single-purpose roads are gated to reduce traffic disruptions to wildlife. If any temporary (e.g., construction) or permanent fencing is proposed, CPW recommends that it is the wildlife-friendly fencing[3] that allows young to cross, and does not include high-tensile hogwire.

    Response: PSCo will coordinate with Arapahoe County and identify an appropriate speed limit on public and private roads in an effort to reduce and avoid wildlife collisions. A speed limit of 25 mph can both reduce wildlife

collisions and fugitive dust. Temporary fencing will be erected around the temporary laydown construction yards to prevent livestock and wildlife from entering the site. The fence material will likely be 6-foot chain link fence with a secured gate. High-tensile hogwire will not be used as a fence material.

14. In Table 4-2, Xcel state that three species (burrowing owl, prairie dog, and mountain plover) have known records in the project area.

    Response: Table 4-2 States that there are known record for these species in the Arapahoe County portion of the Project Area (large black boundary of the Project Area is shown on Exhibit H). This is based on Natural Heritage, desktop analysis, and field reconnaissance data for habitat and observations.

15. In Table 5-4, Xcel states that there are zero ROW miles that cross known habitat of state listed species.

    Response: Table 5-4 used Natural Heritage, desktop analysis, and field reconnaissance data for habitat and observations data and information above for our impact analysis of the Right-of-Way (ROW, 150-feet), not the entire Project Area (see Exhibit H).

16. If there are known records of these three species in the project area, why doesn't Xcel show any miles of impact to state-listed species' habitats, and conclude with "no effect" to these three state-listed species?

    Response: Construction is not expected to impact these three state-listed species because of Best Management Practices (BMP's) and other protection measures (i.e. pre-construction surveys, buffers, speed limits, etc.). PSCo states: "If any potential suitable habitat for threatened endangered species is identified during a field survey of the Preferred Alternative, PSCo will further coordinate with USFWS to determine avoidance or mitigation strategies."

Per your request, PSCo addressed the comments and general information notes from the Engineering Department in a separate letter.

Please let me know if I can provide additional information or assistance. I can be contacted directly at 303.571.7735 or via email at Erin.A.Degutis@XcelEnergy.com .

Kindest regards,

Erin A. Degutis, RLA, AICP, LEED AP
Senior Agent, Siting & Land Rights
Xcel Energy

Encl.

C: John Lupo, Xcel Energy
Nadia El Mallakh, Xcel Energy
Carolynne White, Brownstein Hyatt Farber Schreck
Abby Kirkbride, Brownstein Hyatt Farber Schreck
Dave Dean, POWER Engineers

Xcel Energy℠
PUBLIC SERVICE COMPANY

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1800 Larimer Street, Suite 400
Denver, Colorado 80202

Telephone: **303.571.7751**
Facsimile: 303.294.2088

November 3, 2016

Arapahoe County Engineering Services Division
Ms. Sue Liu, PE
6924 South Lima Street
Centennial, Colorado 80112

RE: **Rush Creek 345kV Transmission Line – 1041 Application for Areas and Activities of State Interest, Floodplain Study, and Location and Extent Application.**
Case No. ASI16-003

Dear Ms. Liu,

Public Service Company of Colorado (PSCo) is pleased to receive your Phase II comments for the Revised Rush Creek 345kV Transmission Line Project dated October 7, 2016. We reviewed the comments and respectfully submit our responses for your consideration.

Finding Comments

1. As discussed in the pre-submittal meeting, staff recommended that all poles be installed outside of Arapahoe County existing or future right-of-ways. The County's 2035 Transportation plan identifies E. County Road 34/Jolly Road as Rural Arterial with a right-of-way section of 114-feet. A sixty-foot (60') right-of-way section is needed to meet the rural roadway right-of-way requirements for Secondary rural road including County Road 221/Huntington Road, E. County Road 26/Hampden Avenue, County Road 233/Hayward Road, and County Road 28/E Woodis Road. The Transportation Plan recommends preserving section line roadway alignments for future widening. Please ensure that no structures, including transmission line poles, shall be located within 30-feet of the section line to allow for widening of future right-of-way corridors.

   Response: PSCo will not place transmission line structures within 30-feet of section lines in Arapahoe County.

2. The transmission line crosses tributaries to Muddy Creek. All of the tributaries are unmapped drainageway. The delineation of the 100-year floodplain for these unmapped tributaries have not been established. The County defines a floodplain as any drainageway with a tributary area of 130 acres or more. The tributaries that meet the County's definition of a floodplain should be identified (Floodplain Delineation Analysis should be provided for review).

   Response: PSCo addressed this comment during the Phase I review. A floodplain study was completed and submitted on October 7, 2016.

3. A Floodplain Development Permit (FDP) is required for all activities within a County designated floodplain, regardless of impact. Even when it is apparent that there are no adverse impacts to the floodplain, a permit is required for administrative purposes to ensure that the County is aware of the activities within the floodplain and that they have been evaluated for compliance with the County's requirements (an engineer's Certification of No Impact will be required).

   Response: PSCo will span all floodplains in the Arapahoe County portion of the Project. If necessary, a FDP will be prepared and approved prior to the Project's commencement of construction.

4. In order to properly replace drainage patterns, the applicant is required to provide as-built conditions of all existing major drainageways, as defined by the Arapahoe County Stormwater Management Manual, along the proposed utility alignment/disturbance prior to approval. The major drainageways shall be restored to meet the existing as-built. A restored as-built will also be required and that requirement will be placed on the floodplain development permit.

   Response: PSCo will comply with Arapahoe County's Stormwater Management Manual and will submit as-built plans for County approval prior to the commencement of construction.

5. The County requires the official assessment by the US Army Corps of Engineers be provided to the County.

   Response: PSCo will provide Arapahoe County with an official U.S. Army Corps of Engineers (ACOE) assessment prior to construction if ACOE requires one. Should an assessment not be required, PSCo will provide Arapahoe County with the correspondence that documents such a decision.

6. All utility easements for the transmission line are required and must be in place prior to the construction. All executed utility easements must be submitted to the County for files.

   Response: PSCo will provide to Arapahoe County evidence of all utility easements for the transmission line prior to the commencement of construction. All executed utility easements will submitted to the County for their files prior to the commencement of construction.

7. Construction activities that disturb one acre or more are required by the Environmental Protection Agency (EPA) to obtain a Construction Stormwater Permit.

   Response: PSCo will obtain a SWPPP prior to construction. PSCo will provide the approved SWPPP to Arapahoe County prior to the commencement of construction.

8. This project site lies outside of the boundaries of the Southeast Metro Stormwater Authority (SEMSWA).

   Response: Acknowledged.

9. Please note that a Street Cut and Right-of-Way Use Permit (for access), GESC Permit, and possible Oversize / Overweight Vehicle Permit will be necessary for this application.

   Response: Street Cut and Right-of-Way Use, GESC, and Oversize / Overweight Vehicle Permits will be prepared by PSCo and approved prior to the commencement of construction.

10. Roadway Maintenance agreement is required. Encourage the applicant to meet with Road and Bridge to survey current County Road conditions that will be affected by construction of the proposed project. This will help determine the impact of the construction on Arapahoe County Roads and subsequent mitigation or compensation measures that will be required.

    Response: A final Road Use Agreement will be prepared and executed prior to construction. PSCo will develop the Road Use Agreement with the County Road and Bridge Department.

Staff Comments : General

1. In addition to the comments listed in this report, Staff has provided redlined plans and reports illustrating clarification to comments included within this report and other minor comments to be addressed. Comments within these redlined documents shall be fully addressed. The redlined documents shall be returned to Staff and must be included with the resubmittal for it to be considered complete.

   Response: Acknowledged.

2. RESUBMITTAL PROCEDURE - Attached to this report are instructions to the applicant regarding the resubmittal of documents. The applicant and their consultants must follow these instructions explicitly to avoid delays in our and processing of this case.

   Response: Acknowledged.

3. The plan and profile drawing for the transmission line should be reviewed and approved prior to the construction. Pole locations in related to the section line should be identified on the plan. 100-year Floodplain information should also be label and identified on the plan.

   Response: PSCo will submit final plan and profile drawings to the County prior to construction for approval. The final plan and profile drawings will include pole locations in relationship to section lines, and the 100-year Floodplain will be included on the drawings.

Staff Comments : 1041 Application

11. On page 26: add the definition of the County floodplain as "the County defines a floodplain as any drainageway with a tributary area of 130 acres or more".

    Response: PSCo will make the requested edit on page 26 of the 1041 Application.

12. Table 2-3: provide the unit of "miles" after the number of 0.25.

    Response: PSCo will make the requested edit to Table 2-3 in the 1041 Application.

13. Table 2-5, on page 47: include "Engineering Services Division" and add the requirement for access permit.

    Response: PSCo will make the requested edit to Table 2-5 and add the Street Cut and Right-of-Way Use permit to Table 2-5 in the 1041 Application.

14. Floodplains section on page 62: please verify the number of floodplain crossings with Table 5-3.

    Response: PSCo verified that the Preferred Alternative (Alternative A) does not cross any FEMA identified floodplains in Arapahoe County, and the Preferred Alternative (Alternative A) crosses seven (7) Arapahoe County defined floodplains.

15. Page 89: again verify the number of floodplain crossings.

    Response: PSCo verified that the Preferred Alternative (Alternative A) does not cross any FEMA identified floodplains in Arapahoe County and the Preferred Alternative (Alternative A) crosses seven (7) Arapahoe County defined floodplains.

16. Engineering Studies Section, on page 109: the 2012 study covered what was built at the time. A new GESC plan/report is required for the proposed transmission alignment (it is not included in the original GESC). Please revise the paragraph.

    Response: PSCo will make the requested edits to the Engineering Studies Section. PSCo will submit a GESC for the proposed transmission line for County review and approval prior to the commencement of construction.

17. Appendix G (GESC study): this appendix includes an approved drainage study for the Missile Substation that was built. The Substation is not a part of the project please remove.

    Response: PSCo will make the requested edit and remove Appendix G from the 1041 Application.

18. Appendix C (Road Use Agreement): It is under review by the County attorney. The comments will be forthcoming.

    Response: PSCo will revise the Draft Road Use Agreement according to the comments received October 27, 2016. A Final Road Use Agreement will be executed prior to the commencement of construction.

<u>Staff Comments : L & E Application</u>

19. Include 'Arapahoe County Case No. L16-007' on the cover sheet.

    Response: PSCo will add the suggested note to the Cover Sheet of the Project Plot for the Location and Extent Application.

20. Add a special note on the cover sheet as "STREET MAINTENANCE DURING THE CONSTRUCTION PERIOD WILL BE PER THE ROAD USE AGREEMENT WITH ARAPAHOE COUNTY. A PRE-CONSTRUCTION INVENTORY OF EACH PUBLIC ROAD SHALL BE CONDUCTED JOINTLY BY PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ARAPAHOE, IDENTIFYING THE CONDITIONS OF EACH ROAD. PSCO WILL MAINTAIN THE CONSTRUCTION ACCESS ROADS DURING THE CONSTRUCTION PERIOD AND REPAIR THE PUBLIC ROADS TO THEIR PRE-CONSTRUCTION CONDITION (OR BETTER)".

    Response: PSCo will add the suggested note to the Cover Sheet of the Project Plot for the Location and Extent Application.

21. Missile site substation is not a part of the project please remove the information.

    Response: The Missile Site Substation label and information will remain for Project context as discussed during the October 27, 2016 meeting with the County's Planning and Engineering staff.

22. Please include the following information on the plan:
    - Roadway name
    - Easement (both existing and proposed) and its dimension
    - Existing ROW dimension
    - Floodplain/stream crossings

    Response: The L&E Application Project Plots will be updated with: roadway names, easement dimensions, existing ROW dimensions for the NextEra Transmission Line, and floodplain/stream crossings.

Staff Comments : Floodplain Delineation Study

23. Please provide the detail information as how the 100-year flow rate was calculated in Stream States (i.e. delineated points and watersheds, peak-flow table).

    Response: PSCo will add detailed information on how the 100-year flow rates were calculated in Stream Stats to the Floodplain Study.

24. Include the River Station # within Attachment D for each cross section.

    Response: PSCo will add the River Station numbers to Attachment D of the Floodplain Study.

25. At the final submittal, the study will need to be stamped by PE engineer.

    Response: PSCo will submit a final floodplain delineation study stamped by a Colorado Licensed Professional Engineer prior to the commencement of construction.

Staff Comments : GESC Plan and Report

26. GESC plan/report is necessary for the proposed transmission line and should be submitted to the County for review and approval prior to the construction.

    Response: PSCo will submit a GESC for the proposed transmission line for County review and approval prior to the commencement of construction.

As identified in the Memorandum, this Phase II review is to ensure that all information and Engineering Documents Required for Resubmittal to the County Engineering Services Division

Please confirm the following items are revised and/or submitted:

Element	Digital
A copy of this Resubmittal Checklist	x
Completed Review and Approval Form (Arapahoe County Form 581) available online at http://www.arapahoegov.com/index.aspx?NID=569	x
Completed Review and Approval Grading, Erosion and Sediment Control Form (GESC – Form 403) available on-line at http://www.arapahoegov.com/index.aspx?NID=569	
Copy of Latest Proposed Land Development Plan - (L&E, 1041)	x
Floodplain Delineation Study (FDS)	x
Phase III Drainage Study	
Drainage Letter of Conformance	

Element	Digital
Engineering Cost Estimate	
Operations & Maintenance Manual	
Any comments to Stormwater Facilities Maintenance Agreement?	
Plan and Profile	x
Pavement Design Report	
Grading, Erosion and Sediment Control (GESC) Plans & Report	x
Legal Description and Exhibit	
Legal name, legal address, and title (if any) of the Owner, assign, or person with signatory authority on behalf of the Owner	
Exhibit that illustrates easement location(s), see comment #xx	
Geotechnical Study / Preliminary Soils Report	
Collateral Letter of Intent	
Electronic files for set of plans being submitted to **EngineeringSubmittals@arapahoegov.com and cc to sliu@arapahoegov.com**	x
County Redlines for: L&E, 1041, FDS	x
SEMSWA Redlines for: Phase III Drainage Study, GESC, O&M Manual, CDs	
Letter of point-by-point response to this comment letter and SEMSWA's comments	x
Fees Due:	n/a

Per your request, PSCo will address the comments and general information notes from the Planning Department in a separate letter.

Please let me know if I can provide additional information or assistance. I can be contacted directly at 303.571.7735 or via email at Erin.A.Degutis@XcelEnergy.com .

Kindest regards,

Erin A. Degutis, RLA, AICP, LEED AP
Senior Agent, Siting & Land Rights
Xcel Energy

Encl.

C: John Lupo, Xcel Energy
Nadia El Mallakh, Xcel Energy
Carolynne White, Brownstein Hyatt Farber Schreck
Dave Dean, POWER Engineers

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DAVID M. SCHMIT, P.E.
Director

Engineering Staff Report

PHASE II – REFERRAL

Date: October 18, 2016

To: Sherman Feher, Planning Division

From: Sue Liu, Engineering Division

RE: ASI16-003 L16-007 Rush Creek 345 KV Transmission Line Project
1041 Application and L&E

Scope/Location:

This application, the Public Service Company of Colorado (PSCo) is requesting approval of the 1041 Permit application and the Location & Extent for Xcel Energy Transmission Line project. The approximately 80-93 miles (13.5 miles within Arapahoe County) Rush Creek 345 kilovolt (kV) transmission project proposes to interconnect approximately 600 MW of proposed wind-generated electricity from the proposed Rush Creek I and II Wind Farms into the existing Missile Site Substation in Arapahoe County. Rush Creek I is located in Elbert County and Rush Creek II is located in Cheyenne, Kit Carson, and Lincoln Counties. The subject of this Application is the Rush Creek 345 kV Transmission Line Project in Arapahoe County.

Items included with this referral:

Location and Extent
1041 Application
Floodplain Delineation Study
Grading, Erosion and Sediment Control (GESC) Plans & Report

Cc: Charles V. Haskins, Engineering Services Division, Division Manager
Case File No. ASI16-003 L16-007
SPL RDR

Findings:

The Arapahoe County Division of Engineering Services has reviewed this referral and has the following findings:

1. As disused in the pre-submittal meeting, staff recommended that all poles be installed outside of Arapahoe County existing or future right-of-ways. The County's 2035 Transportation plan identifies E. County Road 34/Jolly Road as Rural Arterial with a right-of-way section of 114-feet. A sixty-foot (60') right-of-way section is needed to meet the rural roadway right-of-way requirements for Secondary rural road including County Road 221/Huntington Road, E. County Road 26/Hampden Avenue, County Road 233/Hayward Road, and County Road 28/E Woodis Road. The Transportation Plan recommends preserving section line roadway alignments for future widening. Please ensure that no structures, including transmission line poles, shall be located within 30-feet of the section line to allow for widening of future right-of-way corridors.
2. The transmission line crosses tributaries to Muddy Creek. All of the tributaries are unmapped drainageway. The delineation of the 100-year floodplain for these unmapped tributaries have not been established. The County defines a floodplain as any drainageway with a tributary area of 130 acres or more. The tributaries that meet the County's definition of a floodplain should be identified (Floodplain Delineation Analysis should be provided for review).
3. A Floodplain Development Permit (FDP) is required for all activities within a County designated floodplain, regardless of impact. Even when it is apparent that there are no adverse impacts to the floodplain, a permit is required for administrative purposes to ensure that the County is aware of the activities within the floodplain and that they have been evaluated for compliance with the County's requirements (an engineer's Certification of No Impact will be required).
4. In order to properly replace drainage patterns, the applicant is required to provide as-built conditions of all existing major drainageways, as defined by the Arapahoe County Stormwater Management Manual, along the proposed utility alignment/disturbance prior to approval. The major drainageways shall be restored to meet the existing as-built. A restored as-built will also be required and that requirement will be placed on the floodplain development permit.
5. The County requires the official assessment by the US Army Corps of Engineers be provided to the County.
6. All utility easements for the transmission line are required and must be in place prior to the construction. All executed utility easements must be submitted to the County for files.
7. Construction activities that disturb one acre or more are required by the Environmental Protection Agency (EPA) to obtain a Construction Stormwater Permit.
8. This project site lies outside of the boundaries of the Southeast Metro Stormwater Authority (SEMSWA).
9. Please note that a Street Cut and Right-of-Way Use Permit (for access), GESC Permit, and possible Oversize/Overweight Vehicle Permit will be necessary for this application.
10. Roadway Maintenance agreement is required. Encourage the applicant to meet with Road and Bridge to survey current County Road conditions that will be affected by construction of

the proposed project. This will help determine the impact of the construction on Arapahoe County Roads and subsequent mitigation or compensation measures that will be required.

Recommendations:

The Division of Engineering Services recommends this case favorably subject to the following conditions:

1. The applicant agrees to address the Division of Engineering Services' findings, comments, and concerns as identified within this report.

STAFF COMMENTS

General

1. In addition to the comments listed in this report, Staff has provided redlined plans and reports illustrating clarification to comments included within this report and other minor comments to be addressed. Comments within these redlined documents shall be fully addressed. The redlined documents shall be returned to Staff and must be included with the resubmittal for it to be considered complete.
2. RESUBMITTAL PROCEDURE - Attached to this report are instructions to the applicant regarding the resubmittal of documents. The applicant and their consultants must follow these instructions explicitly to avoid delays in our and processing of this case.
3. The plan and profile drawing for the transmission line should be reviewed and approved prior to the construction. Pole locations in related to the section line should be identified on the plan. 100-year Floodplain information should also be label and identified on the plan.

1041 Application

11. On page 26: add the definition of the County floodplain as "the County defines a floodplain as any drainageway with a tributary area of 130 acres or more".
12. Table 2-3: provide the unit of "miles" after the number of 0.25.
13. Table 2-5, on page 47: include "Engineering Services Division" and add the requirement for access permit.
14. Floodplains section on page 62: please verify the number of floodplain crossings with Table 5-3.
15. Page 89: again verify the number of floodplain crossings.
16. Engineering Studies Section, on page 109: the 2012 study covered what was built at the time. A new GESC plan/report is required for the proposed transmission alignment (it is not included in the original GESC). Please revise the paragraph.
17. Appendix G (GESC study): this appendix includes an approved drainage study for the Missile Substation that was built. The Substation is not a part of the project please remove.
18. Appendix C (Road Use Agreement): It is under reviewed by the County attorney. The comments will be forthcoming.

Location and Extent Plan

19. Include 'Arapahoe County Case No. L16-007' on the cover sheet.
20. Add a special note on the cover sheet as "STREET MAINTENANCE DURING THE CONSTRUCTION PERIOD WILL BE PER THE ROAD USE AGREEMENT WITH ARAPAHOE COUNTY. A PRE-CONSTRUCTION INVENTORY OF EACH PUBLIC ROAD SHALL BE CONDUCTED JOINTLY BY PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ARAPAHOE, IDENTIFYING THE CONDITIONS OF EACH ROAD. PSCO WILL MAINTAIN THE CONSTRUCTION ACCESS ROADS DURING THE CONSTRUCTION PERIOD AND REPAIR THE PUBLIC ROADS TO THEIR PRE-CONSTRUCTION CONDITION (OR BETTER)".
21. Missile site substation is not a part of the project please remove the information.
22. Please include the following information on the plan:
    - Roadway name

- Easement (both existing and proposed) and its dimension
- Existing ROW dimension
- Floodplain/stream crossings

Floodplain Delineation Study

23. Please provide the detail information as how the 100-year flow rate was calculated in Stream States (i.e. delineated points and watersheds, peak-flow table).
24. Include the River Station # within Attachment D for each cross section.
25. At the final submittal, the study will need to be stamped by PE engineer.

GESC Plan and Report

26. GESC plan/report is necessary for the proposed transmission line and should be submitted to the County for review and approval prior to the construction.

Engineering Documents Required for Resubmittal
to the County Engineering Services Division

	Digital
A copy of this Resubmittal Checklist	x
Completed Review and Approval Form (Arapahoe County Form 581) available on-line at http://www.arapahoegov.com/index.aspx?NID=569	x
Completed Review and Approval Grading, Erosion and Sediment Control Form (GESC – Form 403) available on-line at http://www.arapahoegov.com/index.aspx?NID=569	
Copy of Latest Proposed Land Development Plan - (L&E, 1041)	x
Floodplain Delineation Study (FDS)	x
Phase III Drainage Study	
Drainage Letter of Conformance	
Engineering Cost Estimate	
Operations & Maintenance Manual	
Any comments to Stormwater Facilities Maintenance Agreement?	
Plan and Profile	x
Pavement Design Report	
Grading, Erosion and Sediment Control (GESC) Plans & Report	x
Legal Description and Exhibit	
Legal name, legal address, and title (if any) of the Owner, assign, or person with signatory authority on behalf of the Owner	
Exhibit that illustrates easement location(s), see comment #xx	
Geotechnical Study / Preliminary Soils report	
Collateral Letter of Intent	
Electronic files for set of plans being submitted to **EngineeringSubmittals@arapahoegov.com and cc to sliu@arapahoegov.com**	x
County Redlines for: L&E, 1041, FDS	x
SEMSWA Redlines for: Phase III Drainage Study, GESC, O&M Manual, CDs	
Letter of point-by-point response to this comment letter and SEMSWA's comments	x
Fees Due:	n/a

Case No. ASI16-003 L16-007 Case Engineer: Sue Liu

In order to expedite this case in an efficient manner, please provide all the items above to the Engineering Services Division counter at 6924 S Lima Street or email all files to **EngineeringSubmittals@arapahoegov.com and cc to sliu@arapahoegov.com**

Incomplete resubmittal packages will not be forwarded to the case engineer for review until all of the information requested on this form has been provided.

This sheet must be attached to your resubmittal with the revised documents in the quantities listed above.

Sherman Feher

From: Marette - DNR, Brandon <brandon.marette@state.co.us>
Sent: Monday, October 17, 2016 8:32 AM
To: Sherman Feher
Subject: Fwd: REFERRALS FOR RUSH CREEK TRANSMISSION LINE 1041 PERMIT and RUSH CREEK TRANSMISSION LINE LOCATION AND EXTENT CASES

Good morning Sherman,

I just left you a voice message on this topic, but I wanted to follow up with an e-mail.

I reviewed Xcel's formal request for the Rush Creek transmission line in Arapahoe County over the weekend, and it was mostly well-written and follows the route I expected.

Yet, I have one minor concern about their 1041 application that I wanted to get your opinion on:

- In Table 4-2, Xcel states that three species (burrowing owl, prairie dog, and mountain plover) have known records in the project area.
- However, in Table 5-4, Xcel states that there are zero ROW miles that cross known habitat of state listed species, and a few paragraphs further down (pg 93, 2nd paragraph) Xcel states, "The construction of the project is not anticipated to have any effect on listed species in this area."

*My question to you is, if there are known records of these three species in the project area, why doesn't Xcel show any miles of impact to state-listed species' habitats, and conclude with "no effect" to these three state-listed species?

I will leave it up to you whether it is worth asking Xcel or not, as CPW did recommend burrowing owl surveys in prairie dog towns if construction occurs during the nesting season, so perhaps our letter already covers this issue?

Cheers,

Brandon B. Marette
Northeast Region Energy Liaison

Direct (303) 291-7327
6060 Broadway, Denver, CO 80216
brandon.marette@state.co.us | cpw.state.co.us

THINK SAFETY FIRST!

COLORADO
Parks and Wildlife
Department of Natural Resources

Northeast Region Office
6060 Broadway
Denver, CO 80216
303.291.7227

October 7, 2016

Mr. Sherman Feher, Senior Planner
Arapahoe County
Planning and Land Development Division
6924 S. Lima Street
Centennial, CO 80112

RE: CPW's Comments on Xcel Energy's 1041 and Location and Extent Permit Applications for the Proposed Rush Creek 345-kV Transmission Line Project, Arapahoe County

Dear Mr. Feher:

Colorado Parks and Wildlife (CPW) would like to thank Arapahoe County and Xcel Energy (Xcel) for the opportunity to review the proposed approximately 13.5 miles of new transmission line and infrastructure in Arapahoe County that is part of Xcel's Rush Creek Connect 345-kV Transmission Line project. CPW has consulted previously with Xcel on the proposed transmission line and appreciates the continuing conversation to avoid and minimize wildlife impacts. Early and continued consultation offers the greatest opportunity for our review to assist in avoiding areas where development is precluded or where wildlife impacts are likely to be high and difficult to remedy at a later stage. By consulting early, project developers can also incorporate wildlife conservation measures and monitoring into their decisions about project siting, design, and implementation.

CPW's preference is for new transmission lines to follow existing transmission line corridors whenever possible to minimize additional impacts on wildlife and habitat fragmentation. We appreciate that all of the proposed segments in Arapahoe County parallel existing utility lines and corridors. The following comments address potential concerns along this proposed route, and propose mitigation measures to avoid or minimize impacts to wildlife. The recommendations provided by CPW will assist in identifying species that may be affected by the proposed project including migratory birds, birds of prey, mammals, and listed/proposed/candidate threatened or endangered species. Impacts may include electrocutions, collisions, loss and degradation of habitat, fragmentation of habitat, displacement and behavioral changes, and potential indirect impacts.

Of high concern regarding electrical transmission lines is the potential for raptor electrocution. Through the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act, the U.S. Fish and Wildlife Service, in cooperation with the Edison Electric Institute, has developed Best Management Practices to minimize impacts to avian species. CPW recommends that both the "Suggested Practices for Avian Protection on Power Lines, the State of the Art in 2006" and the "Reducing Avian Collisions with Power Lines: The State of the Art in 2012" documents be consulted for proper design considerations to minimize raptor

Bob D. Broscheid, Director, Colorado Parks and Wildlife • Parks and Wildlife Commission: Robert W. Bray • Chris Castillan, Chair • Jeanne Horne, Vice-Chair
John Howard • Bill Kane • Dale Pizel • James Pribyl, Secretary • James Vigil • Dean Wingfield • Michelle Zimmerman • Alex Zipp

electrocution. These documents can be ordered at the Edison Electric Institute website (www.eei.org) or can be downloaded at the Avian Power Line Interaction Committee website (www.aplic.org). This recommendation is applicable to all segments included in the project.

CPW recommends the use of preconstruction surveys immediately prior to construction, as well as continuation of those surveys during construction, to identify raptor nests within the project area and implement appropriate restrictions. CPW recommends adherence to the recommended buffer distances and timing stipulations identified in the document[1] "Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors". Removal or relocation of any active raptor nests will require consultation with CPW and US Fish and Wildlife Service prior to moving. Both active and potential nest sites, winter night roosts should be considered when evaluating disturbance during construction.

Some portions of the project are located in shortgrass prairie which provides habitat for numerous species including pronghorn, Swainson's hawk, golden eagle, burrowing owl (state threatened) and numerous Colorado Species of Special Concern including mountain plover, swift fox, black-tailed prairie dog, long-billed curlew and ferruginous hawk. If there any native (or semi-native) shortgrass prairie areas that contain sandy loam soils along the proposed route, CPW also recommends olive-backed pocket mouse surveys, as this species is a Tier 1 species in our State Wildlife Action Plan[2]. In areas where ground disturbing activities are anticipated, CPW recommends reclamation with native plant species. Proper reclamation, from a wildlife perspective, involves not only stabilizing the soil and establishing ground cover, but fostering plant communities with a diversity of species and plant types (grasses, woody plants, and broadleaf forbs) which will fully serve the nutritional and cover needs of wildlife. Also essential is the implementation of a systematic and thorough noxious weed control program. Consistent and long-term monitoring is necessary to ensure the establishment of adequate native vegetative cover.

During previous meetings with Xcel, CPW has identified several potential impacts to wildlife and habitats in the project area that we recommend be considered during the planning process.

- Of concern to CPW are the locations of *raptor nest sites* identified in preliminary survey results, both within the project boundaries and in the surrounding 2-mile buffer area. Those species identified from the pre-construction surveys that recently nested in the area include ferruginous hawk, red-tailed hawk, Swainson's hawk, great-horned owl, and a currently unoccupied golden eagle nest. CPW requests that final siting of transmission lines and infrastructure also be carried out in accordance with the guidance and the recommended raptor buffer zones. CPW

[1] https://cpw.state.co.us/Documents/WildlifeSpecies/LivingWithWildlife/RaptorBufferGuidelines2008.pdf
[2] http://cpw.state.co.us/aboutus/Pages/StateWildlifeActionPlan.aspx

would also request notification if Xcel and/or its consultants/contractors observe new and/or active raptor nests within the project area.

- Swift fox (*Vulpes velox*) is a species of state special concern that is known to occur within the proposed project area. The potential overlap with swift fox should be considered in survey protocols and timing of construction activities to identify and avoid all maternal swift fox den sites. Swift foxes are in the area year-round, breed during December, and raise their young into the next fall. It is recommended that swift fox surveys include daylight searches for den areas and nighttime spotlight searches during August and September. Destruction of dens from December 15 through August 15 should be avoided and CPW recommends steps be taken to minimize disturbance near active dens during this time period to the extent possible. CPW would also request notification if Xcel and/or its consultants/contractors observe swift fox within the project area.
- Prairie dog colony locations have been indicated within the project area and CPW recommends surveys to determine the presence/absence of *burrowing owls* (*Athene cunicularia*), a state threatened bird. If development or construction in prairie dog towns occurs from February 1 to October 31, the presence of burrowing owls and whether they are actively nesting should be determined. If nesting burrowing owls are present, please notify CPW, and no human encroachment should occur within 150 ft of nesting burrows from March 15 to October 31. If burrowing owls merely occupy the site, it is recommended that earthmoving and other disturbance activities be delayed until late fall after they have migrated.

The project area for the Rush Creek portion within Arapahoe County crosses the mainstem of (and tributaries to) Muddy Creek, and a high watershed tributary to First Creek. CPW recommends minimal impact to the stream beds, both during construction and after, and the stream bed should be handled as a stream crossing whether or not water is present at the time of construction. CPW recommends a ground disturbance buffer with minimal activities or operations within 300 feet of any lake, reservoir, wetland or stream. Erosion and sediment control precautions should be in place to avoid deposition into water ways. Destruction of riparian vegetation and truck/heavy machinery stream crossings should be avoided.

CPW further recommends crossing riparian corridors and streams at a perpendicular angle, in order to reduce impacts to natural resources, as well as spanning the corridors with structures located outside the riparian and stream zones. CPW recommends avoiding treed areas of cottonwood and willow, as these areas provide bird and wildlife habitat. During construction, stream crossing by construction vehicles should be avoided. CPW requests that any new service roads that are proposed for construction in conjunction with the project avoid crossing creeks or stream beds to avoid impacts to wildlife and habitat. If any new access or maintenance roads will be constructed that cross stream habitat, CPW would like to be consulted on best management practices and options for construction to minimize impacts. A construction design for any new or reconstructed riparian crossing that actively minimizes

barriers to fish passage at all water levels and mitigates any existing barriers where possible would minimize the negative impact of the project on native fish species.

CPW recommends the following Best Management Practices when working in or near aquatic habitats.

- Drainages should be crossed perpendicular to the flow of the stream
- Use existing road crossings and existing stream crossings for vehicles and other construction equipment instead of building new roads and stream crossings
- The width of construction should be minimized within the 100-year floodplain,
- Stream bank, wetland restoration/improvement should be performed, where necessary
- Vehicle and equipment crossing of creeks/streams should be made in locations that will cause the least erosion of banks and sedimentation.

As for more general construction protocols, CPW recommends low speeds for construction vehicles to avoid wildlife collisions. Where new roads are required, CPW recommends that these single-purpose roads are gated to reduce traffic disruptions to wildlife. If any temporary (e.g., construction) or permanent fencing is proposed, CPW recommends that it is the wildlife-friendly fencing[3] that allows young to cross, and does not include high-tensile hogwire.

In conclusion, CPW appreciates Arapahoe County's and Xcel's request to comment on this proposed transmission line. CPW appreciates this collaborative opportunity to work with companies for responsible energy development, which will also benefit Colorado's wildlife and wildlife-related recreational opportunities.

If you have any questions regarding this letter, or should there be any changes to this proposed project, please contact CPW's Northeast Region Energy Liaison Brandon Marette at (303) 291-7327 or at Brandon.Marette@state.co.us.

Sincerely,

Brandon Marette

for Eliza Hunholz
Area Wildlife Manager (Area 5)

cc: Erin Degutis, RLA, AICP, LEED AP (Senior Agent for Xcel Energy)
Travis Harris, DWM District 543 (Aurora)

[3] https://cpw.state.co.us/Documents/LandWater/PrivateLandPrograms/FencingWithWildlifeInMind.pdf

Sherman Feher

From: Arnold Hollingsworth <ajguitar2@yahoo.com>
Sent: Wednesday, October 12, 2016 10:05 AM
To: Sherman Feher
Subject: Re: FOLLOW UP FOR REFERRALS FOR RUSH CREEK TRANSMISSION LINE 1041 PERMIT and RUSH CREEK TRANSMISSION LINE LOCATION AND EXTENT CASES

Sherman, thanks for the latest correspondence concerning Rush creek transmission line. I have no comments.

From: Sherman Feher <SFeher@arapahoegov.com>
To:
Sent: Wednesday, October 12, 2016 7:21 AM
Subject: FOLLOW UP FOR REFERRALS FOR RUSH CREEK TRANSMISSION LINE 1041 PERMIT and RUSH CREEK TRANSMISSION LINE LOCATION AND EXTENT CASES

With apologies, I left out the referral cover sheet for this referral which is attached to this email.
Sherman Feher

From: Sherman Feher
Sent: Friday, October 07, 2016 3:44 PM
Subject: REFERRALS FOR RUSH CREEK TRANSMISSION LINE 1041 PERMIT and RUSH CREEK TRANSMISSION LINE LOCATION AND EXTENT CASES

Dear Referral Person:

Please review the attached Arapahoe County referral plans for the following cases: Rush Creek Transmission Line 1041 Permit (ASI16-003) and Rush Creek Transmission Line Location and Extent (L16-007). Also, I have more information related to this; contact me if you need any more information.

Then please fill out the applicable information blocks on the attached referral sheet with your comments and attach it to a response email or "reply" with an email that will come back to me. Please return your comments no later than November 7, 2016. Contact me if you have any questions.

Thank you

Sherman Feher
Public Works and Development – Planning Division
6924 S. Lima Street
Centennial, CO 80112
720-874-6665
jfeher@arapahoegov.com

Record ID: ASI16-003

Cancel Help

Workflow Tasks

- Initialize
- Assign Planner
- Assign Engineer
- Phase II Submittal Planner Review
- Phase II Submittal Engineer Review
- Phase II Submittal Acceptance
- Phase II Referrals
  - Generate Routing Form
  - Mapping Phase II Review
  - Building Phase II Review
  - County Attorney Phase II Review
  - Planner Phase II Review
  - Engineer Phase II Review
  - Zoning Phase II Review
  - Weed Control Phase II Review
  - External Agencies Phase II Referral
- Phase II Coordination
- Phase I Submittal Planner Review
- Phase I Submittal Engineer Review
- Application Acceptance
- Phase I Reviews
  - Complete
  - Generate Routing Form
  - County Attorney Phase I Review
  - Weed Control Phase I Review
  - Building Phase I Review
  - External Agencies Phase I Referral
  - Planner Phase I Review
  - Engineer Phase I Review
  - Mapping Phase I Review
  - Zoning Phase I Review
  - Open Space Phase I Review
- Phase I Coordination
- PC Hearing
- BOCC Hearing

Task Details Open Space Phase I Review

Assigned Date	**Due Date**
07/27/2016	08/10/2016
Assigned to	**Assigned to Department**
Open Space	OS Technician
Current Status	**Status Date**
Complete	07/27/2016
Action By	**Overtime**
Open Space	No
Comments	**Start Time**
Open Spaces has no comments.	
End Time	**Hours Spent**
	1.0
Billable	**Action by Department**
No	OS Technician
Time Tracking Start Date	**Est. Completion Date**
In Possession Time (hrs)	☐ **Display E-mail Address in ACA**
Estimated Hours	☑ **Display Comment in ACA**
0.0	

Comment Display in ACA

- ☑ All ACA Users
- ☑ Record Creator
- ☑ Licensed Professional
- ☑ Contact
- ☑ Owner

Sherman Feher

From: jack keever <jakreap@aol.com>
Sent: Friday, October 14, 2016 9:42 AM
To: Sherman Feher
Subject: Re: FOLLOW UP FOR REFERRALS FOR RUSH CREEK TRANSMISSION LINE 1041 PERMIT and RUSH CREEK TRANSMISSION LINE LOCATION AND EXTENT CASES

Dear Sherman;

At its October 13 meeting Reap heard a comprehensive presentation about the Rush Creek Wind Farm project.

Reap favors Rush Creek and its transmission line as an important contributor to the State Of Colorado renewable energy mandate. This project will also contribute significantly to the state economy with the turbines being built by Vestas in Colorado and resultant construction jobs.

We encourage Arapahoe County's approval.

Thank you for your consideration.

Jack Keever

-----Original Message-----
From: Sherman Feher <SFeher@arapahoegov.com>
Sent: Wed, Oct 12, 2016 7:21 am
Subject: FOLLOW UP FOR REFERRALS FOR RUSH CREEK TRANSMISSION LINE 1041 PERMIT and RUSH CREEK TRANSMISSION LINE LOCATION AND EXTENT CASES

With apologies, I left out the referral cover sheet for this referral which is attached to this email.
Sherman Feher

From: Sherman Feher
Sent: Friday, October 07, 2016 3:44 PM
Subject: REFERRALS FOR RUSH CREEK TRANSMISSION LINE 1041 PERMIT and RUSH CREEK TRANSMISSION LINE LOCATION AND EXTENT CASES

Dear Referral Person:

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Then please fill out the applicable information blocks on the attached referral sheet with your comments and attach it to a response email or "reply" with an email that will come back to me. Please return your comments no later than November 7, 2016. Contact me if you have any questions.

Thank you

Sherman Feher

Sherman Feher

From: Sherman Feher
Sent: Friday, November 04, 2016 2:23 PM
To: 'Degutis, Erin A'; 'dave.dean@powereng.com'
Subject: FW: Rush Creek

fyi

From: Russell Johnson
Sent: Friday, November 04, 2016 2:00 PM
To: Sherman Feher <SFeher@arapahoegov.com>
Subject: Rush Creek

Since the Rush Creek project is in an area that is not an area of the county that has too many weeds, the weed management provisions should be the following:

- Monitor for noxious weed invasion during and after the construction phase.
- Upon any sightings of noxious weeds by County staff or the applicant, appropriate integrated weed management methods shall be implemented for the species found.

Russell Johnson
Arapahoe County Weed Control Specialist
6924 S. Lima St.
Centennial, CO 80112
Phone: 720-874-6713
Fax: 303-874-6611

Tri-County Health Department

November 10, 2016

Sherman Feher
Arapahoe County Planning Division
6924 S Lima St
Centennial CO 80112

RE: Rush Creek Transmission Line, ASI16-003 & L16-007
TCHD Case No. 4146

Dear Mr. Feher:

Thank you for the opportunity to review and comment on the Rush Creek Transmission Line 1041 Permit and Rush Creek Transmission Line Location and Extent. Tri-County Health Department (TCHD) staff has reviewed the application for compliance with applicable environmental and public health regulations and principles of healthy community design. After reviewing the application, TCHD has the following comments.

On-Site Wastewater Treatment Systems
Our review of the transmission line routes indicates that sections of the routes may encroach on Onsite Wastewater Treatment Systems (OWTS) that are serving buildings on properties. TCHD recommends that the applicant review the locations of the transmission line routes to determine if they may encroach on OWTS. If it appears that encroachment will occur, it may be necessary to revise the location or relocate the OWTS. TCHD can provide specific permit information and system diagrams on OWTS for the affected properties.

Groundwater Quality Protection
The proposed transmission line routes may impact existing water wells on properties where the route is located. Heavy equipment may inadvertently drive over wells during construction, causing damage that may expose the water in the wells to contamination. Where wells are within or close to proposed transmission line routes, we recommend the applicant protect the wells by identifying the areas around wells so that they are visible to vehicle operators/construction crews. This can be accomplished by delineating the area around each well with stakes, colored tape or orange plastic netting.

Wastewater Disposal
Proper wastewater management promotes effective and responsible water use, protects potable water from contaminants, and provides appropriate collection, treatment, and disposal of waste, which protects public health and the environment. The applicant does not specify how wastewater facilities will be provided at the staging areas during construction for onsite workers. We anticipate that portable toilets will be necessary during construction. TCHD has no objection to the use of portable toilets, provided they are properly maintained. TCHD recommends that the applicant address these, in terms of numbers, locations, and vendor.

Fugitive Dust
Exposure to air pollution is associated with a number of health problems including asthma, lung cancer, heart disease, and low birth weight. Vehicle traffic on unpaved roads may contribute to increased fugitive dust emissions. We recommend that the applicant utilize all available methods to minimize fugitive dust. Control measures or procedures that may be employed include, but are not limited to, watering, chemical stabilization, carpeting roads with aggregate, and speed restrictions.

Please feel free to contact me at (720) 200-1585 or lbroten@tchd.org if you have any questions regarding TCHD's comments.

Sincerely,

Laurel Broten, MPH
Land Use and Built Environment Specialist
Tri-County Health Department

CC: Sheila Lynch, Laura DeGolier, TCHD

Tri-County Health Department

November 7, 2016

Sherman Feher
Arapahoe County Planning Division
6924 S Lima St
Centennial CO 80112

RE: Rush Creek Transmission Line, ASI16-003 & L16-007
TCHD Case No. 4146

Dear Mr. Feher:

Thank you for the opportunity to review and comment on the Rush Creek Transmission Line 1041 Permit and Rush Creek Transmission Line Location and Extent. Tri-County Health Department (TCHD) staff has reviewed the application for compliance with applicable environmental and public health regulations and principles of healthy community design. After reviewing the application, TCHD has the following comments.

On-Site Wastewater Treatment Systems
Houses and other buildings equipped with plumbing facilities on properties located along the preferred and alternate pipeline routes are serviced by Onsite Wastewater Treatment Systems (OWTS). Our review of the pipeline routes indicates that sections of the pipeline routes may encroach on OWTS on some properties. TCHD recommends that the applicant review the locations of the pipeline routes to determine if they may encroach on OWTS. If it appears that encroachment will occur, it may be necessary to revise the pipeline location or relocate the OWTS. TCHD can provide specific permit information and system diagrams on OWTS for the affected properties.

Groundwater Quality Protection
A scan of the area proposed for the pipeline routes indicates that there may be water wells on the properties where the pipeline is located. Heavy equipment may inadvertently drive over wells during construction, causing damage that may expose the water in the wells to contamination. Where wells are within or close to pipeline routes, we recommend the applicant protect the wells by identifying the areas around wells so that they are visible to vehicle operators/construction crews. This can be accomplished by delineating the area around each well with stakes, colored tape or orange plastic netting.

If the pipeline routes cross over streams and/or wetlands, alluvial groundwater flow could be impacted if trenching intersects the shallow groundwater. If trench dewatering is necessary, the water will be pumped and discharged to alluvia/colluvial sediments close to the stream channel. If discharge of groundwater is necessary during construction, a discharge permit from the Colorado Department of Public Health and Environment (CDPHE), Water Quality Control Division will be necessary

Wastewater Disposal
Proper wastewater management promotes effective and responsible water use, protects potable water from contaminants, and provides appropriate collection, treatment, and disposal of waste, which protects public health and the environment. The applicant does not specify how wastewater facilities will be provided at the staging areas during construction for onsite workers. We anticipate that portable toilets will be necessary during construction. TCHD has no objection to the use of portable toilets, provided they are properly maintained. TCHD recommends that the applicant address these, in terms of numbers, locations, and vendor.

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Please feel free to contact me at (720) 200-1585 or lbroten@tchd.org if you have any questions regarding TCHD's comments.

Sincerely,

Laurel Broten, MPH
Land Use and Built Environment Specialist
Tri-County Health Department

CC: Sheila Lynch, Laura DeGolier, TCHD

Sherman Feher

From: Glenn Thompson
Sent: Tuesday, October 11, 2016 2:29 PM
To: Sherman Feher
Subject: RE: REFERRALS FOR RUSH CREEK TRANSMISSION LINE 1041 PERMIT and RUSH CREEK TRANSMISSION LINE LOCATION AND EXTENT CASES

Hi Sherman,

I did not find a referral sheet attached but do not have any comments or concerns.

Glenn

Glenn Thompson, Bureau Chief
Arapahoe County Sheriff's Office
Public Safety Bureau
13101 E. Broncos Parkway
Centennial, CO 80112
(720) 874-4023

From: Sherman Feher
Sent: Friday, October 7, 2016 3:44 PM
Subject: REFERRALS FOR RUSH CREEK TRANSMISSION LINE 1041 PERMIT and RUSH CREEK TRANSMISSION LINE LOCATION AND EXTENT CASES

Dear Referral Person:

Please review the attached Arapahoe County referral plans for the following cases: Rush Creek Transmission Line 1041 Permit (ASI16-003) and Rush Creek Transmission Line Location and Extent (L16-007). Also, I have more information related to this; contact me if you need any more information.

Then please fill out the applicable information blocks on the attached referral sheet with your comments and attach it to a response email or "reply" with an email that will come back to me. Please return your comments no later than November 7, 2016. Contact me if you have any questions.

Thank you

Sherman Feher
Public Works and Development – Planning Division
6924 S. Lima Street
Centennial, CO 80112
720-874-6665
jfeher@arapahoegov.com

BOARD OF COUNTY COMMISSIONERS
KIT CARSON COUNTY
PO BOX 160
BURLINGTON CO 80807-0160
kccadmin@kitcarsoncounty.org
PH: 719-346-8139 (304)
FX: 719-346-7242

Gary Koop,
District 1 Commissioner
Cory Wall,
District 2 Commissioner
David L. Hornung,
District 3 Commissioner

cc: BOCC
Jan Yeckes
File

October 26, 2016

RECEIVED
OCT 31 2016
ARAPAHOE COUNTY GOVERNMENT
BOARD OF COUNTY COMMISSIONERS

Board of Arapahoe County Commissioners
Commissioner Nancy Doty
Commissioner Nancy Sharpe
Commissioner Rod Bockenfeld
Commissioner Nancy Jackson
Commissioner Bill Holen
5334 S. Prince St.
Littleton, CO 80120

To the Board of County Commissioners:

The Rush Creek Wind Project, proposed by Xcel Energy will generate 600 megawatts of new wind power, benefitting not only those of us in Eastern Colorado with jobs, tax revenue and increased royalties, it will benefit a multitude of Coloradans. Kit Carson County has been part of the engine that powers Colorado with our agricultural production. We can now help power the state with wind energy. But we can't do it alone.

In the business of running your county, you know how important it is to plan ahead and seize opportunities when they arise. Kit Carson County is just now starting to realize the benefits of wind production within our borders. We have solidified our tax base, added needed diversity to our economy, and created job opportunities that both pay well and provide full benefits to our residents that are crucial in retaining and attracting talent to the area.

The decision rests not entirely with us, as our neighbors in Elbert, Cheyenne, and Lincoln Counties also must make determinations about Rush Creek as well. So must Arapahoe County, which is why I write to you to encourage your approval of your portion of Rush Creek. With hundreds of millions of dollars at stake for all of our counties, it's vital that we work together to embolden each other and grab this robust economic opportunity while it's before us.

Your decision has the ability not only to affect electrical ratepayers and job seekers who live and are coming to Colorado, and the economy of your home county, but the economic prosperity of four Colorado counties seeking to capitalize at a time of great opportunity. It is my sincere hope that you will vote your support for the transmission lines and substation as Rush Creek benefits us all in the decades to come.

Thank you for your time and attention on the issue. Please don't hesitate to contact me with any questions pertinent to Kit Carson County.

Respectfully,

Cory Wall, Kit Carson County Chairman

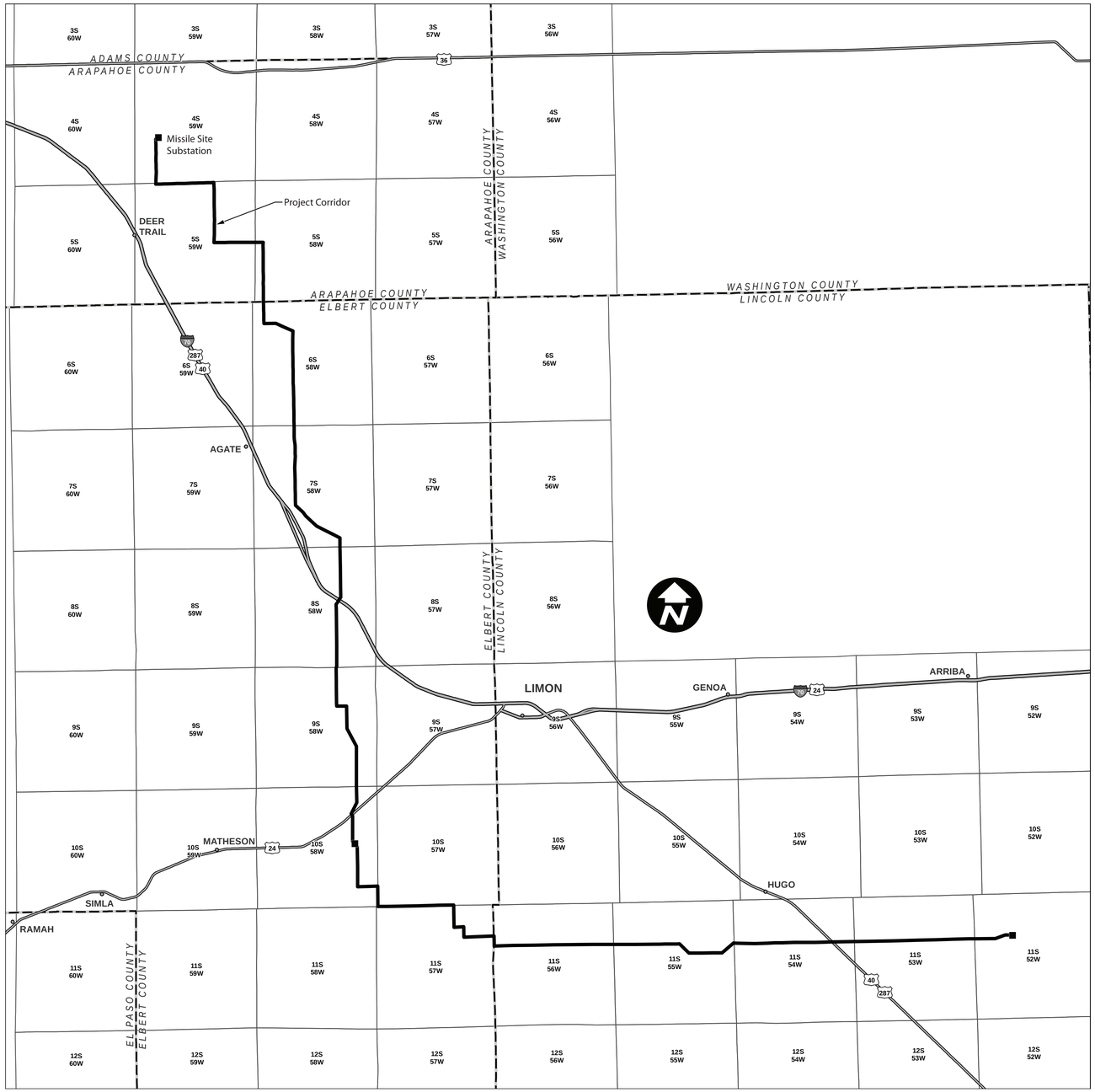
David L. Hornung, Commissioner

Gary Koop, Commissioner

RECEIVED
NOV 04 2016
ARAPAHOE COUNTY
PLANNING DIVISION

RUSH CREEK 345 kV TRANSMISSION LINE PROJECT
LOCATION AND EXTENT PLAN

LOCATED IN SECTIONS 20, 29, 32, T4S, 59W
SECTIONS 19, 30, 31, T5S, 58W
SECTIONS 3, 4, 5, 10, 15, 22, 23, 24, T5S, 59W
ARAPAHOE COUNTY, STATE OF COLORADO



VICINITY MAP
NOT TO SCALE

CERTIFICATE OF OWNERSHIP

I, _____HEREBY
AFFIRM THAT I AM THE OWNER OR AUTHORIZED AGENT OF ALL INDIVIDUALS HAVING OWNERSHIP INTEREST IN THE PROPERTY DESCRIBED HEREIN KNOWN AS RUSH CREEK 345 Kv TRANSMISSION LINE PROJECT, CASE NO L16-007.

_____
OWNER OF RECORD OR AUTHORIZED AGENT OF XCEL ENERGY

STATE OF_____}
COUNTY OF _____} SS.

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME
THIS _____DAY OF _____ A.D. 20__ BY _____
AS_____OF _____ AN AUTHORIZED SIGNATORY

BY_____WITNESS MY HAND AND SEAL
NOTARY PUBLIC

_____MY COMMISSION EXPIRES _____
ADDRESS

_____
CITY STATE ZIP CODE

THE EXISTING UTILITIES AND RIGHT-OF-WAY SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. CONTRACTOR ACKNOWLEDGES THAT IT IS COMMON FOR UNDERGROUND FACILITY OWNER MAPS TO HAVE ERRORS AND OMISSION OF DATA SHOWN. CONSEQUENTLY, IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES FOUND.

UTILITIES ARE SHOWN AS "BEST AVAILABLE" INFORMATION FROM CITY AND COUNTY AGENCIES AND UTILITY COMPANIES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD LOCATE ALL UTILITIES (INCLUDING FIBER OPTIC) PRIOR TO CONSTRUCTION. CALL UTILITY NOTIFICATION CENTER OF COLORADO

1-800-922-1987

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

SPECIFIC NOTES

FLOODPLAINS
NO STRUCTURES, INCLUDING TRANSMISSION LINE POLES, SHALL BE LOCATED WITHIN ANY 100-YEAR FLOODPLAINS AS DEFINED BY THE ARAPAHOE COUNTY STORMWATER MANAGEMENT MANUAL.

FUTURE COUNTY RIGHT-OF-WAY
NO STRUCTURES, INCLUDING TRANSMISSION LINE POLES, SHALL BE LOCATED WITHIN THIRTY FEET OF ANY SECTION LINE TO ALLOW FOR WIDENING OF EXISTING OR ESTABLISHMENT OF FUTURE RIGHT-OF-WAY CORRIDORS.

PROJECT DESCRIPTION
THE RUSH CREEK 345 KV TRANSMISSION LINE PROJECT IS AN APPROXIMATELY 82 MILE LONG 345 KV TRANSMISSION LINE, PLANNED TO CROSS APPROXIMATELY 13.5 MILES OF EASTERN ARAPAHOE COUNTY, APPROXIMATELY 42 MILES OF ELBERT COUNTY, AND 26.5 MILES OF LINCOLN COUNTY. THE PROJECT WILL INTERCONNECT APPROXIMATELY 600 MW OF PROPOSED WIND ENERGY GENERATION FROM THE PROPOSED RUSH CREEK I AND II WIND FARMS INTO THE EXISTING MISSILE SITE SUBSTATION IN ARAPAHOE COUNTY. RUSH CREEK I IS LOCATED IN ELBERT COUNTY AND RUSH CREEK II IS LOCATED IN CHEYENNE, KIT CARSON, AND LINCOLN COUNTIES.

APPROXIMATELY 300 ACRES OF LAND WILL BE USED AS RIGHT OF WAY IN ARAPAHOE COUNTY.

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POWER ENGINEERS

LOCATION AND EXTENT APPLICATION
RUSH CREEK 345 kV TRANSMISSION LINE PROJECT
ARAPAHOE COUNTY, COLORADO

REVISIONS:
REV 00 09-20-2016
REV 01 10-05-2016
REV 02 10-27-2016

NOT FOR CONSTRUCTION

PM: DD / EAD
GIS: SAS
JOB NO: 141794

SHEET NO.
1 OF 4

CASE NO. L16-997

RUSH CREEK 345 kV TRANSMISSION LINE PROJECT
LOCATION AND EXTENT PLAN

LOCATED IN SECTIONS 20, 29, 32, T4S, 59W
SECTIONS 19, 30, 31, T5S, 58W
SECTIONS 3, 4, 5, 10, 15, 22, 23, 24, T5S, 59W
ARAPAHOE COUNTY, STATE OF COLORADO

LEGAL DESCRIPTION
LEGAL DESCRIPTIONS ARE ON SHEET 4.

EXISTING ZONING
A-E AGRICULTURAL ESTATES (35 ACRE MIN. PARCEL SIZE).
A-1 AGRICULTURAL-1 (19 ACRE MIN. PARCEL SIZE).

PROPOSED LAND USE
THE EXISTING SITE IS UNDEVELOPED BUT ADJACENT TO AN EXISTING TRANSMISSION LINE. THE PROPOSED LAND USE INCLUDES A NEW TRANSMISSION LINE.

STANDARD NOTES
THE OWNER(S), DEVELOPERS, AND/OR SUBDIVIDER(S) OF THE LOCATION AND EXTENT PLAN KNOWN AS THE RUSH CREEK 345 KV TRANSMISSION LINE PROJECT, THEIR RESPECTIVE SUCCESSORS, HEIRS AND/OR ASSIGNS AGREE TO THE FOLLOWING NOTES:

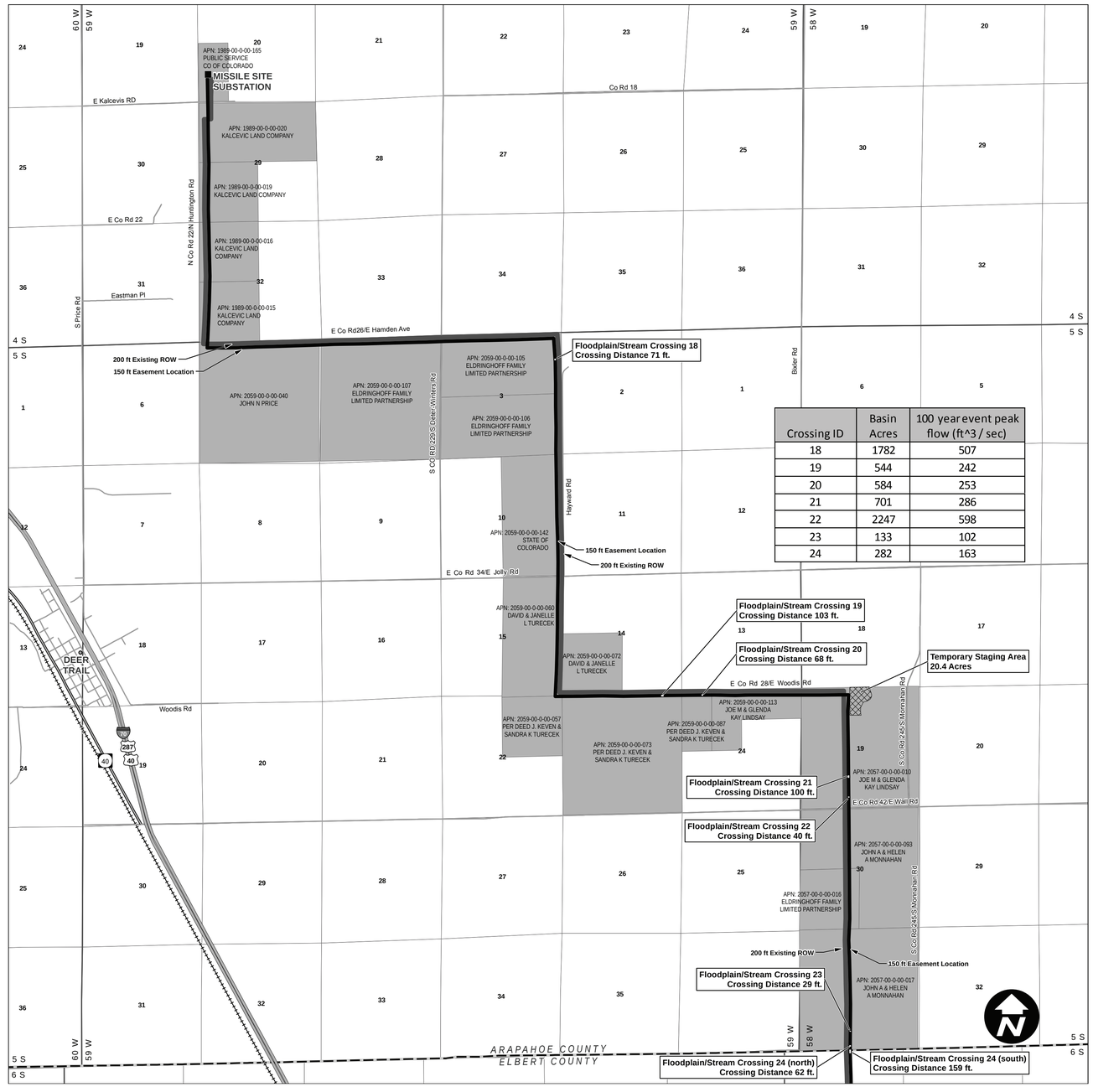
STREET MAINTENANCE
IT IS MUTUALLY UNDERSTOOD AND AGREED THAT THE DEDICATED ROADWAYS SHOWN ON THIS PLAT/PLAN WILL NOT BE MAINTAINED BY THE COUNTY UNTIL AND UNLESS THE STREETS ARE CONSTRUCTED IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS IN EFFECT AT THE DATE CONSTRUCTION PLANS ARE APPROVED, PROVIDED CONSTRUCTION OF SAID ROADWAYS IS STARTED WITHIN ONE YEAR OF THE CONSTRUCTION PLAN APPROVAL. THE OWNERS, DEVELOPERS, AND/OR SUBDIVIDERS, THEIR SUCCESSORS, AND/OR ASSIGNS IN INTEREST, SHALL BE RESPONSIBLE FOR STREET MAINTENANCE UNTIL SUCH TIME AS THE COUNTY ACCEPTS THE RESPONSIBILITY FOR MAINTENANCE AS STATED ABOVE.

DRAINAGE MAINTENANCE
THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL DRAINAGE FACILITIES INSTALLED PURSUANT TO THE CONDITIONS OF APPROVAL FOR THE PROJECT'S 1041 AND L&E APPLICATIONS. REQUIREMENTS INCLUDE BUT ARE NOT LIMITED TO MAINTAINING THE SPECIFIED STORM WATER DETENTION/RETENTION VOLUMES, MAINTAINING OUTLET STRUCTURES, FLOW RESTRICTION DEVICES AND FACILITIES NEEDED TO CONVEY FLOW TO SAID BASINS. ARAPAHOE COUNTY SHALL HAVE THE RIGHT TO ENTER PROPERTIES TO INSPECT SAID FACILITIES AT ANY TIME. IF THESE FACILITIES ARE NOT PROPERLY MAINTAINED THE COUNTY MAY PROVIDE NECESSARY MAINTENANCE AND ASSESS THE MAINTENANCE COST TO THE OWNER OF THE PROPERTY.

EMERGENCY ACCESS NOTE
EMERGENCY ACCESS IS GRANTED HEREWITH OVER AND ACROSS ALL PAVED AREAS FOR POLICE, FIRE, AND EMERGENCY VEHICLES.

DRIVES, PARKING AREAS, AND UTILITY EASEMENT MAINTENANCE
THE OWNERS OF THIS PLAN OR PLAT, THEIR SUCCESSORS AND/OR ASSIGNS IN INTEREST, THE ADJACENT PROPERTY OWNER(S), HOMEOWNER ASSOCIATION OR OTHER ENTITY OTHER THAN ARAPAHOE COUNTY, IS RESPONSIBLE FOR MAINTENANCE AND UPKEEP OF ANY AND ALL DRIVES, PARKING AREAS, AND EASEMENTS, E.G., CROSS ACCESS EASEMENTS, DRAINAGE EASEMENTS.

DRAINAGE LIABILITY
IT IS THE POLICY OF ARAPAHOE COUNTY THAT IT DOES NOT AND WILL NOT ASSUME LIABILITY FOR THE DRAINAGE FACILITIES DESIGNED AND/OR CERTIFIED BY PSCO. ARAPAHOE COUNTY REVIEWS DRAINAGE PLANS PURSUANT TO COLORADO REVISED STATUES TITLE 30, ARTICLE 28, BUT CANNOT, ON BEHALF OF PSCO GUARANTEE THAT FINAL DRAINAGE DESIGN REVIEW WILL ABSOLVE PSCO, AND/OR THEIR SUCCESSORS AND/OR ASSIGNS OF FUTURE LIABILITY FOR IMPROPER DESIGN. IT IS THE POLICY OF ARAPAHOE COUNTY THAT APPROVAL OF THE FINAL PLAT AND/OR FINAL DEVELOPMENT PLAN DOES NOT IMPLY APPROVAL OF PSCO'S DRAINAGE DESIGN.



Crossing ID	Basin Acres	100 year event peak flow (ft^3 / sec)
18	1782	507
19	544	242
20	584	253
21	701	286
22	2247	598
23	133	102
24	282	163

LOCATION MAP
NOT TO SCALE

PUBLIC IMPROVEMENTS NOTE
AFTER FINAL DEVELOPMENT PLAN/FINAL PLAT APPROVAL, ISSUANCE OF INDIVIDUAL BUILDING PERMITS WILL BE SUBJECT TO THE FOLLOWING STIPULATIONS AND/OR CONDITIONS PRECEDENT, WHICH OWNER AGREES TO IN CONJUNCTION WITH APPROVAL OF THE FINAL DEVELOPMENT PLAN AND/OR FINAL PLAT. SUCH BUILDING PERMITS WILL BE ISSUED ONLY AFTER THE OWNERS GUARANTEE PUBLIC IMPROVEMENTS IN A FORM ACCEPTABLE TO THE BOARD OF COUNTY COMMISSIONERS PURSUANT TO STATE STATUTE.

DRAINAGE MASTER PLAN NOTE
THE POLICY OF THE COUNTY REQUIRES THAT ALL NEW DEVELOPMENT AND REDEVELOPMENT SHALL PARTICIPATE IN THE REQUIRED DRAINAGE IMPROVEMENTS AS SET FORTH BELOW:

1. DESIGN AND CONSTRUCT THE LOCAL DRAINAGE SYSTEM AS DEFINED BY THE PHASE III DRAINAGE REPORT AND PLAN.
2. DESIGN AND CONSTRUCT THE CONNECTION OF THE PROJECT DRAINAGE SYSTEM TO A DRAINAGEWAY OF ESTABLISHED CONVEYANCE CAPACITY SUCH AS A MASTER PLANNED OUTFALL STORM SEWER OR MASTER PLANNED MAJOR DRAINAGEWAY. THE COUNTY WILL REQUIRE THAT THE CONNECTION OF THE MINOR AND MAJOR SYSTEMS PROVIDE CAPACITY TO CONVEY ONLY THOSE FLOWS (INCLUDING OFFSITE FLOWS) LEAVING THE SPECIFIC DEVELOPMENT SITE. TO MINIMIZE OVERALL CAPITAL COSTS, THE COUNTY ENCOURAGES ADJACENT DEVELOPMENTS TO JOIN IN DESIGNING AND CONSTRUCTING CONNECTION SYSTEMS. THE COUNTY MAY ALSO CHOOSE TO PARTICIPATE WITH A DEVELOPER IN THE DESIGN AND CONSTRUCTION OF THE CONNECTION SYSTEM.
3. EQUITABLE PARTICIPATION IN THE DESIGN AND CONSTRUCTION OF THE MAJOR DRAINAGEWAY SYSTEM THAT SERVES THE DEVELOPMENT AS DEFINED BY ADOPTED MASTER DRAINAGEWAY PLANS (SECTION 3.4 OF THE ARAPAHOE COUNTY STORMWATER MANAGEMENT MANUAL) OR AS REQUIRED BY THE COUNTY AND DESIGNATED IN THE PHASE III DRAINAGE REPORT.

SPECIAL NOTE
STREET MAINTENANCE DURING THE CONSTRUCTION PERIOD WILL BE PER THE ROAD USE AGREEMENT WITH ARAPAHOE COUNTY. A PRE-CONSTRUCTION INVENTORY OF EACH PUBLIC ROAD SHALL BE CONDUCTED JOINTLY BY PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ARAPAHOE, IDENTIFYING THE CONDITIONS OF EACH ROAD. PSCO WILL MAINTAIN THE CONSTRUCTION ACCESS ROADS DURING THE CONSTRUCTION PERIOD AND REPAIR THE PUBLIC ROADS TO THEIR PRE-CONSTRUCTION CONDITION (OR BETTER).

Xcel Energy® RESPONSIBLE BY NATURE™
POWER ENGINEERS

LOCATION AND EXTENT APPLICATION
RUSH CREEK 345 kV TRANSMISSION LINE PROJECT
ARAPAHOE COUNTY, COLORADO

REVISIONS:
REV 00 09-20-2016
REV 01 10-05-2016
REV 02 11-01-2016

NOT FOR CONSTRUCTION

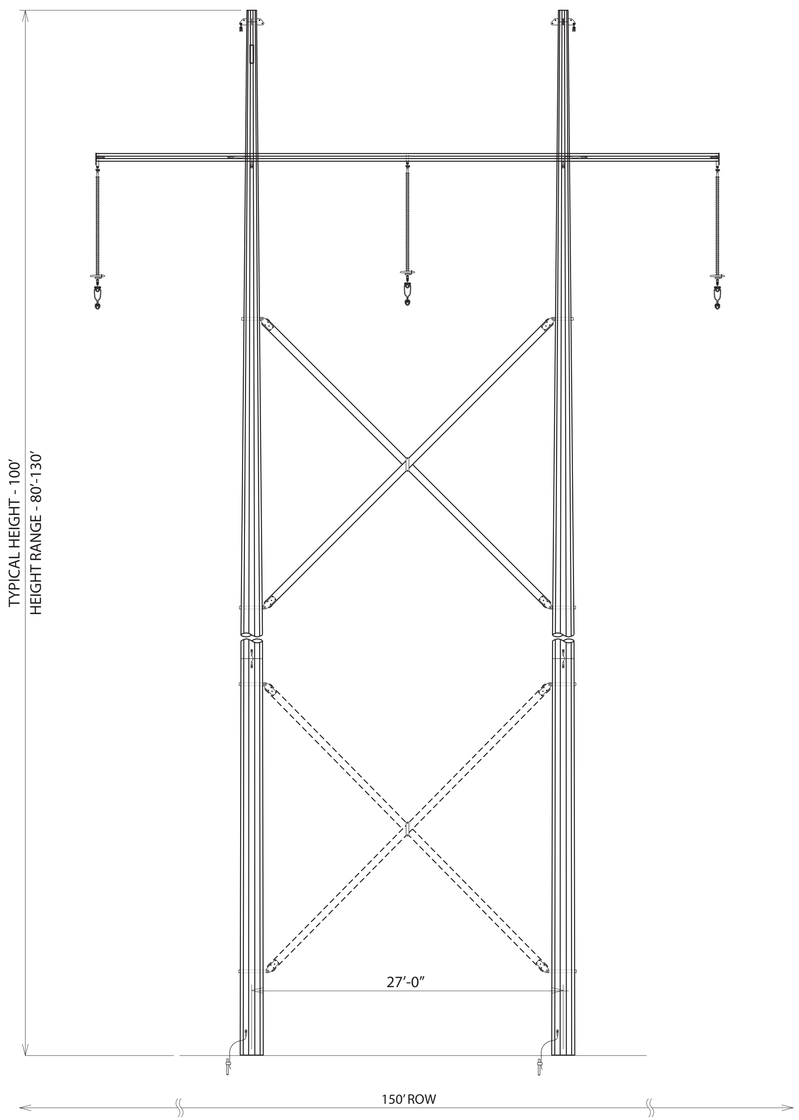
PM: DD / EAD
GIS: SAS
JOB NO: 141794

SHEET NO.
2 OF 4

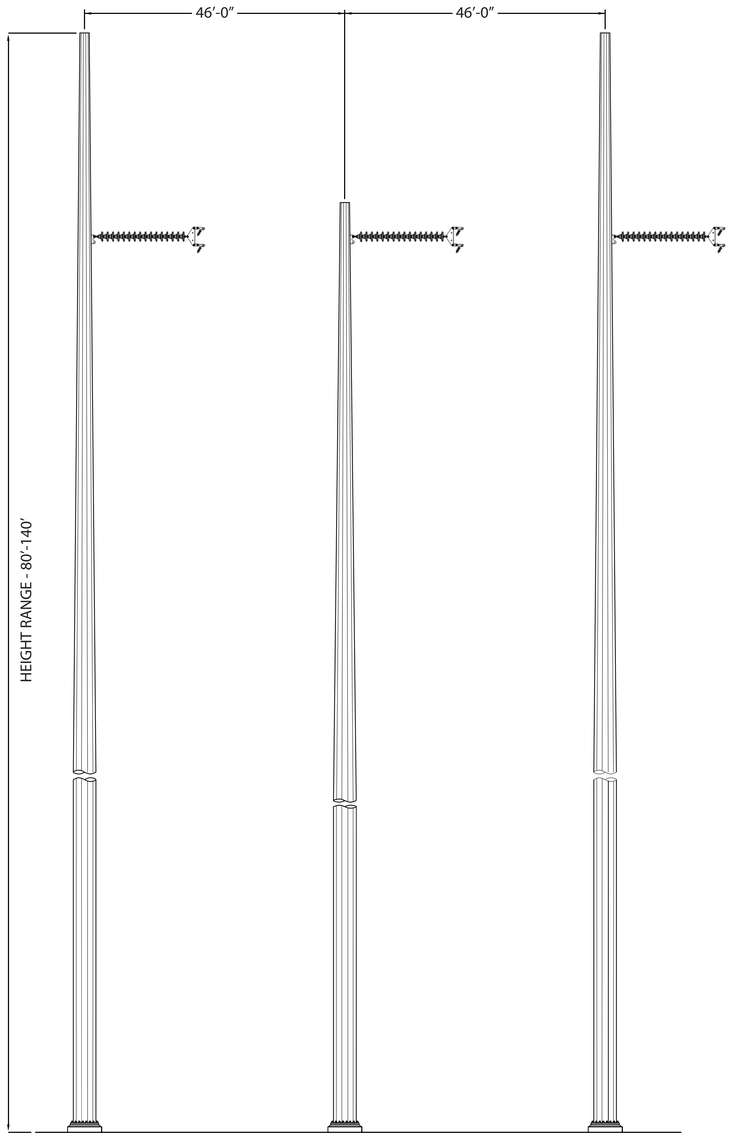
CASE NO. L16-997

RUSH CREEK 345 kV TRANSMISSION LINE PROJECT
LOCATION AND EXTENT PLAN

LOCATED IN SECTIONS 20, 29, 32, T4S, 59W
SECTIONS 19, 30, 31, T5S, 58W
SECTIONS 3, 4, 5, 10, 15, 22, 23, 24, T5S, 59W
ARAPAHOE COUNTY, STATE OF COLORADO



TYPICAL STEEL H-FRAME TRANSMISSION STRUCTURE
(ONE OR TWO CROSS-ARMS TO BE USED DEPENDING ON TERRAIN AND FINAL DESIGN)
NOT TO SCALE



TYPICAL STEEL THREE-POLE ANGLE TRANSMISSION STRUCTURE
NOT TO SCALE

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LOCATION AND EXTENT APPLICATION
RUSH CREEK 345 kV TRANSMISSION LINE PROJECT
ARAPAHOE COUNTY, COLORADO

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SHEET NO.
3 OF 4

CASE NO. L16-997

RUSH CREEK 345 kV TRANSMISSION LINE PROJECT
LOCATION AND EXTENT PLAN

LOCATED IN SECTIONS 20, 29, 32, T4S, 59W
SECTIONS 19, 30, 31, T5S, 58W
SECTIONS 3, 4, 5, 10, 15, 22, 23, 24, T5S, 59W
ARAPAHOE COUNTY, STATE OF COLORADO

THE FOLLOWING LIST DETAILS THE LANDOWNERS OF THE PARCELS ALONG ALTERNATIVE A IN ARAPAHOE COUNTY. A 150-FOOT-WIDE ELECTRIC TRANSMISSION LINE EASEMENT, RUNNING 75 - 100 FEET ON EITHER SIDE OF AN EAST-WEST, NORTH-SOUTH OR DIAGONAL CENTERLINE AT GRANTEES DISCRETION IN AND THROUGH THE PARCELS LISTED BELOW. ADDITIONAL DETAIL WILL BE ADDED TO THE PRELIMINARY LEGAL DESCRIPTIONS FOLLOWING THE COMPLETION OF LAND SURVEY.

KALCEVIC LAND COMPANY, A COLORADO CORPORATION
4730 CALHOUN BYERS ROAD
BYERS, CO 80103-8527

APN 198900000020
NORTH HALF (N ½) OF SECTION TWENTY-NINE (29), TOWNSHIP FOUR (4) SOUTH, RANGE FIFTY-NINE (59) WEST

APN 198900000019
SOUTHWEST QUARTER (SW ¼) OF SECTION TWENTY-NINE (29), TOWNSHIP FOUR (4) SOUTH, RANGE FIFTY-NINE (59) WEST

APN 198900000016
NORTHWEST QUARTER (NW ¼) OF SECTION THIRTY-TWO (32), TOWNSHIP FOUR (4) SOUTH, RANGE FIFTY-NINE (59) WEST

APN 198900000015
SOUTHWEST QUARTER (SW ¼) OF SECTION THIRTY-TWO (32), TOWNSHIP FOUR (4) SOUTH, RANGE FIFTY-NINE (59) WEST

OF THE 6TH P.M., ARAPAHOE COUNTY, COLORADO

JOHN N. PRICE
1289 SOUTH COUNTY ROAD 217
DEER TRAIL, CO 80105-8919

APN 205900000040
ALL OF SECTION FIVE (5), TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-NINE (59) WEST

OF THE 6TH P.M., ARAPAHOE COUNTY, COLORADO

ELDRINGHOFF FAMILY LIMITED PARTNERSHIP
84625 E. COUNTY ROAD 34
DEER TRAIL, CO 80105-8919

APN 2059-00-0-00-105
NORTH HALF (N ½) OF SECTION THREE (3), TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-NINE (59) WEST

APN 2059-00-0-00-106
SOUTH HALF (S ½) OF SECTION THREE (3), TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-NINE (59) WEST

APN 2059-00-0-00-107
ALL OF SECTION FOUR (4), TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-NINE (59) WEST

APN 2057-00-0-00-016
SOUTH-WEST QUARTER (SW ¼) OF SECTION THIRTY (30), TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-EIGHT (58) WEST

OF THE 6TH P.M., ARAPAHOE COUNTY, COLORADO

THE STATE OF COLORADO ACTING BY AND THROUGH ITS STATE BOARD OF LAND COMMISSIONERS
ATTN: DAVID RODENBERG, ROW MANAGER
1800 SHERMAN STREET, SUITE 300
DENVER, CO 80203

APN 205900000142
EAST HALF (E ½) OF SECTION TEN (10), TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-NINE (59) WEST

OF THE 6TH P.M., ARAPAHOE COUNTY, COLORADO

DAVID AND JANELLE TURECEK
81065 E. COUNTY ROAD 34
DEER TRAIL, CO 80105-8919

APN 2059-00-0-00-072
SOUTHWEST QUARTER (SW ¼) OF SECTION FOURTEEN (14), TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-NINE (59) WEST

APN 2059-00-0-00-060
EAST HALF (E ½) OF SECTION FIFTEEN (15), TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-NINE (59) WEST

OF THE 6TH P.M., ARAPAHOE COUNTY, COLORADO

J. KEVEN AND SANDRA K. TURECEK
81065 E. COUNTY ROAD 34
DEER TRAIL, CO 80105-8919

APN 2059-00-0-00-057
NORTHEAST QUARTER (NE ¼) OF SECTION TWENTY-TWO (22), TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-NINE (59) WEST

APN 2059-00-0-00-073
ALL OF SECTION TWENTY-THREE (23), TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-NINE (59) WEST

APN 2059-00-0-00-087
WEST HALF NORTHWEST QUARTER (W ½ NW ¼) OF SECTION TWENTY-FOUR (24), TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-NINE (59) WEST

OF THE 6TH P.M., ARAPAHOE COUNTY, COLORADO

JOE MARK AND GLENDA KAY LINDSAY
6210 S. COUNTY ROAD 245
DEER TRAIL, CO 80105-8919

APN 2059-00-0-00-113
NORTH HALF OF THE NORTHEAST QUARTER AND EAST HALF OF THE NORTHWEST QUARTER (N ½ NE ¼, E ½ NW ¼) OF SECTION TWENTY-FOUR (24), TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-NINE (59) WEST

JOE M. AND GLENDA KAY LINDSAY
APN 2057-00-0-00-110
ALL OF SECTION NINETEEN (19), TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-EIGHT (58) WEST

OF THE 6TH P.M., ARAPAHOE COUNTY, COLORADO

JOHN A. AND HELEN MONNAHAN & ARLENE A. MONNAHAN
1166 FIRST AVENUE
DEER TRAIL, CO 80105-8919

APN 2057-00-0-00-093
PER DEED = N1/2 AND THE SE1/4 OF SECTION THIRTY (30), TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-NINE (58) WEST

APN 2057-00-0-00-017
ALL OF SECTON THIRTY-ONE (31), TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-EIGHT (58) WEST

OF THE 6TH P.M., ARAPAHOE COUNTY, COLORADO

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POWER ENGINEERS

LOCATION AND EXTENT APPLICATION
RUSH CREEK 345 kV TRANSMISSION LINE PROJECT
ARAPAHOE COUNTY, COLORADO

REVISIONS:
REV 00 09-20-2016
REV 01 10-05-2016
REV 02 10-27-2016

NOT FOR CONSTRUCTION

PM: DD / EAD
GIS: SAS
JOB NO: 141794

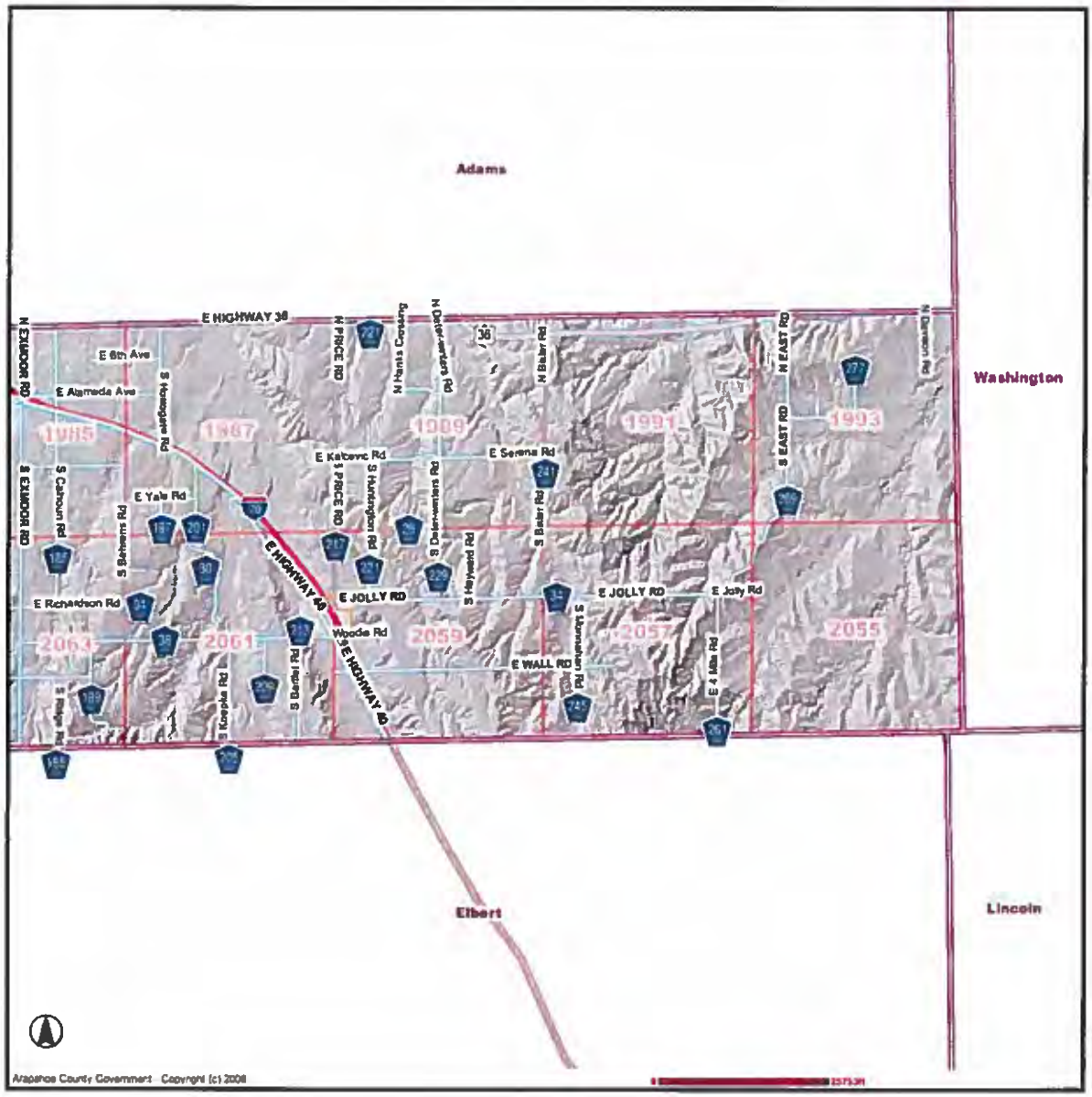
SHEET NO.
4 OF 4

CASE NO. L16-997

ARAPAHOE COUNTY PLANNING COMMISSION
PUBLIC HEARING
November 22, 2016
6:30 PM

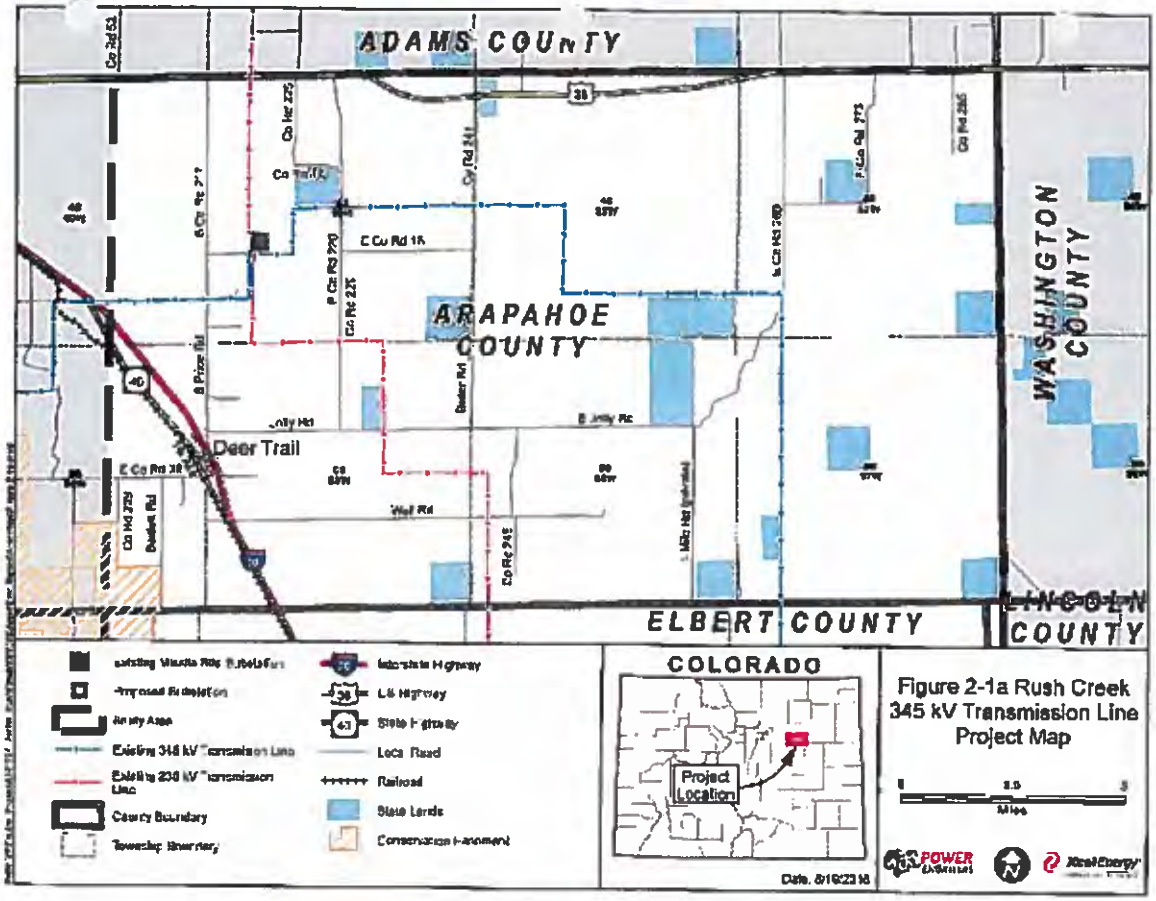
SUBJECT: ASI16-003 – 1041 PERMIT: RUSH CREEK 345 KV TRANSMISSION LINE
J. SHERMAN FEHER, SENIOR PLANNER **November 14, 2016**

VICINITY: This proposal is in Commissioner's District #3. The site is located East of Deer Trail in Eastern Arapahoe County and north of the southern border of Arapahoe County.



Vicinity Map

PROJECT LOCATION:. The site is located East of Price Road in Eastern Arapahoe County. The applicant's overall project is located in Kit Carson, Cheyenne, Lincoln, Elbert, and Arapahoe Counties.



Applicant's Proposed Project in Arapahoe County (shown in red)

ADJACENT SUBDIVISIONS, ZONING, AND LAND USES (IN ARAPAHOE COUNTY:

North - None; A-E; Agriculture

South - None; A-E; Agriculture

East - None; A-E; Agriculture

West - None; A-E & A-1; Agriculture

South of Wall
Road Crossing

North of Jolly
Road Crossing

Terminus at Xcel Substation

PROPOSAL:

The applicant, Public Service Company of Colorado (PSCo)/Xcel Energy, acting on behalf of itself and various property owners, is requesting approval for a 1041 Permit known as the Rush Creek Transmission Line. PSCo seeks to construct approximately 13.5 miles of new 345 kilovolt transmission line in Arapahoe County from wind farms in Cheyenne, Kit Carson, Elbert and Lincoln County and a transmission line that enters Arapahoe County along some 100 to 200- foot wide easements in the following sections: Sections 20, 29, and 32, Township 4 South, Range 59 West; Sections 3-5, 10, 15, 22-24, Township 5 South, Range 59 West; Sections 19, 30 and 31, Township 5 South, Range 58 West of the 6th Prime Meridian . in Arapahoe County. The overall project area of transmission line easements is roughly 300 acres based on an easement width of 150 feet.

The proposed design for the overhead transmission line towers are single circuit brown steel H-frame structures and three-pole guyed brown steel structures for all angles. These structures will be approximately 80-140 feet tall. There will be typical spacing of 600-900 feet between pole locations. The number of pole structures needed in Arapahoe County is in the range of 90-130. The applicant is proposing a 20.4 acre construction staging area in Arapahoe County near Woodis Road (Section 19, Township 5 South, Range 58 West)

When fully operational, the Rush Creek Wind Power Project will generate up to 600 MW of power from Wind Turbine Generators located in Kit Carson, Cheyenne, Lincoln and Elbert Counties. There will be approximately 80-93 miles (depending on the preferred alternative) of 345 kV transmission line that will traverse the four counties.

RECOMMENDATIONS AND FINDINGS:

Staff: Staff recommends that the 1041 Permit application be APPROVED, subject to the findings and conditions of approval outlined herein.

I. BACKGROUND

The existing zoning is A-E for most of the proposed transmission right-of-way in Arapahoe County, plus some limited A-1 zoning.

NOTE: This case will be heard in conjunction with a Location and Extent (L&E) case. The 1041 Permit reviews siting and environmental considerations and the L&E case reviews the location and general extent of the proposal.

II. DISCUSSION

Comprehensive Plan:

The proposed 1041 Permit application is in conformance with the Arapahoe County Comprehensive Plan, in that it provides for development of public facilities and services within the "Rural" (Tier 2 and Tier 3) Land Use Area(s).

1041 Permit Submittal Requirements:

The applicant has complied with all of the submittal requirements outlined in Section IIIC and IIIE in the 1041 regulations.

Referral Comments:

The following are referral comments, as well as the applicant's response to the comments (in italics).

County Engineer	-	Comments regarding 1041 Permit application, GESC, Floodplain Delineation Study, and other Engineering Documents. *The applicant has addressed or will address all Engineering comments.*
Mapping	-	No comments.
Arapahoe Co. Sheriff	-	No comments.
Zoning Administrator	-	No comments.
Weed Control		No response.
Elbert County	-	No response.
Assessor	-	No response.
Open Spaces	-	Would like the applicant to consider existing and future trail connections along the proposed ROW. *Applicant will consider trail connections with the County but the County will need to obtain its own separate land rights from property owners for trail easements.*
Army Corps of Engineers	-	No response.
Deer Trail Fire District	-	No response.
Colorado Parks and Wildlife (CPW)	-	Various comments regarding wildlife. See *Applicant's extensive response to CPW comments in Xcel Energy's referral comments response letter dated 11/10/16.*
IREA	-	No response.
REAP	-	REAP is supportive of this project.
Deer Trail	-	No response.
Deer Trail Conservation District	-	No response.
Tri-County Health	-	Initial referral letter, dated November 7, 2016, referred to pipelines. *Applicant addressed pipeline comments as if they were transmission line comments.* There were comments regarding on-site wastewater treatment systems, groundwater quality protection, wastewater disposal and fugitive dust. *Comments noted; will be addressed as appropriate.* County received a second letter, dated November 10, 2016 which referred to transmission

		lines instead of pipelines.
East End Advisory Committee	-	Arnold Hollingsworth: No comments. No responses from the following: Michael J. Carter, Mary Garin, Janet Cook and Carl Kroh.

We also received a letter of support for this project from the Board of County Commissioners in Kit Carson County.

Approval Criteria

The 1041 Permit approval criteria for a Major Electrical Facilities of a Public Utility shall comply with the criteria set forth in the 1041 Regulations, Part V, Sections A and C, along with Appendix A. All of these criteria shall be used in determining whether such 1041 Permit should be approved.

Ordinance Review and Additional Background Information

A permit may be approved if the proposed activity complies with the following general criteria. In determining whether the proposed activity complies with the criteria, the Planning Commission and Board of County Commissioners may take into consideration, the construction, operation and cumulative impacts of the proposed activity.

A. General Approval Criteria [See applicant's response to approval criteria in page 3 of the 1041 application report. Staff response to approval criteria in italics below]

1. Documentation that prior to site disturbance associated with the Proposed Project, the applicant can and will obtain all necessary property rights, permits and approvals. The Board may, at its discretion, defer making a final decision on the application until outstanding property rights, permits and approvals are obtained.

   The applicant can and will obtain all necessary property rights, permits and approvals prior to construction.

2. The Proposed Project considers the relevant provisions of the regional water quality plans.

   There are no regional water quality plans for this area.

3. The applicant has the necessary expertise and financial capability to develop and operate the Proposed Project consistent with all requirements and conditions.

The applicant has provided the Planning Division with some general information that shows that PSCo has the expertise and the financial capability to develop the Proposed Project.

4. The Proposed Project is technically and financially feasible.

   The applicant has conducted a number of studies that indicate that the Proposed Project is technically and financially feasible.

5. The Proposed Project is not subject to significant risk from natural hazards.

   The applicant will design the Proposed Project to minimize the risks from natural hazards, such as high winds and floods.

6. The Proposed Project is in general conformity with the applicable comprehensive plans.

   The Proposed Project is in general conformity with the Arapahoe County Comprehensive Plan which allows for Public Facilities and Services in "Rural" (Tier 2 and Tier 3) designated areas of the County.

7. The Proposed Project will not have a significant adverse effect on the capability of local government to provide services or exceed the capacity of service delivery systems.

   This Proposed Project is anticipated to have minimal impacts on provision of services from Arapahoe County and other special districts.

8. The Proposed Project will not create an undue financial burden on existing or future residents of the County.

   This Proposed Project will be privately financed and will have minimal demand for public services in Arapahoe County.

9. The Proposed Project will not significantly degrade any substantial sector of the local economy.

   The Proposed Project has been designed to minimize the effects on the agricultural sector.

10. The Proposed Project will not unduly degrade the quality or quantity of recreational opportunities and experience.

    The Proposed Project will not reduce or limit the quality or quantity of recreational opportunities and experience in the area because there are few recreational opportunities in this area.

11. The planning, design and operation of the Proposed Project will reflect principles of resource conservation, energy efficiency and recycling or reuse.

    The Proposed Project is designed to minimize adverse impacts to resources.

12. The Proposed Project will not significantly degrade the environment. Appendix "A" includes the considerations that will be used to determine whether there will be significant degradation of the environment. For purposes of this section, the term environment shall include:
    a. Air quality.
    b. Visual quality.
    c. Surface water quality.
    d. Groundwater quality.
    e. Wetlands, flood plains, streambed meander limits, recharge areas, and riparian areas.
    f. Terrestrial and aquatic animal life.
    g. Terrestrial and aquatic plant life.
    h. Soils and geologic conditions.

    The analysis of the submitted application and referral comments has determined that the Proposed Project has no significant environmental impacts with the exception of some loss of visual quality and some potential limited impacts to wildlife and their habitat. The applicant has sited and designed the Project to minimize environmental and visual impacts by the type and design of transmission towers. The applicant will minimize the impacts to wildlife by following the Colorado Parks and Wildlife recommendations in their letter, which are a condition of approval.

13. The Proposed Project will not cause a nuisance.

    The Proposed Project will not cause undue nuisances outside of the transmission line easements.

14. The Proposed Project will not significantly degrade areas of paleontological, historic, or archaeological importance.

    The Proposed Project appears to not degrade any areas of paleontological, historic, or archaeological importance in the Project area.

15. The Proposed Project will not result in unreasonable risk of releases of hazardous materials. In making this determination as to such risk, the Board's consideration shall include:

a. Plans for compliance with Federal and State handling, storage, disposal and transportation requirements.

The applicant will comply with Federal and State hazardous materials regulations.

b. Use of waste minimization techniques.

The applicant will use waste minimization techniques.

c. Adequacy of spill prevention and response plans. The applicant intends to comply with all local, state, and federal laws and regulations related to hazardous materials, including spill prevention and response plans.

The applicant intends to comply with all regulations related to hazardous materials, including spill prevention and response plans.

16. The benefits accruing to the County and its citizens from the proposed activity outweigh the losses of any resources within the County, or the losses of opportunities to develop such resources.

This Proposed Project enhances the productive use of resources within the County through the minimal impact of the transmission lines on lands by following the existing Eastern Interconnect Line in Arapahoe County..

17. The Proposed Project is the best alternative available based on consideration of need, existing technology, cost, impact and these regulations.

Per the discussion in the alternatives section of the applicant's 1041 application, the applicant has generally chosen the best overall alternative.

18. The Proposed Project will not unduly degrade the quality or quantity of agricultural activities.

The co-existence of overhead powerlines and agricultural uses will result in over 98% of the utility easement area remaining open and available for ranching and farming activities.

19. The Proposed Project will not significantly interfere with the preservation of cultural resources, including historical structures and sites, agricultural resources, the rural lifestyle and the opportunity for solitude in the natural environment.

With the exception of some visual impact and slight disruption of solitude in the natural environment during construction, the Proposed Project will

not significantly interfere with any of the above-mentioned cultural resources criteria.

20. The Proposed Project will not cause significant degradation of land-use patterns in the area around the Proposed Project.

    An estimated 98% of the utility easement area will remain open to current uses, therefore the Proposed Project will not cause significant degradation of land-use patterns in the area.

21. The applicant has complied with all applicable provisions of these regulations and has paid all applicable fees.

    The applicant has sought to comply with all applicable 1041 Permit regulations and has paid a deposit that will apply towards the fees.

B. Additional Criteria Applicable to Major Facilities of a Public Utility

In addition to the general criteria set forth in Section V, Part A of the 1041 Permit Regulations, above, the following additional criteria shall apply to major facilities of a public utility:

1. Areas around major facilities of a public utility shall be administered so as to minimize disruption of the service provided by the public utility.

   The Proposed Project will be administered so as to minimize disruption of the service provided by a public utility.

2. Areas around major facilities of a public utility shall be administered so as to preserve desirable existing community and rural patterns.

   The Proposed Project's transmission line easements allow for agricultural uses to coexist with the transmission lines, thereby helping to preserve existing rural patterns.

3. Where feasible, major facilities of a public utility shall be located so as to avoid direct conflict with adopted local comprehensive, State and regional master plans.

   The Proposed Project appears to avoid direct conflict with adopted local comprehensive, State, and regional master plans.

4. Where feasible, major facilities of a public utility shall be located so as to minimize dedication of new right-of-way and construction of additional infrastructure (e.g., gas pipelines, roads, and distribution lines.)

The proposed transmission line in Arapahoe County is located alongside the Eastern Colorado Interconnect Transmission Line so as to minimize dedication of new right-of-way.

III. STAFF FINDINGS: 1041 PERMIT

Staff has visited the site and has reviewed the plans and supporting documentation and referral comments, as well as citizen input in response to this application. Based upon review of the Comprehensive Plan, development regulations, and analysis of referral comments, our findings include:

1. The proposed 1041 Permit application is in conformance with the Arapahoe County Comprehensive Plan, in that it provides for development of public facilities and services within the "Rural" Land Use Area.
2. The proposed 1041 Permit application appears to be consistent with Arapahoe County 1041 Permit Regulations.
3. This application appears to meet all of the approval criteria for this 1041 Permit application, provided all of the conditions of approval are met.
4. There are a number of Engineering conditions, including Floodplain Development Permit and finalized utility easements, etc. that need to be done prior to any construction takes place.
5. There are a number of wildlife issues that need to be dealt with and resolved with the Colorado Parks and Wildlife (CPW) before, during and after construction of the transmission line and switchyard per the CPW's letter dated, October 7, 2016.
6. The County roads that will be used by the applicant's construction equipment will need to be restored to the preconstruction condition following construction of the transmission lines.

IV. RECOMMENDATION FOR 1041 PERMIT:

Considering the findings and other information provided herein, staff recommends approval of the 1041 Permit, case number, ASI16-003, for the Rush Creek 345 KV Transmission Line, subject to the following:

1. The applicant makes any modifications to plans, as requested by the Public Works & Development Department, prior to any construction is started on this project.
2. The applicant agrees to address all Engineering Services Division comments and concerns as identified within their reports, prior to construction.
3. The applicant will need to deal with and resolve all wildlife issues with the Colorado Parks and Wildlife before, during and after construction of the

applicant's transmission line and switchyard per the Colorado Parks and Wildlife's letter dated, October 7, 2016.

4. The applicant will need to do a burrowing owl survey per Colorado Parks and Wildlife(CPW) protocol and will need to follow CPW restrictions regarding construction time periods and distances from nesting burrows listed in the Colorado Parks and Wildlife's letter dated, October 7, 2016.
5. The applicant will need to avoid destruction of Swift Fox dens between December 15 through August 15 and minimize disturbance of active dens during this time period per the Colorado Parks and Wildlife's letter dated, October 7, 2016.
6. The applicant will provide sufficient funds to Arapahoe County to restore County Roads that are used by the applicant to the preconstruction condition following construction of the transmission lines and switchyard.
7. All necessary utility easements or transmission rights-of-way must be recorded and executed prior to construction of the transmission line.
8. The applicant will need to create a Noxious Weed Management Plan and follow the Plan in order to deal with noxious weeds. The applicant will provide the County with a copy of the Noxious Weed Management Plan.

This is based upon:

- The proposal is in conformance with the Arapahoe County Comprehensive Plan.
- The proposal is in conformance with Arapahoe County Land Development Code, specifically the 1041 Permit Regulations.

V. DRAFT MOTIONS FOR 1041 PERMIT:

A. APPROVAL: In the case of ASI16-003 – Rush Creek 345 KV Transmission Line case, we have read the staff report and received testimony at the public hearing. We find ourselves in agreement with staff findings for the 1041 Permit application including all plans and attachments as set forth in the staff report dated November 14, 2016, and recommend approval to the BOCC, subject to the following conditions:

1. The applicant makes any modifications to plans, as requested by the Public Works & Development Department, prior to any construction is started on this project.
2. The applicant agrees to address all Engineering Services Division comments and concerns as identified within their reports, prior to construction.
3. The applicant will need to deal with and resolve all wildlife issues with the Colorado Parks and Wildlife before, during and after construction of the applicant's transmission line and switchyard per the Colorado Parks and Wildlife's letter dated, October 7, 2016.

4. The applicant will need to do a burrowing owl survey per Colorado Parks and Wildlife(CPW) protocol and will need to follow CPW restrictions regarding construction time periods and distances from nesting burrows listed in the Colorado Parks and Wildlife's letter dated, October 7, 2016.
5. The applicant will need to avoid destruction of Swift Fox dens between December 15 through August 15 and minimize disturbance of active dens during this time period per the Colorado Parks and Wildlife's letter dated, October 7, 2016.
6. The applicant will provide sufficient funds to Arapahoe County to restore County Roads that are used by the applicant to the preconstruction condition following construction of the transmission lines and switchyard.
7. All necessary utility easements or transmission rights-of-way must be recorded and executed prior to construction of the transmission line.
8. The applicant will need to create a Noxious Weed Management Plan and follow the Plan in order to deal with noxious weeds. The applicant will provide the County with a copy of the Noxious Weed Management Plan.

B. DENIAL *(This recommendation would not be consistent with the Staff recommendation. Any alternate motion must include new findings and conditions in support of the motion for Approval where those differ from the Staff-recommended findings and conditions)*:

In the case of ASI16-003, Rush Creek 345 KV Transmission Line 1041 Permit, we have read the staff report and received testimony at the public hearing. We find ourselves not in agreement with staff findings regarding the draft plan and attachments as set forth in the staff report dated November 14, 2016, and recommend the Board of County Commissioners DENY the request for approval of the 1041 Permit.

Findings:

1. *State new or amended findings to support Planning Commission recommendation of "Denial" as part of the motion.*
2.

C. CONTINUE: In the case of ASI16-0003, Rush Creek 345 KV Transmission Line, 1041 Permit, I move to continue the decision on this request to [DATE], 2016, date certain, at 6:30 p.m., at this same location [to receive further information] [to further consider information presented during the hearing].

Attachments
Application, for 1041 Permit
Referral Comments
Engineering Staff Report

Arapahoe County
Colorado's First

Public Works and Development
6924 S. Lima Street
Centennial, Colorado 80112
Phone: 720-874-6650
www.arapahoegov.com

Land Development Application

Form must be complete

Land Development Application materials received after 2pm shall be date stamped received the following working day.

APPLICANT/REPRESENTATIVE: Erin A. Degutis	**ADDRESS:** 1800 Larimer Street, 4th Floor, Denver, CO 80202 **PHONE:** 303.571.7735 **FAX:** 303.294.2088 **EMAIL:**	**SIGNATURE:** **NAME:** Erin A. Degutis, RLA, AICP, LEED AP Xcel Energy | Responsible By Nature Senior Agent, Siting and Land Rights **TITLE:**
OWNER(S) OF RECORD: Public Service Company of Colorado1	**ADDRESS:** 1800 Larimer Street, 4th Floor, Denver, CO 80202 **PHONE:** 303.571.7735 **FAX:** 303.294.2088 **EMAIL:**	**SIGNATURE:** **NAME:** Erin A. Degutis, RLA, AICP, LEED AP Xcel Energy | Responsible By Nature Senior Agent, Siting and Land Rights **TITLE:**
ENGINEERING FIRM: N/A	**ADDRESS:** **PHONE:** **FAX:** **EMAIL:**	**CONTACT PERSON:**

Pre-Submittal Case Number: Q16-044 **Pre-Submittal Planner:** Sherman Feher **Pre-Submittal Engineer:** Sue Liu

Parcel ID no. (AIN no.)	1989-00-0-00-016 and 2071-00-0-00-099
Parcel Address or Cross Streets:	Arapahoe County
Subdivision Name & Filing No.:	N/A
Related Case Numbers: (Preliminary/Final Development Plan, Rezoning, and / or Plat)	Similar to East Colorado Connect submitted by Nexterra.

	EXISTING	PROPOSED
Zoning:	A-E, A-1, USBR	same as exisitng
Case/Project/Subdivision Name:	N/A	Rush Creek 345 kV Transmission Line Project
Site Area (Acres):	~ 300	same as existing
Floor Area Ratio (FAR):	N/A	N/A
Density (Dwelling Units/Acre):	N/A	N/A
Building Square Footage:	N/A	N/A
Disturbed Area (Acres):		TBD based on engineering design

CASE TYPE (Administrative Case types are shaded in Gray)

☐ Preliminary Development Plan or Major Amendment ☐	☐ Location & Extent or Major Amendment ☐	☐ Administrative Site Plan	☐ Preliminary Plat
☐ Master Development Plan or Major Amendment ☐	☐ Rezoning - Conventional	☐ Administrative Amendment to _____(PDP, FDP, etc.)	☐ Final Plat
☐ Final Development Plan or Major Amendment ☐	☐ Land Development Code Amendment	☐ Technical Amendment to _____(PDP, FDP, etc.)	☐ Minor Subdivision
☐ Planned Sign Program or Major Amendment ☐	☐ Use by Special Review or Major Amendment ☐	☐ Commercial Mobile Radio Service (CMRS/cellular antennas)	☐ Subdivision Exemption
☐ Vacation of Right of Way/Easement/Plat	☐ Use by Special Review – Oil and Gas	☐ Plat Correction	☐ Replat (Major)
☑ 1041 – Areas & Activities of State Interest – Use by Special Review ☐	☐ Special District Title 30 ☐ Title 32 ☐	☐ Administrative Oil & Gas Use by Special Review (AOGUSR)	☐ Administrative Replat
☐ Comprehensive Plan	☐ Rural Cluster	☐ Street Name Change	☐ _____

THIS SECTION FOR OFFICE USE ONLY

Case No:		**Planning Manager:**		**Engineering Manager:**	
Planning Fee:	Y N $	**Engineering Fee:**	Y N $	**TCHD Fee?** ☐	$

This application shall be submitted with all applicable application fees. Submittal of this application does not establish a vested property right in accordance with C.R.S. 24-68-105(1). Processing and review of this application may require the submittal of additional information, subsequent reviews, and/or meetings, as outlined in the Arapahoe County Land Development Code.

Arapahoe County 1041 Permit Application
Rush Creek 345 kV Transmission Line Project

Submitted by Public Service Company of Colorado
1800 Larimer Street, 4th Floor
Denver, Colorado 80202

LETTER OF INTENT

Through this application, Public Service Company of Colorado (PSCo) respectfully requests approval of a 1041 Permit Application to construction, operate, and maintain approximately 13.5 miles of 345 kilovolt (kV) transmission line in eastern Arapahoe County (the "Project"). As is customary with all land use applications to locate and construct major utility facilities in Colorado, PSCo is applying pursuant to CRS 29-20-108, which relates to local government processing of such applications.

As discussed in our pre-application and consultation meeting with County staff, the proposed transmission line in Arapahoe County is one component of the proposed Rush Creek wind farm, which consists of 600 MW of new wind generation and 90 new miles of transmission in eastern Colorado. In May 2016 PSCo filed an application for a Certificate of Public Convenience and Necessity (CPCN) with the Colorado Public Utilities Commission (CPUC) for the Rush Creek project. Details about the overall project can be found on the CPUC website under Docket #16A-0117E.

The transmission line proposed in Arapahoe County will deliver wind energy from Rush Creek to PSCo's grid by way of the existing Missile Site Substation. During the construction period, temporary staging areas of approximately 20-acres in size will be required to house construction materials and equipment. While the locations of these staging areas are yet to be identified, at least one such area will likely be located in Arapahoe County.

The Project Area within Arapahoe County covered by the 1041 Permit Application is approximately 300 acres, based on an easement width of 150-feet. PSCo is currently negotiating with landowners to acquire easements for construction, operation, and maintenance of the Project. Based on progress to date, we anticipate executing easements or easement option agreements by early fall of this year.

PSCo appreciates the County's consideration of this application and we look forward to working together on the permitting process. Please let me know if I can provide additional information or assistance. I can be contacted directly via telephone at 303.571.7735 or email at Erin.A.Degutis@XcelEnergy.com .

Kindest regards,

Erin A. Degutis, RLA, AICP, LEED AP
Senior Agent, Siting and Land Rights
1800 Larimer Street, 4th Floor
Denver, Colorado 80202

Xcel Energy®
RESPONSIBLE BY NATURE™

Xcel Energy℠
PUBLIC SERVICE COMPANY

Siting and Land Rights
1800 Larimer Street, Suite 400
Denver, Colorado 80202

Telephone: 303.571.7751

November 10, 2016

Arapahoe County Development Services & Infrastructure Management
Mr. Sherman Feher
6924 South Lima Street
Centennial, Colorado 80112

RE: **Rush Creek 345kV Transmission Line – 1041 Application for Areas and Activities of State Interest (Case No. ASI16-003) and Location and Extent Application (Case No. L16-007)**
Response to Agency Referral Comments

Dear Mr. Feher,

Public Service Company of Colorado (PSCo) is pleased to receive the Agency Referral Comments the Rush Creek 345kV Transmission Line Project dated October 7, 2016. We reviewed the comments and respectfully submit our responses for your consideration.

<u>Arapahoe County Planning</u>

1. If the temporary storage construction yard(s) in Arapahoe County is not known by the time of the Planning Commission hearing, Xcel may have to obtain a Special Exception Use or a Temporary Use Permit for that site(s). If it will be at the Missile Site Substation then it needs to be indicated on the L&E exhibit.

   Response: PSCo may have up to two (2) temporary storage yards in Arapahoe County. One temporary storage construction yard is secured through a lease agreement with the landowner and is indicated on the revised Locations and Extent exhibit, and included with this application (submitted November 3rd, 2016. PSCo understands that if a second temporary storage construction yard is needed, a Special Exception Use or a Temporary Use Permit will be required for the second location.

<u>Arapahoe County Open Spaces</u>

1. After analysis Arapahoe County Open Spaces requests that the applicant considers existing and future trail connections along the utility alignments. Trails provide maintenance access for the utility company while simultaneously providing a tremendous public asset. However, it is hard to determine exact routes when they are proposed as alternative in the site plan as well as due to the large scale of the map.

   Response: PSCo generally allows public trail connections along transmission corridor alignments and will work with the County to grant access within PSCo's easement corridor upon review and approval of the County's proposed trail plans. Arapahoe County will need to secure its own separate land rights and permission for such trail connections from the individual property owners along PSCo's transmission line easement for proposed trails.

Tri-County Health Department

1. On-Site Wastewater Treatment Systems: Houses and other buildings equipped with plumbing facilities on properties located along the preferred and alternate pipeline routes are serviced by Onsite Wastewater Treatment Systems (OWTS). Our review of the pipeline routes indicates that sections of the pipeline routes may encroach on OWTS on some properties. TCHD recommends that the applicant review the locations of the pipeline routes to determine if they may encroach on OWTS. If it appears that encroachment will occur, it may be necessary to revise the pipeline location or relocate the OWTS. TCHD can provide specific permit information and system diagrams on OWTS for the affected properties.

   Response: PSCo intends to build an overhead 345kV transmission line as part of the Rush Creek Wind Project. A pipeline is not part of this Project and PSCo assumes the word "transmission line" was intended in place of "pipeline" in this comment. As a part of the routing and siting process for the transmission line, PSCo reviews the locations of infrastructure, such as pipelines, roads, on-site wastewater treatment systems, and other transmission / distribution lines. PSCo reviewed proposed segments and routes to determine if there are any potential conflicts with infrastructure, such as on-site wastewater treatment systems. The Preferred Route (Alternative A) in Arapahoe County crosses undeveloped agricultural land, rangeland, and pasture sited away from existing residences and agricultural settlements, thus avoiding on-site wastewater treatment systems.

2. Groundwater Quality Protection: A scan of the area proposed for the pipeline routes indicates that there may be water wells on the properties where the pipeline is located. Heavy equipment may inadvertently drive over wells during construction, causing damage that may expose the water in the wells to contamination. Where wells are within or close to pipeline routes, we recommend the applicant protect the wells by identifying the areas around wells so that they are visible to vehicle operators/construction crews. This can be accomplished by delineating the area around each well with stakes, colored tape or orange plastic netting. If the pipeline routes cross over streams and/or wetlands, alluvial groundwater flow could be impacted if trenching intersects the shallow groundwater. If trench dewatering is necessary, the water will be pumped and discharged to alluvial / colluvial sediments close to the stream channel. If discharge of groundwater is necessary during construction, a discharge permit from the Colorado Department of Public Health and Environment (CDPHE), Water Quality Control Division will be necessary.

   Response: PSCo intends to build an overhead 345kV transmission line as part of the Rush Creek Wind Project. A pipeline is not part of this Project and PSCo assumes the word "transmission line" was intended in place of "pipeline" in this comment. PSCo identifies wells early in the planning process through electronic data collection and consultation with landowners and avoids wells within and immediately adjacent to the transmission line easement in order to reduce conflicts if the well needs to be maintained. PSCo intends to span all streams, wetlands, and floodplains while paralleling the existing NextEra 345kV transmission line in Arapahoe County. PSCo does not intend to trench as a part of this project as H-frame structures are placed through a direct-embed process. Concrete footings may be needs in areas where geotechnical surveys indicate that soils needed more support.

3. Wastewater Disposal: Proper wastewater management promotes effective and responsible water use, protects potable water from contaminants, and provides appropriate collection, treatment, and disposal of waste, which protects public health and the environment. The applicant does not specify how wastewater facilities will be provided at the staging areas during construction for onsite workers. We anticipate that portable toilets will be necessary during construction. TCHD has no objection to the use of portable toilets, provided they are properly maintained. TCHD recommends that the applicant address these, in terms of numbers, locations, and vendor.

   Response: Overhead high-voltage transmission lines do not generate wastewater during their operation or maintenance. PSCo intends to use portable toilets at each temporary construction storage yard and will ensure that the portable toilets are maintained on a regular basis. PSCo has not selected a vendor for the portable toilets. The number of portable toilets will be determined by the estimated number of staff and construction workers based at each temporary construction storage yard.

4. Fugitive Dust: Exposure to air pollution is associated with a number of health problems including asthma, lung cancer, heart disease, and low birth weight. Vehicle traffic on unpaved roads may contribute to increased fugitive dust emissions. We recommend that the applicant utilize all available methods to minimize fugitive dust. Control measures or procedures that may be employed include, but are not limited to, watering, chemical stabilization, carpeting roads with aggregate, and speed restrictions.

   Response: PSCo intends to control fugitive dust per the Arapahoe County Road Use Agreement. Methods identified in the Road Use Agreement, including sprinkling the road surface with water and speed restrictions. The road surface may be stabilized during the construction period and may include the use of materials like aggregate or asphalt where appropriate.

Arapahoe County Weed Control

1. Monitor for noxious weed invasion during and after the construction phase.

   Response: PSCo will monitor for noxious weeds during and after the construction phase of the project.

2. Upon any sightings of noxious weeds by County staff or the applicant, appropriate integrated weed management methods shall be implemented for the species found.

   Response: PSCo develops internal reclamation plans for disturbed areas and addresses noxious weeds. Reclamation plans shall be in conformance with agency permits and landowner agreements as to reclamation methods and seed mixes, restoring the landscape to the pre-construction conditions. PSCo will coordinate with the Farm Service Agency if Conservation Reserve Program lands are impacted.

Colorado Parks & Wildlife

1. Of high concern regarding electrical transmission lines is the potential for raptor electrocution. Through the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act, the U.S. Fish and Wildlife Service, in cooperation with the Edison Electric Institute, has developed Best Management Practices to minimize impacts to avian species. CPW recommends that both the "*Suggested Practices for Avian Protection on Power Lines, the State of the Art in 2006*" and the "*Reducing Avian Collisions with Power Lines: The State of the Art in 2012*" documents be consulted for proper design considerations to minimize raptor electrocution. These documents can be ordered at the Edison Electric Institute website (www.eei.org) or can be downloaded at the Avian Power Line Interaction Committee website (www.aplic.org). This recommendation is applicable to all segments included in the project.

   Response: PSCo adopted and regularly uses a corporate Avian Protection Plan for the entire transmission and distribution infrastructure system in Colorado, and plans to operate within such Plan for the proposed Project. This Plan incorporates many elements of the Avian Powerline Interaction Committee, of which Xcel Energy is an active member, and discusses protection measures for the prevention of avian electrocutions on overhead transmission lines, and is used for design and retrofitting transmission and distribution structures that may cause electrocution or injury of raptors. Mr. Larry Claxton, of PSCo's Denver staff, was consulted in the preparation of '*Suggested Practices for Avian Protection on Power Lines, the State of the Art in 2006*,' and '*Reducing Avian Collisions with Power Lines: the State of the Art in 2012*'.

2. CPW recommends the use of preconstruction surveys immediately prior to construction, as well as continuation of those surveys during construction, to identify raptor nests within the project area and implement appropriate restrictions. CPW recommends adherence to the recommended buffer distances and timing stipulations identified in the document "Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors". Removal or

relocation of any active raptor nests will require consultation with CPW and US Fish and Wildlife Service prior to moving.

Response: PSCo avoided known raptor nests during the routing and siting of the Preferred Alternative in Arapahoe County. PSCo will perform pre-construction raptor nests surveys and adhere to the recommended buffer distances identified in the '*Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors.*' PSCo will coordinate with both CPW and the US Fish and Wildlife Service in advance if raptor nests need to be removed or relocated.

3. In areas where ground disturbing activities are anticipated, CPW recommends reclamation with native plant species. Proper reclamation, from a wildlife perspective, involves not only stabilizing the soil and establishing ground cover, but fostering plant communities with a diversity of species and plant types (grasses, woody plants, and broadleaf forbs) which will fully serve the nutritional and cover needs of wildlife.

   Response: PSCo utilizes internal revegetation and stabilization practices as well as adhering to revegetation requirements stipulated in state Stormwater Pollution Protection Plans and the County's Grading, Erosion and Sediment Control Manual. PSCo will coordinate with the Farm Service Agency if Conservation Reserve Program lands are impacted. The seed / plant mix will contain certified weed-free seeds and native plants appropriate to the USDA climatic zone and ecologic habitat to the extent possible. PSCo may substitute specific plants based upon permit requirements and commercial availability.

4. Also essential is the implementation of a systematic and thorough noxious weed control program. Consistent and long-term monitoring is necessary to ensure the establishment of adequate native vegetative cover.

   Response: PSCo utilizes internal revegetation and stabilization practices as well as adhering to revegetation requirements stipulated in state Stormwater Pollution Protection Plans and the County's Grading, Erosion and Sediment Control Manual. PSCo will coordinate with the Farm Service Agency if Conservation Reserve Program lands are impacted. The seed / plant mix will contain certified weed-free seeds and native plants appropriate to the USDA climatic zone and ecologic habitat to the extent possible. PSCo may substitute specific plants based upon permit requirements and commercial availability..

5. Of concern to CPW are the locations of *raptor nest sites* identified in preliminary survey results, both within the project boundaries and in the surrounding 2-mile buffer area. Those species identified from the pre-construction surveys that recently nested in the area include ferruginous hawk, red-tailed hawk, Swainson's hawk, great-horned owl, and a currently unoccupied golden eagle nest. CPW requests that final siting of transmission lines and infrastructure also be carried out in accordance with the guidance and the recommended raptor buffer zones. CPW would also request notification if Xcel and/or its consultants/contractors observe new and/or active raptor nests within the project area.

   Response: PSCo will perform pre-construction surveys for raptor nests within the Preferred Route corridor. PSCo will notify CPW if any new and/or active nests are discovered during the pre-construction surveys and apply the recommended raptor buffer zones during the construction phase of the project. The siting of the H-frame transmission line structures is based upon the raptor nest surveys during the planning phase of the project and PSCo's intention to match the NextEra 345kv structure placement to the extent possible while avoiding streams and wetlands.

6. Swift fox (*Vulpes velox*) is a species of state special concern that is known to occur within the proposed project area. The potential overlap with swift fox should be considered in survey protocols and timing of construction activities to identify and avoid all maternal swift fox den sites. Swift foxes are in the area year-round, breed during December, and raise their young into the next fall. It is recommended that swift fox surveys include daylight

searches for den areas and nighttime spotlight searches during August and September. Destruction of dens from December 15 through August 15 should be avoided and CPW recommends steps be taken to minimize disturbance near active dens during this time period to the extent possible. CPW would also request notification if Xcel and/or its consultants/contractors observe swift fox within the project area.

Response: Swift fox is not a species that is a listed or candidate species at the state or federal level. However, PSCo agrees to integrate policies to minimize to the extent possible disturbance of active dens into construction and operations plans in the event that swift fox dens are found within the transmission line corridor area. PSCo will survey for active swift fox dens in the spring and modify construction plans accordingly. PSCo intends to provide CPW with location and observation data of swift fox during the construction period.

7. Prairie dog colony locations have been indicated within the project area and CPW recommends surveys to determine the presence/absence of *burrowing owls* (*Athene cunicularia*), a state threatened bird. If development or construction in prairie dog towns occurs from February 1 to October 31, the presence of burrowing owls and whether they are actively nesting should be determined. If nesting burrowing owls are present, please notify CPW, and no human encroachment should occur within 150 ft. of nesting burrows from March 15 to October 31. If burrowing owls merely occupy the site, it is recommended that earthmoving and other disturbance activities be delayed until late fall after they have migrated.

   Response: PSCo will perform surveys of prairie dog colonies to determine the presence or absence of burrowing owls, especially if construction is planned from February 1 to October 31. If nesting burrowing owls are present at a prairie dog town, PSCo will notify CPW staff and prohibit encroachment or activity within 150 feet of nesting burrows between March 15 and October 31. If burrowing owls are present at a location other than a prairie dog town, construction will be paused to determine if the animal is nesting. If the burrowing owl(s) establishes a nest, PSCo will inform CPW and prohibit encroachment or activity within 150 feet of nesting burrows between March 15 and October 31.

8. The project area for the Rush Creek portion within Arapahoe County crosses the mainstem of (and tributaries to) Muddy Creek, and a high watershed tributary to First Creek. CPW recommends minimal impact to the stream beds, both during construction and after, and the stream bed should be handled as a stream crossing whether or not water is present at the time of construction. CPW recommends a ground disturbance buffer with minimal activities or operations within 300 feet of any lake, reservoir, wetland or stream. Erosion and sediment control precautions should be in place to avoid deposition into water ways. Destruction of riparian vegetation and truck/heavy machinery stream crossings should be avoided.

   Response: PSCo will adhere to the regulations in the Stormwater and Pollution Prevention and Control Plan and the Grading Erosion, and Sediment Control Plan, which will direct work and activity in the vicinity of streams, lakes, and wetlands. PSCo will maintain to the extent possible a buffer between lakes, reservoirs, wetlands, or streams of up to 300 feet; however, there may be minimal encroachment within 300 feet in order to maintain a structure-for-structure placement of the proposed H-frame structures.

9. CPW further recommends crossing riparian corridors and streams at a perpendicular angle, in order to reduce impacts to natural resources, as well as spanning the corridors with structures located outside the riparian and stream zones.

   Response: PSCo will cross riparian corridors and streams at a perpendicular angle to the extent possible in order to reduce impacts to natural resources. PSCo plans on spanning riparian corridors, wetlands, and streams and locating structures landward of these areas.

10. CPW recommends avoiding treed areas of cottonwood and willow, as these areas provide bird and wildlife habitat.

    Response: PSCo avoided to the extent possible treed areas of cottonwood and willows. However, there may be selective removal of trees that occur within the transmission line easement. Large woody species and trees are required to be removed per the National Electric Safety Code (NESC) regulations for vegetation management. PSCO will survey any tree that needs to be removed within the transmission line easement for raptor nests prior to removal and will coordinate and comply with CPW regulations if a raptor nest is present.

11. During construction, stream crossing by construction vehicles should be avoided. CPW requests that any new service roads that are proposed for construction in conjunction with the project avoid crossing creeks or stream beds to avoid impacts to wildlife and habitat. If any new access or maintenance roads will be constructed that cross stream habitat, CPW would like to be consulted on best management practices and options for construction to minimize impacts. A construction design for any new or reconstructed riparian crossing that actively minimizes barriers to fish passage at all water levels and mitigates any existing barriers where possible would minimize the negative impact of the project on native fish species.

    Response: PSCo will avoid stream crossings by construction vehicles and new service roads proposed for construction will avoid crossing creeks or streams. PSCo will consult with CPW on best management practices and options for construction to minimize impacts if any new access or maintenance roads cross stream habitat.

12. CPW recommends the following Best Management Practices when working in or near aquatic habitats.
    - Drainages should be crossed perpendicular to the flow of the stream;
    - Use existing road crossings and existing stream crossings for vehicles and other construction equipment instead of building new roads and stream crossings;
    - The width of construction should be minimized within the 100-year floodplain;
    - Stream bank, wetland restoration/improvement should be performed, where necessary; and
    - Vehicle and equipment crossing of creeks/streams should be made in locations that will cause the least erosion of banks and sedimentation.

    Response: PSCo recognizes that CPW's recommendations in the October 7th letter to Arapahoe County is purely advisory and not tied to State or Federal laws or regulations. At this time, PSCo has not selected a contractor to develop detailed construction and operation plans to erect the transmission line structures. However, PSCo will apply the following BMPs to the extent possible in the construction plans as long as the BMPs do not conflict with existing landowner agreements:
    - Drainages should be crossed perpendicular to the flow of the stream;
    - Use existing road crossings and existing stream crossings for vehicles and other construction equipment instead of building new roads and stream crossings;
    - The width of construction should be minimized within the 100-year floodplain;
    - Stream bank, wetland restoration / improvement should be performed, where necessary; and
    - Vehicle and equipment crossing of creeks / streams should be made in locations that will cause the least erosion of banks and sedimentation.

13. As for more general construction protocols, CPW recommends low speeds for construction vehicles to avoid wildlife collisions. Where new roads are required, CPW recommends that these single-purpose roads are gated to reduce traffic disruptions to wildlife. If any temporary (e.g., construction) or permanent fencing is proposed, CPW recommends that it is the wildlife-friendly fencing that allows young to cross, and does not include high-tensile hogwire.

    Response: PSCo will coordinate with Arapahoe County and identify an appropriate speed limit on public and private roads in an effort to reduce and avoid wildlife collisions. A speed limit of 25 mph can both reduce wildlife

collisions and fugitive dust. Temporary fencing will be erected around the temporary laydown construction yards to prevent livestock and wildlife from entering the site. The fence material will likely be 6-foot chain link fence with a secured gate. High-tensile hogwire will not be used as a fence material.

14. In Table 4-2, Xcel state that three species (burrowing owl, prairie dog, and mountain plover) have known records in the project area.

    Response: Table 4-2 States that there are known record for these species in the Arapahoe County portion of the Project Area (large black boundary of the Project Area is shown on Exhibit H). This is based on Natural Heritage, desktop analysis, and field reconnaissance data for habitat and observations.

15. In Table 5-4, Xcel states that there are zero ROW miles that cross known habitat of state listed species.

    Response: Table 5-4 used Natural Heritage, desktop analysis, and field reconnaissance data for habitat and observations data and information above for our impact analysis of the Right-of-Way (ROW, 150-feet), not the entire Project Area (see Exhibit H).

16. If there are known records of these three species in the project area, why doesn't Xcel show any miles of impact to state-listed species' habitats, and conclude with "no effect" to these three state-listed species?

    Response: Construction is not expected to impact these three state-listed species because of Best Management Practices (BMP's) and other protection measures (i.e. pre-construction surveys, buffers, speed limits, etc.). PSCo states: "If any potential suitable habitat for threatened endangered species is identified during a field survey of the Preferred Alternative, PSCo will further coordinate with USFWS to determine avoidance or mitigation strategies."

Per your request, PSCo addressed the comments and general information notes from the Engineering Department in a separate letter.

Please let me know if I can provide additional information or assistance. I can be contacted directly at 303.571.7735 or via email at Erin.A.Degutis@XcelEnergy.com .

Kindest regards,

Erin A. Degutis, RLA, AICP, LEED AP
Senior Agent, Siting & Land Rights
Xcel Energy

Encl.

C: John Lupo, Xcel Energy
Nadia El Mallakh, Xcel Energy
Carolynne White, Brownstein Hyatt Farber Schreck
Abby Kirkbride, Brownstein Hyatt Farber Schreck
Dave Dean, POWER Engineers

Xcel Energy℠
PUBLIC SERVICE COMPANY

Siting and Land Rights
1800 Larimer Street, Suite 400
Denver, Colorado 80202

Telephone: **303.571.7751**
Facsimile: 303.294.2088

November 3, 2016

Arapahoe County Engineering Services Division
Ms. Sue Liu, PE
6924 South Lima Street
Centennial, Colorado 80112

RE: **Rush Creek 345kV Transmission Line – 1041 Application for Areas and Activities of State Interest, Floodplain Study, and Location and Extent Application.**
Case No. ASI16-003

Dear Ms. Liu,

Public Service Company of Colorado (PSCo) is pleased to receive your Phase II comments for the Revised Rush Creek 345kV Transmission Line Project dated October 7, 2016. We reviewed the comments and respectfully submit our responses for your consideration.

Finding Comments

1. As discussed in the pre-submittal meeting, staff recommended that all poles be installed outside of Arapahoe County existing or future right-of-ways. The County's 2035 Transportation plan identifies E. County Road 34/Jolly Road as Rural Arterial with a right-of-way section of 114-feet. A sixty-foot (60') right-of-way section is needed to meet the rural roadway right-of-way requirements for Secondary rural road including County Road 221/Huntington Road, E. County Road 26/Hampden Avenue, County Road 233/Hayward Road, and County Road 28/E Woodis Road. The Transportation Plan recommends preserving section line roadway alignments for future widening. Please ensure that no structures, including transmission line poles, shall be located within 30-feet of the section line to allow for widening of future right-of-way corridors.

   Response: PSCo will not place transmission line structures within 30-feet of section lines in Arapahoe County.

2. The transmission line crosses tributaries to Muddy Creek. All of the tributaries are unmapped drainageway. The delineation of the 100-year floodplain for these unmapped tributaries have not been established. The County defines a floodplain as any drainageway with a tributary area of 130 acres or more. The tributaries that meet the County's definition of a floodplain should be identified (Floodplain Delineation Analysis should be provided for review).

   Response: PSCo addressed this comment during the Phase I review. A floodplain study was completed and submitted on October 7, 2016.

3. A Floodplain Development Permit (FDP) is required for all activities within a County designated floodplain, regardless of impact. Even when it is apparent that there are no adverse impacts to the floodplain, a permit is required for administrative purposes to ensure that the County is aware of the activities within the floodplain and that they have been evaluated for compliance with the County's requirements (an engineer's Certification of No Impact will be required).

   Response: PSCo will span all floodplains in the Arapahoe County portion of the Project. If necessary, a FDP will be prepared and approved prior to the Project's commencement of construction.

4. In order to properly replace drainage patterns, the applicant is required to provide as-built conditions of all existing major drainageways, as defined by the Arapahoe County Stormwater Management Manual, along the proposed utility alignment/disturbance prior to approval. The major drainageways shall be restored to meet the existing as-built. A restored as-built will also be required and that requirement will be placed on the floodplain development permit.

   Response: PSCo will comply with Arapahoe County's Stormwater Management Manual and will submit as-built plans for County approval prior to the commencement of construction.

5. The County requires the official assessment by the US Army Corps of Engineers be provided to the County.

   Response: PSCo will provide Arapahoe County with an official U.S. Army Corps of Engineers (ACOE) assessment prior to construction if ACOE requires one. Should an assessment not be required, PSCo will provide Arapahoe County with the correspondence that documents such a decision.

6. All utility easements for the transmission line are required and must be in place prior to the construction. All executed utility easements must be submitted to the County for files.

   Response: PSCo will provide to Arapahoe County evidence of all utility easements for the transmission line prior to the commencement of construction. All executed utility easements will submitted to the County for their files prior to the commencement of construction.

7. Construction activities that disturb one acre or more are required by the Environmental Protection Agency (EPA) to obtain a Construction Stormwater Permit.

   Response: PSCo will obtain a SWPPP prior to construction. PSCo will provide the approved SWPPP to Arapahoe County prior to the commencement of construction.

8. This project site lies outside of the boundaries of the Southeast Metro Stormwater Authority (SEMSWA).

   Response: Acknowledged.

9. Please note that a Street Cut and Right-of-Way Use Permit (for access), GESC Permit, and possible Oversize / Overweight Vehicle Permit will be necessary for this application.

   Response: Street Cut and Right-of-Way Use, GESC, and Oversize / Overweight Vehicle Permits will be prepared by PSCo and approved prior to the commencement of construction.

10. Roadway Maintenance agreement is required. Encourage the applicant to meet with Road and Bridge to survey current County Road conditions that will be affected by construction of the proposed project. This will help determine the impact of the construction on Arapahoe County Roads and subsequent mitigation or compensation measures that will be required.

    Response: A final Road Use Agreement will be prepared and executed prior to construction. PSCo will develop the Road Use Agreement with the County Road and Bridge Department.

Staff Comments : General

1. In addition to the comments listed in this report, Staff has provided redlined plans and reports illustrating clarification to comments included within this report and other minor comments to be addressed. Comments within these redlined documents shall be fully addressed. The redlined documents shall be returned to Staff and must be included with the resubmittal for it to be considered complete.

   Response: Acknowledged.

2. RESUBMITTAL PROCEDURE - Attached to this report are instructions to the applicant regarding the resubmittal of documents. The applicant and their consultants must follow these instructions explicitly to avoid delays in our and processing of this case.

   Response: Acknowledged.

3. The plan and profile drawing for the transmission line should be reviewed and approved prior to the construction. Pole locations in related to the section line should be identified on the plan. 100-year Floodplain information should also be label and identified on the plan.

   Response: PSCo will submit final plan and profile drawings to the County prior to construction for approval. The final plan and profile drawings will include pole locations in relationship to section lines, and the 100-year Floodplain will be included on the drawings.

Staff Comments : 1041 Application

11. On page 26: add the definition of the County floodplain as "the County defines a floodplain as any drainageway with a tributary area of 130 acres or more".

    Response: PSCo will make the requested edit on page 26 of the 1041 Application.

12. Table 2-3: provide the unit of "miles" after the number of 0.25.

    Response: PSCo will make the requested edit to Table 2-3 in the 1041 Application.

13. Table 2-5, on page 47: include "Engineering Services Division" and add the requirement for access permit.

    Response: PSCo will make the requested edit to Table 2-5 and add the Street Cut and Right-of-Way Use permit to Table 2-5 in the 1041 Application.

14. Floodplains section on page 62: please verify the number of floodplain crossings with Table 5-3.

    Response: PSCo verified that the Preferred Alternative (Alternative A) does not cross any FEMA identified floodplains in Arapahoe County, and the Preferred Alternative (Alternative A) crosses seven (7) Arapahoe County defined floodplains.

15. Page 89: again verify the number of floodplain crossings.

    Response: PSCo verified that the Preferred Alternative (Alternative A) does not cross any FEMA identified floodplains in Arapahoe County and the Preferred Alternative (Alternative A) crosses seven (7) Arapahoe County defined floodplains.

16. Engineering Studies Section, on page 109: the 2012 study covered what was built at the time. A new GESC plan/report is required for the proposed transmission alignment (it is not included in the original GESC). Please revise the paragraph.

    Response: PSCo will make the requested edits to the Engineering Studies Section. PSCo will submit a GESC for the proposed transmission line for County review and approval prior to the commencement of construction.

17. Appendix G (GESC study): this appendix includes an approved drainage study for the Missile Substation that was built. The Substation is not a part of the project please remove.

    Response: PSCo will make the requested edit and remove Appendix G from the 1041 Application.

18. Appendix C (Road Use Agreement): It is under review by the County attorney. The comments will be forthcoming.

    Response: PSCo will revise the Draft Road Use Agreement according to the comments received October 27, 2016. A Final Road Use Agreement will be executed prior to the commencement of construction.

<u>Staff Comments : L & E Application</u>

19. Include 'Arapahoe County Case No. L16-007' on the cover sheet.

    Response: PSCo will add the suggested note to the Cover Sheet of the Project Plot for the Location and Extent Application.

20. Add a special note on the cover sheet as "STREET MAINTENANCE DURING THE CONSTRUCTION PERIOD WILL BE PER THE ROAD USE AGREEMENT WITH ARAPAHOE COUNTY. A PRE-CONSTRUCTION INVENTORY OF EACH PUBLIC ROAD SHALL BE CONDUCTED JOINTLY BY PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ARAPAHOE, IDENTIFYING THE CONDITIONS OF EACH ROAD. PSCO WILL MAINTAIN THE CONSTRUCTION ACCESS ROADS DURING THE CONSTRUCTION PERIOD AND REPAIR THE PUBLIC ROADS TO THEIR PRE-CONSTRUCTION CONDITION (OR BETTER)".

    Response: PSCo will add the suggested note to the Cover Sheet of the Project Plot for the Location and Extent Application.

21. Missile site substation is not a part of the project please remove the information.

    Response: The Missile Site Substation label and information will remain for Project context as discussed during the October 27, 2016 meeting with the County's Planning and Engineering staff.

22. Please include the following information on the plan:
    - Roadway name
    - Easement (both existing and proposed) and its dimension
    - Existing ROW dimension
    - Floodplain/stream crossings

    Response: The L&E Application Project Plots will be updated with: roadway names, easement dimensions, existing ROW dimensions for the NextEra Transmission Line, and floodplain/stream crossings.

Staff Comments : Floodplain Delineation Study

23. Please provide the detail information as how the 100-year flow rate was calculated in Stream States (i.e. delineated points and watersheds, peak-flow table).

    Response: PSCo will add detailed information on how the 100-year flow rates were calculated in Stream Stats to the Floodplain Study.

24. Include the River Station # within Attachment D for each cross section.

    Response: PSCo will add the River Station numbers to Attachment D of the Floodplain Study.

25. At the final submittal, the study will need to be stamped by PE engineer.

    Response: PSCo will submit a final floodplain delineation study stamped by a Colorado Licensed Professional Engineer prior to the commencement of construction.

Staff Comments : GESC Plan and Report

26. GESC plan/report is necessary for the proposed transmission line and should be submitted to the County for review and approval prior to the construction.

    Response: PSCo will submit a GESC for the proposed transmission line for County review and approval prior to the commencement of construction.

As identified in the Memorandum, this Phase II review is to ensure that all information and Engineering Documents Required for Resubmittal to the County Engineering Services Division

Please confirm the following items are revised and/or submitted:

Element	Digital
A copy of this Resubmittal Checklist	x
Completed Review and Approval Form (Arapahoe County Form 581) available online at http://www.arapahoegov.com/index.aspx?NID=569	x
Completed Review and Approval Grading, Erosion and Sediment Control Form (GESC – Form 403) available on-line at http://www.arapahoegov.com/index.aspx?NID=569	
Copy of Latest Proposed Land Development Plan - (L&E, 1041)	x
Floodplain Delineation Study (FDS)	x
Phase III Drainage Study	
Drainage Letter of Conformance	

Element	Digital
Engineering Cost Estimate	
Operations & Maintenance Manual	
Any comments to Stormwater Facilities Maintenance Agreement?	
Plan and Profile	x
Pavement Design Report	
Grading, Erosion and Sediment Control (GESC) Plans & Report	x
Legal Description and Exhibit	
Legal name, legal address, and title (if any) of the Owner, assign, or person with signatory authority on behalf of the Owner	
Exhibit that illustrates easement location(s), see comment #xx	
Geotechnical Study / Preliminary Soils Report	
Collateral Letter of Intent	
Electronic files for set of plans being submitted to **EngineeringSubmittals@arapahoegov.com and cc to sliu@arapahoegov.com**	x
County Redlines for: L&E, 1041, FDS	x
SEMSWA Redlines for: Phase III Drainage Study, GESC, O&M Manual, CDs	
Letter of point-by-point response to this comment letter and SEMSWA's comments	x
Fees Due:	n/a

Per your request, PSCo will address the comments and general information notes from the Planning Department in a separate letter.

Please let me know if I can provide additional information or assistance. I can be contacted directly at 303.571.7735 or via email at Erin.A.Degutis@XcelEnergy.com .

Kindest regards,

Erin A. Degutis, RLA, AICP, LEED AP
Senior Agent, Siting & Land Rights
Xcel Energy

Encl.

C: John Lupo, Xcel Energy
Nadia El Mallakh, Xcel Energy
Carolynne White, Brownstein Hyatt Farber Schreck
Dave Dean, POWER Engineers

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DAVID M. SCHMIT, P.E.
Director

Engineering Staff Report

PHASE II – REFERRAL

Date: October 18, 2016

To: Sherman Feher, Planning Division

From: Sue Liu, Engineering Division

RE: ASI16-003 L16-007 Rush Creek 345 KV Transmission Line Project
1041 Application and L&E

Scope/Location:

This application, the Public Service Company of Colorado (PSCo) is requesting approval of the 1041 Permit application and the Location & Extent for Xcel Energy Transmission Line project. The approximately 80-93 miles (13.5 miles within Arapahoe County) Rush Creek 345 kilovolt (kV) transmission project proposes to interconnect approximately 600 MW of proposed wind-generated electricity from the proposed Rush Creek I and II Wind Farms into the existing Missile Site Substation in Arapahoe County. Rush Creek I is located in Elbert County and Rush Creek II is located in Cheyenne, Kit Carson, and Lincoln Counties. The subject of this Application is the Rush Creek 345 kV Transmission Line Project in Arapahoe County.

Items included with this referral:

Location and Extent
1041 Application
Floodplain Delineation Study
Grading, Erosion and Sediment Control (GESC) Plans & Report

Cc: Charles V. Haskins, Engineering Services Division, Division Manager
Case File No. ASI16-003 L16-007
SPL RDR

Findings:

The Arapahoe County Division of Engineering Services has reviewed this referral and has the following findings:

1. As disused in the pre-submittal meeting, staff recommended that all poles be installed outside of Arapahoe County existing or future right-of-ways. The County's 2035 Transportation plan identifies E. County Road 34/Jolly Road as Rural Arterial with a right-of-way section of 114-feet. A sixty-foot (60') right-of-way section is needed to meet the rural roadway right-of-way requirements for Secondary rural road including County Road 221/Huntington Road, E. County Road 26/Hampden Avenue, County Road 233/Hayward Road, and County Road 28/E Woodis Road. The Transportation Plan recommends preserving section line roadway alignments for future widening. Please ensure that no structures, including transmission line poles, shall be located within 30-feet of the section line to allow for widening of future right-of-way corridors.
2. The transmission line crosses tributaries to Muddy Creek. All of the tributaries are unmapped drainageway. The delineation of the 100-year floodplain for these unmapped tributaries have not been established. The County defines a floodplain as any drainageway with a tributary area of 130 acres or more. The tributaries that meet the County's definition of a floodplain should be identified (Floodplain Delineation Analysis should be provided for review).
3. A Floodplain Development Permit (FDP) is required for all activities within a County designated floodplain, regardless of impact. Even when it is apparent that there are no adverse impacts to the floodplain, a permit is required for administrative purposes to ensure that the County is aware of the activities within the floodplain and that they have been evaluated for compliance with the County's requirements (an engineer's Certification of No Impact will be required).
4. In order to properly replace drainage patterns, the applicant is required to provide as-built conditions of all existing major drainageways, as defined by the Arapahoe County Stormwater Management Manual, along the proposed utility alignment/disturbance prior to approval. The major drainageways shall be restored to meet the existing as-built. A restored as-built will also be required and that requirement will be placed on the floodplain development permit.
5. The County requires the official assessment by the US Army Corps of Engineers be provided to the County.
6. All utility easements for the transmission line are required and must be in place prior to the construction. All executed utility easements must be submitted to the County for files.
7. Construction activities that disturb one acre or more are required by the Environmental Protection Agency (EPA) to obtain a Construction Stormwater Permit.
8. This project site lies outside of the boundaries of the Southeast Metro Stormwater Authority (SEMSWA).
9. Please note that a Street Cut and Right-of-Way Use Permit (for access), GESC Permit, and possible Oversize/Overweight Vehicle Permit will be necessary for this application.
10. Roadway Maintenance agreement is required. Encourage the applicant to meet with Road and Bridge to survey current County Road conditions that will be affected by construction of

the proposed project. This will help determine the impact of the construction on Arapahoe County Roads and subsequent mitigation or compensation measures that will be required.

Recommendations:

The Division of Engineering Services recommends this case favorably subject to the following conditions:

1. The applicant agrees to address the Division of Engineering Services' findings, comments, and concerns as identified within this report.

STAFF COMMENTS

General

1. In addition to the comments listed in this report, Staff has provided redlined plans and reports illustrating clarification to comments included within this report and other minor comments to be addressed. Comments within these redlined documents shall be fully addressed. The redlined documents shall be returned to Staff and must be included with the resubmittal for it to be considered complete.
2. RESUBMITTAL PROCEDURE - Attached to this report are instructions to the applicant regarding the resubmittal of documents. The applicant and their consultants must follow these instructions explicitly to avoid delays in our and processing of this case.
3. The plan and profile drawing for the transmission line should be reviewed and approved prior to the construction. Pole locations in related to the section line should be identified on the plan. 100-year Floodplain information should also be label and identified on the plan.

1041 Application

11. On page 26: add the definition of the County floodplain as "the County defines a floodplain as any drainageway with a tributary area of 130 acres or more".
12. Table 2-3: provide the unit of "miles" after the number of 0.25.
13. Table 2-5, on page 47: include "Engineering Services Division" and add the requirement for access permit.
14. Floodplains section on page 62: please verify the number of floodplain crossings with Table 5-3.
15. Page 89: again verify the number of floodplain crossings.
16. Engineering Studies Section, on page 109: the 2012 study covered what was built at the time. A new GESC plan/report is required for the proposed transmission alignment (it is not included in the original GESC). Please revise the paragraph.
17. Appendix G (GESC study): this appendix includes an approved drainage study for the Missile Substation that was built. The Substation is not a part of the project please remove.
18. Appendix C (Road Use Agreement): It is under reviewed by the County attorney. The comments will be forthcoming.

Location and Extent Plan

19. Include 'Arapahoe County Case No. L16-007' on the cover sheet.
20. Add a special note on the cover sheet as "STREET MAINTENANCE DURING THE CONSTRUCTION PERIOD WILL BE PER THE ROAD USE AGREEMENT WITH ARAPAHOE COUNTY. A PRE-CONSTRUCTION INVENTORY OF EACH PUBLIC ROAD SHALL BE CONDUCTED JOINTLY BY PUBLIC SERVICE COMPANY OF COLORADO (PSCO) AND ARAPAHOE, IDENTIFYING THE CONDITIONS OF EACH ROAD. PSCO WILL MAINTAIN THE CONSTRUCTION ACCESS ROADS DURING THE CONSTRUCTION PERIOD AND REPAIR THE PUBLIC ROADS TO THEIR PRE-CONSTRUCTION CONDITION (OR BETTER)".
21. Missile site substation is not a part of the project please remove the information.
22. Please include the following information on the plan:
    - Roadway name

- Easement (both existing and proposed) and its dimension
- Existing ROW dimension
- Floodplain/stream crossings

Floodplain Delineation Study

23. Please provide the detail information as how the 100-year flow rate was calculated in Stream States (i.e. delineated points and watersheds, peak-flow table).
24. Include the River Station # within Attachment D for each cross section.
25. At the final submittal, the study will need to be stamped by PE engineer.

GESC Plan and Report

26. GESC plan/report is necessary for the proposed transmission line and should be submitted to the County for review and approval prior to the construction.

Engineering Documents Required for Resubmittal
to the County Engineering Services Division

	Digital
A copy of this Resubmittal Checklist	x
Completed Review and Approval Form (Arapahoe County Form 581) available on-line at http://www.arapahoegov.com/index.aspx?NID=569	x
Completed Review and Approval Grading, Erosion and Sediment Control Form (GESC – Form 403) available on-line at http://www.arapahoegov.com/index.aspx?NID=569	
Copy of Latest Proposed Land Development Plan - (L&E, 1041)	x
Floodplain Delineation Study (FDS)	x
Phase III Drainage Study	
Drainage Letter of Conformance	
Engineering Cost Estimate	
Operations & Maintenance Manual	
Any comments to Stormwater Facilities Maintenance Agreement?	
Plan and Profile	x
Pavement Design Report	
Grading, Erosion and Sediment Control (GESC) Plans & Report	x
Legal Description and Exhibit	
Legal name, legal address, and title (if any) of the Owner, assign, or person with signatory authority on behalf of the Owner	
Exhibit that illustrates easement location(s), see comment #xx	
Geotechnical Study / Preliminary Soils report	
Collateral Letter of Intent	
Electronic files for set of plans being submitted to **EngineeringSubmittals@arapahoegov.com and cc to sliu@arapahoegov.com**	x
County Redlines for: L&E, 1041, FDS	x
SEMSWA Redlines for: Phase III Drainage Study, GESC, O&M Manual, CDs	
Letter of point-by-point response to this comment letter and SEMSWA's comments	x
Fees Due:	n/a

Case No. ASI16-003 L16-007 Case Engineer: Sue Liu

In order to expedite this case in an efficient manner, please provide all the items above to the Engineering Services Division counter at 6924 S Lima Street or email all files to **EngineeringSubmittals@arapahoegov.com and cc to sliu@arapahoegov.com**

Incomplete resubmittal packages will not be forwarded to the case engineer for review until all of the information requested on this form has been provided.

This sheet must be attached to your resubmittal with the revised documents in the quantities listed above.

Sherman Feher

From: Marette - DNR, Brandon <brandon.marette@state.co.us>
Sent: Monday, October 17, 2016 8:32 AM
To: Sherman Feher
Subject: Fwd: REFERRALS FOR RUSH CREEK TRANSMISSION LINE 1041 PERMIT and RUSH CREEK TRANSMISSION LINE LOCATION AND EXTENT CASES

Good morning Sherman,

I just left you a voice message on this topic, but I wanted to follow up with an e-mail.

I reviewed Xcel's formal request for the Rush Creek transmission line in Arapahoe County over the weekend, and it was mostly well-written and follows the route I expected.

Yet, I have one minor concern about their 1041 application that I wanted to get your opinion on:

- In Table 4-2, Xcel states that three species (burrowing owl, prairie dog, and mountain plover) have known records in the project area.
- However, in Table 5-4, Xcel states that there are zero ROW miles that cross known habitat of state listed species, and a few paragraphs further down (pg 93, 2nd paragraph) Xcel states, "The construction of the project is not anticipated to have any effect on listed species in this area."

*My question to you is, if there are known records of these three species in the project area, why doesn't Xcel show any miles of impact to state-listed species' habitats, and conclude with "no effect" to these three state-listed species?

I will leave it up to you whether it is worth asking Xcel or not, as CPW did recommend burrowing owl surveys in prairie dog towns if construction occurs during the nesting season, so perhaps our letter already covers this issue?

Cheers,

Brandon B. Marette
Northeast Region Energy Liaison

Direct (303) 291-7327
6060 Broadway, Denver, CO 80216
brandon.marette@state.co.us | cpw.state.co.us

THINK SAFETY FIRST!

COLORADO
Parks and Wildlife
Department of Natural Resources

Northeast Region Office
6060 Broadway
Denver, CO 80216
303.291.7227

October 7, 2016

Mr. Sherman Feher, Senior Planner
Arapahoe County
Planning and Land Development Division
6924 S. Lima Street
Centennial, CO 80112

RE: CPW's Comments on Xcel Energy's 1041 and Location and Extent Permit Applications for the Proposed Rush Creek 345-kV Transmission Line Project, Arapahoe County

Dear Mr. Feher:

Colorado Parks and Wildlife (CPW) would like to thank Arapahoe County and Xcel Energy (Xcel) for the opportunity to review the proposed approximately 13.5 miles of new transmission line and infrastructure in Arapahoe County that is part of Xcel's Rush Creek Connect 345-kV Transmission Line project. CPW has consulted previously with Xcel on the proposed transmission line and appreciates the continuing conversation to avoid and minimize wildlife impacts. Early and continued consultation offers the greatest opportunity for our review to assist in avoiding areas where development is precluded or where wildlife impacts are likely to be high and difficult to remedy at a later stage. By consulting early, project developers can also incorporate wildlife conservation measures and monitoring into their decisions about project siting, design, and implementation.

CPW's preference is for new transmission lines to follow existing transmission line corridors whenever possible to minimize additional impacts on wildlife and habitat fragmentation. We appreciate that all of the proposed segments in Arapahoe County parallel existing utility lines and corridors. The following comments address potential concerns along this proposed route, and propose mitigation measures to avoid or minimize impacts to wildlife. The recommendations provided by CPW will assist in identifying species that may be affected by the proposed project including migratory birds, birds of prey, mammals, and listed/proposed/candidate threatened or endangered species. Impacts may include electrocutions, collisions, loss and degradation of habitat, fragmentation of habitat, displacement and behavioral changes, and potential indirect impacts.

Of high concern regarding electrical transmission lines is the potential for raptor electrocution. Through the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act, the U.S. Fish and Wildlife Service, in cooperation with the Edison Electric Institute, has developed Best Management Practices to minimize impacts to avian species. CPW recommends that both the "Suggested Practices for Avian Protection on Power Lines, the State of the Art in 2006" and the "Reducing Avian Collisions with Power Lines: The State of the Art in 2012" documents be consulted for proper design considerations to minimize raptor

Bob D. Broscheid, Director, Colorado Parks and Wildlife • Parks and Wildlife Commission: Robert W. Bray • Chris Castilian, Chair • Jeanne Horne, Vice-Chair
John Howard • Bill Kane • Dale Pizel • James Pribyl, Secretary • James Vigil • Dean Wingfield • Michelle Zimmerman • Alex Zipp

electrocution. These documents can be ordered at the Edison Electric Institute website (www.eei.org) or can be downloaded at the Avian Power Line Interaction Committee website (www.aplic.org). This recommendation is applicable to all segments included in the project.

CPW recommends the use of preconstruction surveys immediately prior to construction, as well as continuation of those surveys during construction, to identify raptor nests within the project area and implement appropriate restrictions. CPW recommends adherence to the recommended buffer distances and timing stipulations identified in the document[1] "Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors". Removal or relocation of any active raptor nests will require consultation with CPW and US Fish and Wildlife Service prior to moving. Both active and potential nest sites, winter night roosts should be considered when evaluating disturbance during construction.

Some portions of the project are located in shortgrass prairie which provides habitat for numerous species including pronghorn, Swainson's hawk, golden eagle, burrowing owl (state threatened) and numerous Colorado Species of Special Concern including mountain plover, swift fox, black-tailed prairie dog, long-billed curlew and ferruginous hawk. If there any native (or semi-native) shortgrass prairie areas that contain sandy loam soils along the proposed route, CPW also recommends olive-backed pocket mouse surveys, as this species is a Tier 1 species in our State Wildlife Action Plan[2]. In areas where ground disturbing activities are anticipated, CPW recommends reclamation with native plant species. Proper reclamation, from a wildlife perspective, involves not only stabilizing the soil and establishing ground cover, but fostering plant communities with a diversity of species and plant types (grasses, woody plants, and broadleaf forbs) which will fully serve the nutritional and cover needs of wildlife. Also essential is the implementation of a systematic and thorough noxious weed control program. Consistent and long-term monitoring is necessary to ensure the establishment of adequate native vegetative cover.

During previous meetings with Xcel, CPW has identified several potential impacts to wildlife and habitats in the project area that we recommend be considered during the planning process.

- Of concern to CPW are the locations of *raptor nest sites* identified in preliminary survey results, both within the project boundaries and in the surrounding 2-mile buffer area. Those species identified from the pre-construction surveys that recently nested in the area include ferruginous hawk, red-tailed hawk, Swainson's hawk, great-horned owl, and a currently unoccupied golden eagle nest. CPW requests that final siting of transmission lines and infrastructure also be carried out in accordance with the guidance and the recommended raptor buffer zones. CPW

[1] https://cpw.state.co.us/Documents/WildlifeSpecies/LivingWithWildlife/RaptorBufferGuidelines2008.pdf
[2] http://cpw.state.co.us/aboutus/Pages/StateWildlifeActionPlan.aspx

would also request notification if Xcel and/or its consultants/contractors observe new and/or active raptor nests within the project area.

- Swift fox (*Vulpes velox*) is a species of state special concern that is known to occur within the proposed project area. The potential overlap with swift fox should be considered in survey protocols and timing of construction activities to identify and avoid all maternal swift fox den sites. Swift foxes are in the area year-round, breed during December, and raise their young into the next fall. It is recommended that swift fox surveys include daylight searches for den areas and nighttime spotlight searches during August and September. Destruction of dens from December 15 through August 15 should be avoided and CPW recommends steps be taken to minimize disturbance near active dens during this time period to the extent possible. CPW would also request notification if Xcel and/or its consultants/contractors observe swift fox within the project area.
- Prairie dog colony locations have been indicated within the project area and CPW recommends surveys to determine the presence/absence of *burrowing owls* (*Athene cunicularia*), a state threatened bird. If development or construction in prairie dog towns occurs from February 1 to October 31, the presence of burrowing owls and whether they are actively nesting should be determined. If nesting burrowing owls are present, please notify CPW, and no human encroachment should occur within 150 ft of nesting burrows from March 15 to October 31. If burrowing owls merely occupy the site, it is recommended that earthmoving and other disturbance activities be delayed until late fall after they have migrated.

The project area for the Rush Creek portion within Arapahoe County crosses the mainstem of (and tributaries to) Muddy Creek, and a high watershed tributary to First Creek. CPW recommends minimal impact to the stream beds, both during construction and after, and the stream bed should be handled as a stream crossing whether or not water is present at the time of construction. CPW recommends a ground disturbance buffer with minimal activities or operations within 300 feet of any lake, reservoir, wetland or stream. Erosion and sediment control precautions should be in place to avoid deposition into water ways. Destruction of riparian vegetation and truck/heavy machinery stream crossings should be avoided.

CPW further recommends crossing riparian corridors and streams at a perpendicular angle, in order to reduce impacts to natural resources, as well as spanning the corridors with structures located outside the riparian and stream zones. CPW recommends avoiding treed areas of cottonwood and willow, as these areas provide bird and wildlife habitat. During construction, stream crossing by construction vehicles should be avoided. CPW requests that any new service roads that are proposed for construction in conjunction with the project avoid crossing creeks or stream beds to avoid impacts to wildlife and habitat. If any new access or maintenance roads will be constructed that cross stream habitat, CPW would like to be consulted on best management practices and options for construction to minimize impacts. A construction design for any new or reconstructed riparian crossing that actively minimizes

barriers to fish passage at all water levels and mitigates any existing barriers where possible would minimize the negative impact of the project on native fish species.

CPW recommends the following Best Management Practices when working in or near aquatic habitats.

- Drainages should be crossed perpendicular to the flow of the stream
- Use existing road crossings and existing stream crossings for vehicles and other construction equipment instead of building new roads and stream crossings
- The width of construction should be minimized within the 100-year floodplain,
- Stream bank, wetland restoration/improvement should be performed, where necessary
- Vehicle and equipment crossing of creeks/streams should be made in locations that will cause the least erosion of banks and sedimentation.

As for more general construction protocols, CPW recommends low speeds for construction vehicles to avoid wildlife collisions. Where new roads are required, CPW recommends that these single-purpose roads are gated to reduce traffic disruptions to wildlife. If any temporary (e.g., construction) or permanent fencing is proposed, CPW recommends that it is the wildlife-friendly fencing[3] that allows young to cross, and does not include high-tensile hogwire.

In conclusion, CPW appreciates Arapahoe County's and Xcel's request to comment on this proposed transmission line. CPW appreciates this collaborative opportunity to work with companies for responsible energy development, which will also benefit Colorado's wildlife and wildlife-related recreational opportunities.

If you have any questions regarding this letter, or should there be any changes to this proposed project, please contact CPW's Northeast Region Energy Liaison Brandon Marette at (303) 291-7327 or at Brandon.Marette@state.co.us.

Sincerely,

Brandon Marette

for Eliza Hunholz
Area Wildlife Manager (Area 5)

cc: Erin Degutis, RLA, AICP, LEED AP (Senior Agent for Xcel Energy)
Travis Harris, DWM District 543 (Aurora)

[3] https://cpw.state.co.us/Documents/LandWater/PrivateLandPrograms/FencingWithWildlifeInMind.pdf

Sherman Feher

From: Arnold Hollingsworth <ajguitar2@yahoo.com>
Sent: Wednesday, October 12, 2016 10:05 AM
To: Sherman Feher
Subject: Re: FOLLOW UP FOR REFERRALS FOR RUSH CREEK TRANSMISSION LINE 1041 PERMIT and RUSH CREEK TRANSMISSION LINE LOCATION AND EXTENT CASES

Sherman, thanks for the latest correspondence concerning Rush creek transmission line. I have no comments.

From: Sherman Feher <SFeher@arapahoegov.com>
To:
Sent: Wednesday, October 12, 2016 7:21 AM
Subject: FOLLOW UP FOR REFERRALS FOR RUSH CREEK TRANSMISSION LINE 1041 PERMIT and RUSH CREEK TRANSMISSION LINE LOCATION AND EXTENT CASES

With apologies, I left out the referral cover sheet for this referral which is attached to this email.
Sherman Feher

From: Sherman Feher
Sent: Friday, October 07, 2016 3:44 PM
Subject: REFERRALS FOR RUSH CREEK TRANSMISSION LINE 1041 PERMIT and RUSH CREEK TRANSMISSION LINE LOCATION AND EXTENT CASES

Dear Referral Person:

Please review the attached Arapahoe County referral plans for the following cases: Rush Creek Transmission Line 1041 Permit (ASI16-003) and Rush Creek Transmission Line Location and Extent (L16-007). Also, I have more information related to this; contact me if you need any more information.

Then please fill out the applicable information blocks on the attached referral sheet with your comments and attach it to a response email or "reply" with an email that will come back to me. Please return your comments no later than November 7, 2016. Contact me if you have any questions.

Thank you

Sherman Feher
Public Works and Development – Planning Division
6924 S. Lima Street
Centennial, CO 80112
720-874-6665
jfeher@arapahoegov.com

Sherman Feher

From: Raymond Winn
Sent: Thursday, October 27, 2016 3:19 PM
To: Sherman Feher
Subject: RE: FOLLOW UP FOR REFERRALS FOR RUSH CREEK TRANSMISSION LINE 1041 PERMIT and RUSH CREEK TRANSMISSION LINE LOCATION AND EXTENT CASES

Sherman,

After analysis Arapahoe County Open Spaces requests that the applicant considers existing and future trail connections along the utility alignments. Trails provide maintenance access for the utility company while simultaneously providing a tremendous public asset. However, it is hard to determine exact routes when they are proposed as alternative in the site plan as well as due to the large scale of the map.

Sincerely,

Ray Winn
Open Spaces Planner
Arapahoe County Open Spaces
6934 S. Lima Street, Suite A, Centennial, CO 80112
Office: 720-874-6551
rwinn@arapahoegov.com

From: Sherman Feher
Sent: Wednesday, October 12, 2016 7:21 AM
Subject: FOLLOW UP FOR REFERRALS FOR RUSH CREEK TRANSMISSION LINE 1041 PERMIT and RUSH CREEK TRANSMISSION LINE LOCATION AND EXTENT CASES

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Record ID: ASI16-003

Cancel Help

Workflow Tasks

- Initialize
- Assign Planner
- Assign Engineer
- Phase II Submittal Planner Review
- Phase II Submittal Engineer Review
- Phase II Submittal Acceptance
- Phase II Referrals
  - Generate Routing Form
  - Mapping Phase II Review
  - Building Phase II Review
  - County Attorney Phase II Review
  - Planner Phase II Review
  - Engineer Phase II Review
  - Zoning Phase II Review
  - Weed Control Phase II Review
  - External Agencies Phase II Referral
- Phase II Coordination
- Phase I Submittal Planner Review
- Phase I Submittal Engineer Review
- Application Acceptance
- Phase I Reviews
  - Complete
  - Generate Routing Form
  - County Attorney Phase I Review
  - Weed Control Phase I Review
  - Building Phase I Review
  - External Agencies Phase I Referral
  - Planner Phase I Review
  - Engineer Phase I Review
  - Mapping Phase I Review
  - Zoning Phase I Review
  - Open Space Phase I Review
- Phase I Coordination
- PC Hearing
- BOCC Hearing

Task Details Open Space Phase I Review

Assigned Date	**Due Date**
07/27/2016	08/10/2016
Assigned to	**Assigned to Department**
Open Space	OS Technician
Current Status	**Status Date**
Complete	07/27/2016
Action By	**Overtime**
Open Space	No
Comments	**Start Time**
Open Spaces has no comments.	
End Time	**Hours Spent**
	1.0
Billable	**Action by Department**
No	OS Technician
Time Tracking Start Date	**Est. Completion Date**
In Possession Time (hrs)	☐ **Display E-mail Address in ACA**
Estimated Hours	☑ **Display Comment in ACA**
0.0	

Comment Display in ACA

- ☑ All ACA Users
- ☑ Record Creator
- ☑ Licensed Professional
- ☑ Contact
- ☑ Owner

Sherman Feher

From: jack keever <jakreap@aol.com>
Sent: Friday, October 14, 2016 9:42 AM
To: Sherman Feher
Subject: Re: FOLLOW UP FOR REFERRALS FOR RUSH CREEK TRANSMISSION LINE 1041 PERMIT and RUSH CREEK TRANSMISSION LINE LOCATION AND EXTENT CASES

Dear Sherman;

At its October 13 meeting Reap heard a comprehensive presentation about the Rush Creek Wind Farm project.

Reap favors Rush Creek and its transmission line as an important contributor to the State Of Colorado renewable energy mandate. This project will also contribute significantly to the state economy with the turbines being built by Vestas in Colorado and resultant construction jobs.

We encourage Arapahoe County's approval.

Thank you for your consideration.

Jack Keever

-----Original Message-----
From: Sherman Feher <SFeher@arapahoegov.com>
Sent: Wed, Oct 12, 2016 7:21 am
Subject: FOLLOW UP FOR REFERRALS FOR RUSH CREEK TRANSMISSION LINE 1041 PERMIT and RUSH CREEK TRANSMISSION LINE LOCATION AND EXTENT CASES

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Sherman Feher

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Then please fill out the applicable information blocks on the attached referral sheet with your comments and attach it to a response email or "reply" with an email that will come back to me. Please return your comments no later than November 7, 2016. Contact me if you have any questions.

Thank you

Sherman Feher

Sherman Feher

From: Sherman Feher
Sent: Friday, November 04, 2016 2:23 PM
To: 'Degutis, Erin A'; 'dave.dean@powereng.com'
Subject: FW: Rush Creek

fyi

From: Russell Johnson
Sent: Friday, November 04, 2016 2:00 PM
To: Sherman Feher <SFeher@arapahoegov.com>
Subject: Rush Creek

Since the Rush Creek project is in an area that is not an area of the county that has too many weeds, the weed management provisions should be the following:

- Monitor for noxious weed invasion during and after the construction phase.
- Upon any sightings of noxious weeds by County staff or the applicant, appropriate integrated weed management methods shall be implemented for the species found.

Russell Johnson
Arapahoe County Weed Control Specialist
6924 S. Lima St.
Centennial, CO 80112
Phone: 720-874-6713
Fax: 303-874-6611

Tri-County Health Department

November 10, 2016

Sherman Feher
Arapahoe County Planning Division
6924 S Lima St
Centennial CO 80112

RE: Rush Creek Transmission Line, ASI16-003 & L16-007
TCHD Case No. 4146

Dear Mr. Feher:

Thank you for the opportunity to review and comment on the Rush Creek Transmission Line 1041 Permit and Rush Creek Transmission Line Location and Extent. Tri-County Health Department (TCHD) staff has reviewed the application for compliance with applicable environmental and public health regulations and principles of healthy community design. After reviewing the application, TCHD has the following comments.

On-Site Wastewater Treatment Systems
Our review of the transmission line routes indicates that sections of the routes may encroach on Onsite Wastewater Treatment Systems (OWTS) that are serving buildings on properties. TCHD recommends that the applicant review the locations of the transmission line routes to determine if they may encroach on OWTS. If it appears that encroachment will occur, it may be necessary to revise the location or relocate the OWTS. TCHD can provide specific permit information and system diagrams on OWTS for the affected properties.

Groundwater Quality Protection
The proposed transmission line routes may impact existing water wells on properties where the route is located. Heavy equipment may inadvertently drive over wells during construction, causing damage that may expose the water in the wells to contamination. Where wells are within or close to proposed transmission line routes, we recommend the applicant protect the wells by identifying the areas around wells so that they are visible to vehicle operators/construction crews. This can be accomplished by delineating the area around each well with stakes, colored tape or orange plastic netting.

Wastewater Disposal
Proper wastewater management promotes effective and responsible water use, protects potable water from contaminants, and provides appropriate collection, treatment, and disposal of waste, which protects public health and the environment. The applicant does not specify how wastewater facilities will be provided at the staging areas during construction for onsite workers. We anticipate that portable toilets will be necessary during construction. TCHD has no objection to the use of portable toilets, provided they are properly maintained. TCHD recommends that the applicant address these, in terms of numbers, locations, and vendor.

Fugitive Dust
Exposure to air pollution is associated with a number of health problems including asthma, lung cancer, heart disease, and low birth weight. Vehicle traffic on unpaved roads may contribute to increased fugitive dust emissions. We recommend that the applicant utilize all available methods to minimize fugitive dust. Control measures or procedures that may be employed include, but are not limited to, watering, chemical stabilization, carpeting roads with aggregate, and speed restrictions.

Please feel free to contact me at (720) 200-1585 or lbroten@tchd.org if you have any questions regarding TCHD's comments.

Sincerely,

Laurel Broten, MPH
Land Use and Built Environment Specialist
Tri-County Health Department

CC: Sheila Lynch, Laura DeGolier, TCHD

Tri-County Health Department

November 7, 2016

Sherman Feher
Arapahoe County Planning Division
6924 S Lima St
Centennial CO 80112

RE: Rush Creek Transmission Line, ASI16-003 & L16-007
TCHD Case No. 4146

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On-Site Wastewater Treatment Systems
Houses and other buildings equipped with plumbing facilities on properties located along the preferred and alternate pipeline routes are serviced by Onsite Wastewater Treatment Systems (OWTS). Our review of the pipeline routes indicates that sections of the pipeline routes may encroach on OWTS on some properties. TCHD recommends that the applicant review the locations of the pipeline routes to determine if they may encroach on OWTS. If it appears that encroachment will occur, it may be necessary to revise the pipeline location or relocate the OWTS. TCHD can provide specific permit information and system diagrams on OWTS for the affected properties.

Groundwater Quality Protection
A scan of the area proposed for the pipeline routes indicates that there may be water wells on the properties where the pipeline is located. Heavy equipment may inadvertently drive over wells during construction, causing damage that may expose the water in the wells to contamination. Where wells are within or close to pipeline routes, we recommend the applicant protect the wells by identifying the areas around wells so that they are visible to vehicle operators/construction crews. This can be accomplished by delineating the area around each well with stakes, colored tape or orange plastic netting.

If the pipeline routes cross over streams and/or wetlands, alluvial groundwater flow could be impacted if trenching intersects the shallow groundwater. If trench dewatering is necessary, the water will be pumped and discharged to alluvia/colluvial sediments close to the stream channel. If discharge of groundwater is necessary during construction, a discharge permit from the Colorado Department of Public Health and Environment (CDPHE), Water Quality Control Division will be necessary

Wastewater Disposal
Proper wastewater management promotes effective and responsible water use, protects potable water from contaminants, and provides appropriate collection, treatment, and disposal of waste, which protects public health and the environment. The applicant does not specify how wastewater facilities will be provided at the staging areas during construction for onsite workers. We anticipate that portable toilets will be necessary during construction. TCHD has no objection to the use of portable toilets, provided they are properly maintained. TCHD recommends that the applicant address these, in terms of numbers, locations, and vendor.

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Please feel free to contact me at (720) 200-1585 or lbroten@tchd.org if you have any questions regarding TCHD's comments.

Sincerely,

Laurel Broten, MPH
Land Use and Built Environment Specialist
Tri-County Health Department

CC: Sheila Lynch, Laura DeGolier, TCHD

Sherman Feher

From: Glenn Thompson
Sent: Tuesday, October 11, 2016 2:29 PM
To: Sherman Feher
Subject: RE: REFERRALS FOR RUSH CREEK TRANSMISSION LINE 1041 PERMIT and RUSH CREEK TRANSMISSION LINE LOCATION AND EXTENT CASES

Hi Sherman,

I did not find a referral sheet attached but do not have any comments or concerns.

Glenn

Glenn Thompson, Bureau Chief
Arapahoe County Sheriff's Office
Public Safety Bureau
13101 E. Broncos Parkway
Centennial, CO 80112
(720) 874-4023

From: Sherman Feher
Sent: Friday, October 7, 2016 3:44 PM
Subject: REFERRALS FOR RUSH CREEK TRANSMISSION LINE 1041 PERMIT and RUSH CREEK TRANSMISSION LINE LOCATION AND EXTENT CASES

Dear Referral Person:

Please review the attached Arapahoe County referral plans for the following cases: Rush Creek Transmission Line 1041 Permit (ASI16-003) and Rush Creek Transmission Line Location and Extent (L16-007). Also, I have more information related to this; contact me if you need any more information.

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Thank you

Sherman Feher
Public Works and Development – Planning Division
6924 S. Lima Street
Centennial, CO 80112
720-874-6665
jfeher@arapahoegov.com

BOARD OF COUNTY COMMISSIONERS
KIT CARSON COUNTY
PO BOX 160
BURLINGTON CO 80807-0160
kccadmin@kitcarsoncounty.org
PH: 719-346-8139 (304)
FX: 719-346-7242

Gary Koop,
District 1 Commissioner
Cory Wall,
District 2 Commissioner
David L. Hornung,
District 3 Commissioner

cc: BOCC
Jim Yeckes
File

October 26, 2016

RECEIVED
OCT 31 2016
ARAPAHOE COUNTY GOVERNMENT
BOARD OF COUNTY COMMISSIONERS

Board of Arapahoe County Commissioners
Commissioner Nancy Doty
Commissioner Nancy Sharpe
Commissioner Rod Bockenfeld
Commissioner Nancy Jackson
Commissioner Bill Holen
5334 S. Prince St.
Littleton, CO 80120

To the Board of County Commissioners:

The Rush Creek Wind Project, proposed by Xcel Energy will generate 600 megawatts of new wind power, benefitting not only those of us in Eastern Colorado with jobs, tax revenue and increased royalties, it will benefit a multitude of Coloradans. Kit Carson County has been part of the engine that powers Colorado with our agricultural production. We can now help power the state with wind energy. But we can't do it alone.

In the business of running your county, you know how important it is to plan ahead and seize opportunities when they arise. Kit Carson County is just now starting to realize the benefits of wind production within our borders. We have solidified our tax base, added needed diversity to our economy, and created job opportunities that both pay well and provide full benefits to our residents that are crucial in retaining and attracting talent to the area.

The decision rests not entirely with us, as our neighbors in Elbert, Cheyenne, and Lincoln Counties also must make determinations about Rush Creek as well. So must Arapahoe County, which is why I write to you to encourage your approval of your portion of Rush Creek. With hundreds of millions of dollars at stake for all of our counties, it's vital that we work together to embolden each other and grab this robust economic opportunity while it's before us.

Your decision has the ability not only to affect electrical ratepayers and job seekers who live and are coming to Colorado, and the economy of your home county, but the economic prosperity of four Colorado counties seeking to capitalize at a time of great opportunity. It is my sincere hope that you will vote your support for the transmission lines and substation as Rush Creek benefits us all in the decades to come.

Thank you for your time and attention on the issue. Please don't hesitate to contact me with any questions pertinent to Kit Carson County.

Respectfully,

Cory Wall, Kit Carson County Chairman

David L. Hornung, Commissioner

Gary Koop, Commissioner

RECEIVED
NOV 04 2016
ARAPAHOE COUNTY
PLANNING DIVISION

November 10, 2016

PUBLIC SERVICE COMPANY OF COLORADO

Rush Creek 345 kV Transmission Line Project

Arapahoe County 1041 Permit Application 1041 Permit-REV03

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Arapahoe County 1041 Permit Application

PREPARED FOR: PUBLIC SERVICE COMPANY OF COLORADO
PREPARED BY: POWER ENGINEERS INC. LAKEWOOD, CO

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EXECUTIVE SUMMARY

Public Service Company of Colorado (PSCo or "Applicant") has prepared this Areas and Activities of State Interest (Colorado House Bill 1041; 1041 Regulations) permit application per the requirements outlined in Chapter 5 of the Regulations Governing Areas and Activities of State Interest in Arapahoe County. This application is organized based on the 2012 Eastern Colorado Connect LLC application per the request of the Arapahoe County Public Works and Development, Planning Division. PSCo is providing Project information, exhibits, and materials, which are hereby incorporated into and made part of the Application below in order to comply with Arapahoe County 1041 Permit approval criteria.

PROJECT SUMMARY

The Rush Creek 345 kV Transmission Line Project is an approximately 80-93 mile long (depending on the preferred alternative) 345 kV transmission line, planned to cross approximately 13.5 miles of eastern Arapahoe County, approximately 41 miles of Elbert County, and 26 miles of Lincoln County as depicted on the map in **Figure 2-1** (Arapahoe County – Rush Creek 345 kV Transmission Line Project Map). The Project will interconnect approximately 600 MW of proposed wind-generated electricity from the proposed Rush Creek I and II Wind Farms into the existing Missile Site Substation in Arapahoe County. Rush Creek I is located in Elbert County and Rush Creek II is located in Cheyenne, Kit Carson, and Lincoln Counties. Although information about the Project as a whole is submitted herein, the subject of this Application is the Rush Creek 345 kV Transmission Line Project in Arapahoe County.

For this Project, PSCo analyzed eight end-to-end route alternatives (Alternatives A – H) and selected a Preferred Alternative for the entire Rush Creek 345 kV Transmission Line Project. When considering landowner interest, both within Arapahoe County and along the entire transmission line route, the selected Preferred Alternative was designed to balance minimizing the number of residences passed along the route within Arapahoe County, minimizing the distance passed through sensitive environmental areas, and minimizing impacts to various resources while maximizing engineering design optimization and the purpose and need of the Project. Alternative A was selected as the Preferred Alternative. Alternative A would be the longest alternative through Arapahoe County; however, it would minimize impacts to several key resources and would parallel the existing NextEra 345 kV Transmission Line for its entire length in Arapahoe County. The Preferred Alternative would pass by the fewest number of residences within 1,000 feet and crosses the fewest number of wetlands and floodplains. The Preferred Alternative would rank second for the number of stream crossings and the number of miles through Arapahoe County Sensitive Development Areas; three miles of the preliminary selected route in Arapahoe County were relocated to the west to avoid riparian habitat areas associated with the Muddy Creek drainage. The Preferred Alternative would pass through the most miles of potential prime farmland; however, soils comprising these lands are considered only potential prime farmland and are classified as prime if they are irrigated. The Preferred Alternative would rank second for miles passing through agricultural cropland lands and shortgrass prairie.

Upon completion of permitting activities and approval by Cheyenne, Elbert, Lincoln, and Kit Carson Counties for the Rush Creek Wind Project, PSCo will purchase the Project. PSCo will own, operate, and maintain the wind farm and transmission line facilities. Invenergy, LLC is responsible for planning and permitting the wind farm that the proposed transmission line will interconnect into PSCo's grid at the Missile Site Substation. PSCo's planned involvement in the Rush Creek Wind Project was publicly announced on April 12, 2016 by the Company and in local and regional news outlets. More information

about the planned transaction can be found at
http://www.transmission.xcelenergy.com/Projects/Colorado/Rush-Creek-Connect.

The Project may include all or any of the following (collectively, "Transmission Line Facility"): (i) overhead electrical transmission and communications lines, transmission line structures, electric transformers, electric substation improvements at the Missile Site Substation, and other necessary interconnection facilities; (ii) construction and maintenance access roads; and (iii) temporary construction material and assembly yard(s).

The Potential Arapahoe County Transmission Line Right of Way (ROW) Lease Names and Parcels for the Project Area are listed in **Appendix A**. Upon execution of the land leases with the landowners PSCo would be granted the sole and exclusive right to use the subject property for constructing, operating, and maintaining the proposed 345 kV transmission line. This includes all transmission line project development activities, of which local permitting is included. Upon execution, the Land Leases are recorded with Arapahoe County for this portion of the Project Area. **Appendix B** lists the Arapahoe County Parcel Township-Range-Section information within the Arapahoe County Project Area.

The following Application and supporting documents address Arapahoe County 1041 Permit Application criteria specific to a Transmission Line Facility. Should any questions arise concerning the submittal or other considerations related to this Application, please contact the following party:

Public Service Company of Colorado
1800 Larimer Street , 4th Floor
Denver, Colorado 80202

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ACRONYMS AND ABBREVIATIONS

%	percent
Access Plan	Access and Traffic Control Plan
ACLDC	Arapahoe County Land Development Code
ACSS	Aluminum conductor steel supported
APCD	Air Pollution Control Division
APEN	Air Pollutant Emission Notice
Applicant	Public Service Company of Colorado
BMP	Best Management Practice
CDP	Census-Designated Place
CDPHE	Colorado Department of Public Health and Environment
CFR	Code of Federal Regulations
CNHP	Colorado Natural Heritage Program
CO	Carbon monoxide
CPW	Colorado Parks and Wildlife
C.R.S.	Colorado Revised Statutes
CWA	Clean Water Act
Denver MSA	Denver-Aurora-Lakewood Metropolitan Statistical Area
EMF	Electromagnetic field
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
GESC	Grading, Erosion, and Sediment Control Plan
GIS	Geographic Information System
I	Interstate
IPaC	Information, Planning and Conservation
kV	Kilovolt
LOS	Level of Service
MBTA	Migratory Bird Treaty Act
mi^2	Square mile
MLRA	Major Land Resource Area
MW	Megawatt
NDIS	National Diversity Inventory Database
NESC	National Electric Safety Code
NO_x	Nitrogen oxides
NPDES	National Pollution Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O&M	Operation and Maintenance
OPGW	Fiber optic ground wire
PEM	Palustrine emergent
PFO	Palustrine forested
PM	Particulate matter
PM_{10}	Particulate matter less than 10 microns

$PM_{2.5}$	Particulate matter less than 2.5 microns
Project	13.5 miles of 345 kV transmission line in Arapahoe County
PSCo	Public Service Company of Colorado
PSS	Palustrine scrub-shrub
PUB	Palustrine unconsolidated bottom
PUC	Public Utility Commission
PUS	Palustrine unconsolidated shore
R4	Intermittent riverine wetlands
RMBO	Rocky Mountain Bird Observatory
ROW	Right-of-Way
RPS	Renewable portfolio standard
SO_2	Sulfur dioxide
SSURGO	Soil Survey Geographic
SWPPP	Stormwater Pollution Prevention Plan
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USCB	U.S. Census Bureau
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish Wildlife Service
USR	Use by Special Review
VOC	Volatile organic compound
WQC	Water Quality Certification
Xcel	Xcel Energy, Inc.

Arapahoe County 1041 Permit Application

Rush Creek 345 kV Transmission Line Project

Submitted by Public Service Company of Colorado
1800 Larimer Street, 4th Floor
Denver, Colorado 80202

LETTER OF INTENT

Through this application, Public Service Company of Colorado (PSCo) respectfully requests approval of a 1041 Permit Application to construction, operate, and maintain approximately 13.5 miles of 345 kilovolt (kV) transmission line in eastern Arapahoe County (the "Project"). As is customary with all land use applications to locate and construct major utility facilities in Colorado, PSCo is applying pursuant to CRS 29-20-108, which relates to local government processing of such applications.

As discussed in our pre-application and consultation meeting with County staff, the proposed transmission line in Arapahoe County is one component of the proposed Rush Creek wind farm, which consists of 600 MW of new wind generation and 90 new miles of transmission in eastern Colorado. In May 2016 PSCo filed an application for a Certificate of Public Convenience and Necessity (CPCN) with the Colorado Public Utilities Commission (CPUC) for the Rush Creek project. Details about the overall project can be found on the CPUC website under Docket #16A-0117E.

The transmission line proposed in Arapahoe County will deliver wind-generated electricity from Rush Creek to PSCo's grid by way of the existing Missile Site Substation. During the construction period, temporary staging areas of approximately 20-acres in size will be required to house construction materials and equipment. While the locations of these staging areas are yet to be identified, at least one such area will likely be located in Arapahoe County.

The Project Area within Arapahoe County covered by the 1041 Permit Application is approximately 300 acres, based on an easement width of 150-feet. PSCo is currently negotiating with landowners to acquire easements for construction, operation, and maintenance of the Project. Based on progress to date, we anticipate executing easements or easement option agreements by early fall of this year.

PSCo appreciates the County's consideration of this application and we look forward to working together on the permitting process. Please let me know if I can provide additional information or assistance. I can be contacted directly via telephone at 303.571.7735 or email at Erin.A.Degutis@XcelEnergy.com .

Kindest regards,

Erin A. Degutis, RLA, AICP, LEED AP
Senior Agent, Siting and Land Rights
1800 Larimer Street, 4th Floor
Denver, Colorado 80202

1041 APPROVAL CRITERIA

A. General Approval Criteria

1. Documentation that prior to site disturbance associated with the Proposed Project, the applicant can and will obtain all necessary property rights, permits, and approvals.

   Prior to site disturbance, Public Service Company of Colorado (PSCo) will obtain and comply with the required approvals pertaining to county, state, and federal regulatory authorities for the construction, operation, and maintenance of the Project in Arapahoe County. PSCo will obtain Arapahoe County land-use, building, grading, erosion, and sediment control, and use of utility right-of-way (ROW) permits in connection with the construction, operation, and maintenance of the transmission line. Material permits applicable to the transmission line in Arapahoe County will include state, stormwater discharge, air (fugitive dust), utility, and oversize load permits. PSCo owns and operates the Missile Site Substation and as a part of this Project, will add equipment to accommodate the new 345 kV transmission line. At the time of this application submission, PSCo is actively coordinating with and actively engaging the eight landowners that parallel the existing NextEra 345 kV transmission line for a ROW easement to accommodate the proposed Rush Creek 345 kV Transmission Line. PSCO anticipates having land use control through easement agreements at the time of public meetings this fall.

2. The Proposed Project considers the relevant provisions of the regional water quality plans.

   There will be no significant impact to water resources from transmission line construction, operation, and maintenance. The proposed Project will not affect water quality; there is no water use proposed for the Project except minimal amounts potentially used during construction for fugitive dust control and concrete. No regional water quality plans are affected by the proposed transmission line in Arapahoe County. The Project will be consistent with the Clean Water Act (CWA) and the Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Division authorizations and plans that are applicable (e.g. Stormwater Management Plan; generally referred to as a Stormwater Pollution Prevention Plan [SWPPP]). Please see General Criteria #12(c) and (d) below for more information.

3. The applicant has the necessary expertise and financial capability to develop and operate the Proposed Project consistent with all requirements and conditions.

   PSCo is the number one wind-generated electricity provider in the nation for the last twelve consecutive years as determined by the American Wind Energy Association. Clean energy from renewable resources accounts for more than 20 percent of PSCo's total energy supply. PSCo remains committed to expanding the use of renewable energy in the most economical way for customers. PSCo's proposed wind project will reduce 1 million tons of carbon each year equal to approximately 3% of total carbon emissions.

Xcel Energy, the parent company of PSCo, ranks in the top five for natural gas and electric utilities, with high marks for social responsibility, people management, innovation, assets and financial soundness. Xcel Energy is one of Forbes magazine's 100 Most Trustworthy Companies in America for our consistent demonstration of transparent accounting practices and solid corporate governance. As a public-regulated utility, PSCo is accountable to ratepayers and stockholders in terms of planning and executing energy generation and transmission projects that are fiscally responsible and technically feasible. The Rush Creek Wind Project is a part of Company's "Our Energy Future," a forward-thinking plan that addresses future generation and transmission needs in Colorado, including additional renewable energy resources. The Company intends to take advantage of the Renewable Energy Production Tax Credit (PTC), which is an incentive to bring new renewable energy online by meeting specific timeline goals and results in saving ratepayers millions of dollars over the life of the Project.

4. The Proposed Project is technically and financially feasible.

The Project is technically feasible given PSCo's level of expertise and experience in constructing wind-generated electricity projects. The Rush Creek Wind and Transmission Project will be the largest wind generation facility in Colorado and spans five counties (Arapahoe, Cheyenne, Elbert, Kit Carson, and Lincoln) for the wind and transmission components of the proposed Project collectively. The transmission line would cross only Arapahoe, Elbert, and Lincoln Counties. In Arapahoe County, the Rush Creek Connect 345 kV Project would consist of approximately 13.5 miles of 345 kV transmission line and upgrades to the existing Missile Site Substation. The construction period for the transmission line in Arapahoe County would be approximately 15-20 weeks with activity levels varying from day-to-day during this timeframe. The total cost estimate to construct the entire 80-93 mile long (depending on the alternative route selected) transmission line is approximately $121 million. These costs are financially feasible for PSCo to support, as these costs will initially be paid out of PSCo's operating capital. Appendix G contains the 2015 financial summary for PSCo.

5. The Proposed Project is not subject to significant risk from natural hazards.

Much of the proposed Project area is considered low risk for geologic hazards. The topography has fairly level relief (0-10 percent slope), with gently rolling terrain and flood plains interspersed by drainages with steeper side slopes. The occurrence of major landslides within the Project Area has not been recorded, although the potential for sheet and rill erosion and gully formation may be moderate to severe in some areas. For seismic purposes, Colorado is considered a region of minor earthquake activity, although there are many uncertainties because of the very short time period for which historic data is available. This portion of Colorado and Arapahoe County can be considered aseismic.

The proposed Project crosses 100-year Arapahoe County defined floodplains. No FEMA defined floodplains are crossed by Alternative A. A floodplain analysis was completed for this application under a separate submittal. PSCo will not place any transmission line structures with FEMA or Arapahoe County defined floodplains.

6. The Proposed Project is in general conformity with the applicable comprehensive plans.

The Project is in general conformity with the applicable Arapahoe County Comprehensive Plan (Plan) because the Preferred Alternative minimizes impacts to residents, natural resources, and cultural resources and it parallels an existing transmission line corridor for 100% of its length through the County. This Plan is the only applicable comprehensive plan under this criterion.

- **The Plan's Policy 4.2(a) recognizes that facilities such as the transmission line will be allowed in the Rural Area on a case-by-case basis, except in sensitive development and riparian corridor areas. The transmission line will be located on privately- and state-owned lands. The transmission line will not be constructed in riparian or Sensitive Development Areas identified under the Plan.**
- **The transmission line will adhere to Policy PFS 4.2 – Achieve Land Use Compatibility, when Siting Regional and Local Utilities requires utilities to be built in a manner that is safe and compatible with surrounding land uses. Zoning districts within the Project Area include Agricultural Estate (A-E) and Agricultural-1 (A-1). The zoning districts are intended to correspond to and implement the "Rural Area Uses" and "Open Space" land use categories designated in the Land Use Plan element of the Comprehensive Plan. The regulations for A-E and A-1 are district-specific which are applied on a district-wide basis and generally relate back to the stated purposes of the zone district. Please see Section 3.1 for more information.**

7. The Proposed Project will not have a significant adverse effect on the capability of local government to provide services or exceed the capacity of service delivery systems.

The Project will not require a level of local services or facilities beyond that which is currently available. The Project will likely generate additional traffic on local roads during the construction period, and impacts would be short in duration. Existing PSCo staff will maintain the new transmission line and additional equipment in the Missile Site Substation. PSCo staff are primarily located in the Denver Metro area and would commute to the Missile Site Substation and the transmission line on a periodic or as-needed basis. During the operation of the Project, it is not anticipated that the project would create additional demand on roads, potable water, wastewater, parks, housing, cemeteries, library resources, solid waste, or schools. Traffic impacts during the operation of the project would be *de minimis*. Temporary housing for workers could be accommodated in the hotels/motels clustered in eastern Aurora area or Limon.

8. The Proposed Project will not create an undue financial burden on existing or future residents of the County.

The Project will not cause adverse effects to the socioeconomic footprint of Eastern Arapahoe County, as the area is rural in nature and low in population. Additional tax revenues will be generated by the Project through the local purchase of materials, fuel,

food, and housing during the construction period, and taxing of the infrastructure at the Missile Site Substation. Landowners with a transmission line easement would receive payments for the length of their property that is crossed by the transmission line or location of a materials/laydown yard. PSCo would be responsible for maintenance, repair, upgrades or decommissioning of the transmission and substation assets associated with the Project.

9. The Proposed Project will not significantly degrade any substantial sector of the local economy.

   The Project will not cause significant impacts or negative effects to the socioeconomic footprint of the eastern area of Arapahoe County. Potential benefits of the Project include economic gain from purchasing construction materials, associated goods and services, improved county road maintenance and improvements, and landowner payments from PSCo which will provide additional income for County residents. These factors should all create positive gains to the local economy.

10. The Proposed Project will not unduly degrade the quality or quantity of recreational opportunities and experience.

    There are limited recreational opportunities in the vicinity of the Preferred Alternative in the eastern area of Arapahoe County. No direct or indirect land use impacts on State, County, or local parks, trails, or fishing stream segments are anticipated to occur because there are no parks and recreational areas within 1,000-feet of the Preferred Alternative. As a result, the construction, operation, and maintenance of the transmission line will not significantly affect recreational opportunities in the eastern area of Arapahoe County. There are no conservation easements along the Preferred Alternative that allow for public recreation potential.

11. The planning, design and operation of the Proposed Project will reflect principals of resource conservation, energy efficiency and recycling or reuse.

    The Project is a critical element of the Rush Creek Wind Project which will help the PSCo enhance its renewable energy portfolio standard (RPS), thus fulfilling state requirements for increased alternative energy usage. PSCo is a recognized leader in reducing emissions, integrating renewable power and ensuring the responsible transition to a cleaner energy future. This project allows us to continue delivering on this commitment to customers. The Project will reduce 1 million tons of carbon each year equal to approximately 3 percent of total carbon emissions. Upon completion, the transmission line and the Rush Creek Wind Project will be the largest wind-generated electricity facility in Colorado and the eighth largest in the United States at time of commissioning. PSCo will collect the leftover conductor and static line and transport to an off-site recycling contractor. All other material and trash will be collected and transported off-site to an appropriate recycling or solid waste disposal facility.

12. The Proposed Project will not significantly degrade the environment.

As further described below, the proposed Project will not have significant effects on the environment and will not significantly degrade the environment with the exception of visual resources which will be moderately impacted in the vicinity of the Project corridor as a result of the transmission line's visibility against the landscape. Please refer to Section 4: Environmental Resources: Existing Conditions and Section 5: Environmental Impacts, Mitigation, and Best Management Practices for an analysis of the environmental impacts to visual and aesthetics resources.

a. Air quality.
The Project will not significantly affect air quality in Arapahoe County because it does not generate any new stationary sources that would result in the long-term emission of criteria pollutants during the construction or operation of the Project. Air emission associated with the Project will be short-term, localized, and consist predominantly of mobile construction equipment and low-level fugitive dust. PSCo will primarily use water as a fugitive dust control measure on unpaved public roads during the construction period.

b. Visual quality.
The eastern area of Arapahoe County is rural in nature and characterized by flat to rolling topography interspersed with rural residences and agricultural settlements. Electric transmission and distribution lines occur throughout the area. The entire alignment of the Preferred Alternative would parallel an existing transmission line corridor with the existing and proposed ROWs abutted, but not overlapping the adjacent ROW. The Project crosses and parallels the existing NextEra 345 kV transmission line corridors along the Preferred Alternative. The Project would contribute an additional transmission line to the visual landscape, and the Preferred Alternative would cross five public roadways on its alignment through the eastern area of Arapahoe County: County Route 47/Wall Road, East County Route 34/Jolly Road, County Road 229, County Road 18/South Deter-County Route 229/Winters Road, and Hampden Avenue. The Project will mitigate the visual impacts by using transmission structures that are of similar color (dark brown) and design (H-frame) already found in the visual landscape and match the span length between structures. The Project would use non-specular conductors to further reduce visual impacts in Arapahoe County. The Project would use swan diverters on the static line (top two wires of the transmission structure) matching the color, spacing, and location of the NextEra 345 kV transmission line.

c. Surface water quality.
The Project will not significantly affect water quality; there is no significant water use proposed for this Project except minimal amounts potentially used during construction for fugitive dust suppression and concrete. However this amount will be transported on-site with a water truck. The potential impacts will be negligible due to the implementation of BMPs and the ability to span water features and drainages, thus avoiding impacts during the construction period.

Best management practices (BMPs) will be used during the construction period to reduce potential impacts from erosion, sedimentation, and turbidity in surface waters. A Grading, Erosion, and Sediment Control Plan (GESC) will be developed and implemented to meet Arapahoe County requirements. In addition, SWPPP will be developed and implemented for the Project to meet the construction stormwater discharge permit requirements of the CDPHE.

d. Groundwater quality.

The depth of water wells in Arapahoe County range from approximately 25 feet to 600 feet (Colorado Division of Water Resources 2016). Aquifers used by the water wells include Laramie Fox Hills, Upper Dawson Quaternary Alluvium, and unnamed aquifers. It is unlikely the Project would affect groundwater to any extent because of BMPs that will be implemented during Project construction. In addition, no water wells would be drilled for the proposed Project. Excavations for transmission line structures may contact very shallow groundwater; however, the groundwater contact would be unlikely to adversely impact this resource because of BMPs that will be implemented during construction. Techniques to avoid and minimize groundwater impacts would include properly maintaining equipment, storing fuels and petroleum away from excavated areas and cleaning up any spills. After application of mitigation measures and BMPs, impacts to groundwater will be negligible and temporary in duration.

e. Wetlands, flood plains, streambed meander limits, recharge areas, and riparian areas.

Transmission line structures would not be placed in wetlands, floodplains, streambeds, recharge areas, and riparian areas and there would be no equipment operation within these features in Arapahoe County. Regulated floodplains would be avoided to the extent practicable. The transmission line will likely span all of these areas with overhead conductors; therefore, little to no anticipated adverse impacts would occur to surface water resources. Potential indirect impacts to water resources could occur from construction related erosion and sediment movement, which are covered by BMPs and the applicable SWPPP and GESC. The potential impacts will be negligible to minor due to the ability to span water features and avoid impacts during construction.

f. Terrestrial and aquatic animal life.

The majority of impacts to wildlife will be localized and short-term, related to the removal of vegetation, compaction of soils, noise disturbance, and human presence associated with construction activities. Direct impacts to wildlife during construction will be minimal, as most wildlife will be able to disperse into adjacent habitat. PSCo will follow Colorado Parks and Wildlife (CPW) recommendations to minimize impacts on wildlife such as conducting pre-construction nest surveys, establishing appropriate nest buffer zones, and conducting pre-construction presence/absence surveys for state listed species. Impacts to surface vegetation can reduce foraging habitat from direct disturbance as well as indirectly from increases in noxious weeds; however, the potential for the introduction and/or

spread of noxious weeds will be minimized by implementing BMPs such as ensuring construction equipment is cleaned, using weed-free seed mixes and controlling noxious weeds within the ROW . The potential for the introduction and/or spread of invasive non-native species (including noxious weeds) will be minimized by the implementation of BMPs during the construction period and reclamation efforts.

Impacts to wildlife during maintenance activities will be minimal due to the selection and type of durable materials used for construction of the transmission line and ability to observe the transmission line from the air. The Missile Site Substation would receive periodic maintenance, but this activity would be confined to the interior of the substation where the area has been previous disturbance and no surface habitat presently exists.

Table 4-2 lists all of the federal and state listed species, including the potential suitable habitat. Section 5.6.1, Impacts to the Preferred Alternatives, discusses mitigation to the T&E species. Section 5.6 discussed BMPs and other pre-emptive activities to reduce impacts on T&E species and mitigation measure to protect T&E species.

g. Terrestrial and aquatic plant life.

Direct impacts to vegetation resources will result from vegetation compaction by construction equipment or surface disturbances such as mechanical grading and clearing of vegetation for the temporary laydown/materials yard and access roads. It is not anticipated that there will be significant removal of vegetation at the base of each transmission structure. Temporary impacts to vegetation will also result in periodic compaction of existing vegetation and soil from construction and maintenance traffic within the transmission line ROW and designated access roads. These impacts will be short-term in duration and focused in location, and the disturbed areas will be re-seeded with approved local, native seed mixes after clearing. Vegetation would be permanently removed at transmission structure locations.

Table 4-2 lists all of the federal and state listed species, including the potential suitable habitat. Section 5.6.1, Impacts to the Preferred Alternatives, discusses mitigation to the T&E species. Section 5.6 discussed BMPs and other pre-emptive activities to reduce impacts on T&E species and mitigation measure to protect T&E species.

The mitigation for vegetation removal at the base of each structure will match the existing vegetation and may consist of native shortgrass perennial species, cropland, or pasture, as appropriate. A seed bed will be prepared to depth of 3” to 4” and then the seed mix will be spread via broadcast or hydroseeding. A certified seed mix or plugs will be used to re-establish the vegetation in agreement with the recipient landowner.

h. Soils and geologic conditions.
The Project will create short-term, localized impacts on soil resources, which could result in the potential reduction of surficial soil quality. Ground disturbance during construction may increase the potential for erosion, such as removal of protective vegetation and expose soil to potential wind and water erosion. Impacts will result from soil disturbance due to heavy machinery traveling along the transmission line ROW. General construction traffic will be limited to designated access roads in an effort to minimize impacts. The areas affected by construction would be reclaimed as soon as possible, which may include regrading to original land contours and revegetation with an approved seed mix. Implementation of a SWPPP and GESC and use of appropriate soil mitigation measures and BMPs would be used to reduce the effects of erosion.

13. The Proposed Project will not cause a nuisance.

There will be an anticipated increase in traffic during the Project's construction period on local county roads. Given the low-density, sparsely populated area of the county in which the route alternatives would be situated, no substantial impacts would occur to existing and future traffic volumes and Level of Service (LOS). LOS is a qualitative measure used to relate the quality of traffic service. LOS is used to analyze highways by categorizing traffic flow and assigning quality levels of traffic based on performance measures including vehicle speed and volume. LOS is scored using letters from A to F, where A represents the best conditions (free-flow traffic conditions) and F represents failure of the system with excessive delay (failure or breakdown in the traffic system). Roadway corridors that operate at LOS C or better are categorized as uncongested and generally operate in free-flow conditions where drivers can operate at their desired speed without undue delay. Rural roads in Arapahoe County currently operate at a LOC C or better (Arapahoe County 2010a). Roads near the route alternatives would be expected to continue to operate at or above LOS C during and after Project construction activities. Vibration, odors, or other nuisances from the operation and maintenance of the transmission are not anticipated, except for minimal noise associated with equipment operation during construction which will be short-term.

The use of augers and vibration cassions may be used to place transmission structures into the ground. Odors from diesel-driven vehicles or construction equipment may be generated in the immediate vicinity of each transmission structure and for short periods of time during the construction period. The location may vary based upon active construction areas. There may be some diesel emissions at the laydown/storage yards where equipment is used to unload and store materials.

14. The Proposed Project will not significantly degrade areas of paleontological, historic, or archaeological importance.

According to the literature and file searches from the Colorado Office of Archaeology and Historic Preservation cultural resource database, no paleontological resources have been

previously recorded within 1,000 feet on either side of the centerline (a 2,000 foot corridor) of the proposed Preferred Alternative.

The Preferred Alternative crosses one site, the only known site within 1,000 feet of the Alternative. This site is the historic route of the Union Pacific Railroad through Arapahoe County. This resource is considered Eligible for the National Register of Historic Places (NRHP). It is the only cultural resource located along the Preferred Route and the Alternatives in Arapahoe County. No previously identified paleontological resources have been identified in the project area. The Preferred Alternative is a generally low impact route that crosses the lowest number of previously recorded sites.

Alternative C crosses the active Union Pacific railroad bed and is within 1000 feet of the Union Pacific RR Historic Route – a previously used railroad bed. The Preferred Alternative (Alternative A) is approximately four (4) miles from the historic resource at its nearest point. Avoidance of the historic resource is the only mitigation that is appropriate for this resource and impacts to visual resources is only accomplished by distance between the historic resource and the proposed transmission line. The Preferred Route is seen by the Union Pacific RR Historic Route (based on a seen/unseen GIS analysis see Appendix H). Previously recorded sites in the vicinity of the Project corridors in Arapahoe County are summarized below in Table 5-5 from the Application. There are no historic / prehistoric previously recorded sites within 1000 feet of the Preferred Alternative. Six miles of ROW of Preferred Alternative are within an area classified for high potential of archaeological and cultural resource sites.

15. The Proposed Project will not result in unreasonable risk of releases of hazardous materials. In making this determination as to such risk, the Board's consideration shall include:

Construction equipment and operation and maintenance vehicles will be properly maintained to minimize leaks of motor oil, hydraulic fluids, and fuels. During construction, refueling and maintaining vehicles that are authorized for highway travel will be performed off-site at an appropriate facility. A Spill, Prevention, Containment, and Countermeasure (SPCC) Plan will be prepared for the Project and will contain information regarding training, equipment inspection, maintenance, and refueling for construction vehicles, with an emphasis on preventing spills. Please see Section 5.11 Hazards and Emergency Procedures for additional information.

a. Plans for compliance with federal and State handling, storage, disposal and transportation requirements.
The SPCC Plan will contain detailed information on the procedures for the handling, storage, disposal and transportation of hazardous materials. See Section 5.11 Hazards and Emergency Procedures for additional information.

b. Use of waste minimization techniques.
The SPCC Plan will contain detailed information on waste minimization techniques. In addition, PSCo will use include construction documents that address the

minimization and proper disposal of construction waste materials. Please see Section 5.11 Hazards and Emergency Procedures for additional information.

c. Adequacy of spill prevention and response plans.
The SPCC Plan will contain information regarding training, equipment inspection, maintenance, and refueling for construction vehicles, with an emphasis on preventing spills. PSCo will include their standard emergency response plan for spills and emergencies in their project construction documentation. Please see Section 5.11 Hazards and Emergency Procedures for additional information.

16. The benefits accruing to the County and its citizens from the proposed activity outweigh the losses of any resources within the County, or the losses of opportunities to develop such resources.

The Project will present economic and environmental benefits to Arapahoe County, the State of Colorado, and PSCo's ratepayers, and further, there are limited costs to PSCo associated with the Project. Costs and benefits are summarized below and discussed in Section 5.12 of this application.

Potential Project benefits include:

- Increase tax based for Arapahoe County;
- Easement payments provide additional income for landowners;
- Local spending for Project construction materials and other goods and services;
- Economic generation for the State of Colorado for Project construction materials, specialized labor, and other goods and services;
- Long-term cost savings for PSCo ratepayers;
- County road maintenance and improvements;
- Facilitating renewable, sustainable energy for the State of Colorado; and
- Support to local community organizations and events.

Potential Projects impacts include:

- Visual impacts due to heights of transmission line structures; and
- Minimal community and local governmental service demands, including minor impact to emergency, fire, and safety services.

17. The Proposed project is the best alternative available based on consideration of need, existing technology, cost, impact and these regulations.

When considering landowner interests, both within Arapahoe County and along the entire Project route, the selected Preferred Alternative was chosen to minimize impacts to human and natural resources (e.g., habitual structures, wetlands, cultural resources, wildlife, etc.), as it parallels an existing transmission ROW in a sparsely populated, rural area and provides a unencumbered route to the Missile Site Substation The end result was the identification of eight end-to-end alternatives and selection of a Preferred Alternative that balances all the factors necessary to ensure a properly sited transmission line that can be sited on available leased public and private land.

18. The Proposed Project will not unduly degrade the quality or quantity of agricultural activities.

The Project will not have significant effects on agricultural activities. Prime farmland within the Project Area in Arapahoe County is classified as prime farmland if irrigated or prime farmland if irrigated with other conditions (such as if cleared of excess salts). Potential soil impacts to prime farmland from transmission line construction include soil erosion, mixing of topsoil and subsoil, potential loss of topsoil, and soil compaction. Prime farmland within the construction zone may be unavailable to agriculture production during the construction period. Prime farmland would be reclaimed after the conclusion of the construction period, which may include regrading to original land contours, relieving compaction, topsoil replacement, and reclamation to the original vegetative cover or similar species.

Assuming each pole structure footprint is approximately ten (10) square feet (permanent impact); access roads are approximately 12' wide (temporary impacts), and 13 miles of transmission line ROW and access roads in Arapahoe County. The impacts to agricultural lands in Arapahoe County are:

- **Permanent impact from transmission structures - approximately 0.04 acres (1,600 square feet); and**
- **Temporary impact from access roads-approximately 19 acres.**

19. Cultural Resources. The Proposed Project will not significantly interfere with the preservation of cultural resources, including historical structures and sites, agricultural resources, the rural lifestyle and the opportunity for solitude in the natural environment.

According to the literature and file searches from the Colorado Office of Archaeology and Historic Preservation cultural resource database, no paleontological resources have been previously recorded within 1,000 feet on either side of the centerline (a 2,000 foot corridor) of the proposed Preferred Alternative.

The Preferred Alternative crosses one site, the only known site within 1,000 feet of the Alternative. This site is the historic route of the Union Pacific Railroad through Arapahoe County. This resource is considered Eligible for the National Register of Historic Places (NRHP). It is the only cultural resource located along the Preferred Route and the Alternatives in Arapahoe County. No previously identified paleontological resources have been identified in the project area. The Preferred Alternative is a generally low impact route that crosses the lowest number of previously recorded sites and will not significantly interfere with the preservation of cultural resources.

20. Land Use. The Proposed Project will not cause significant degradation of land use patterns in the area around the Proposed Project.

Zoning districts within the Project Area include Agricultural Estate (A-E) and the Agricultural-1 (A-1). However, as discussed below, the Project will not have significant

effects on the agricultural activities, as most agricultural activities, such as ranching and grazing of livestock, are compatible with transmission line corridors.

Although the primary land use activity is farming and ranching, only approximately 30 percent of the area is considered prime farmland if irrigated or prime farmland if irrigated with other conditions (such as if cleared of excess salts) as indicated by NRCS. Prime farmland within the construction zone may be unavailable to agriculture production during the construction timeframe. Prime farmland would be reclaimed at the conclusion of the construction period, which may include regrading to original land contours, relieving compaction, topsoil replacement, and reclamation to the original vegetation cover or similar species.

21. Compliance with Regulations & Fees. The applicant has complied with all applicable provisions of these regulations and has paid all applicable fees.

    PSCo will comply with all regulations and all development and application fees to Arapahoe County.

C. Additional Criteria Applicable to Major Facilities of a Public Utility

In addition to the general criteria set forth in Section V, Part A, above, the following additional criteria shall apply to major facilities of a public utility:

1. Areas around major facilities of a public utility shall be administered so as to minimize disruption of the service provided by the public utility.

   PSCo coordinates with local utilities during the planning and construction of new transmission lines. PSCo intends to continue coordination with transmission and distribution providers in order to ensure minimal service disruptions in the eastern area of Arapahoe County. PSCo will coordinate with the Intermountain Rural Electric Association, Mountain View Electric Association, and Tri-State Generation and Transmission Association on any planned outages associated with the construction of the Project in order to minimize any disruptions to service.

2. Areas around major facilities of a public utility shall be administered so as to preserve desirable existing community and rural patterns.

   The Project will not degrade the existing rural land use patterns observed in the eastern area of Arapahoe County. The Preferred Alternative parallels an existing transmission line corridor and eliminates a new corridor across an undeveloped area of Arapahoe County.

3. Where feasible, major facilities of a public utility shall be located so as to avoid direct conflict with adopted local comprehensive, State and regional master plans.

   The Project is in general conformity with the applicable Arapahoe County Comprehensive Plan (Plan) because the Preferred Alternative minimizes impacts to residents, natural resources, and cultural resources and it parallels an existing transmission line corridor for

100% of its length through the County. The Plan's Policy 2.4(a) recognizes that facilities such as the transmission line will be allowed in the Rural Area on a case-by-case basis, except in sensitive development and riparian corridor areas. The transmission line will be located on privately- and state-owned lands. The transmission line will not be constructed in riparian or Sensitive Development Areas identified under the Plan.

In addition, the Project is consistent with Arapahoe County planning and zoning and the Arapahoe County Open Space Master Plan (Arapahoe County 2010b) and will comply with all County regulations and requirements. The transmission line will adhere to Policy PFS 4.2 – Achieve Land Use Compatibility, when Siting Regional and Local Utilities requires utilities to be built in a manner that is safe and compatible with surrounding land uses. Zoning districts within the Project Area include Agricultural Estate (A-E) and Agricultural-1 (A-1). The zoning districts are intended to correspond to and implement the "Rural Area Uses" and "Open Space" land use categories designated in the Land Use Plan element of the Comprehensive Plan. The regulations for A-E and A-1 are district-specific which are applied on a district-wide basis and generally relate back to the stated purposes of the zone district. Please see Section 3.1 for more information.

4. Where feasible, major facilities of a public utility shall be located so as to minimize dedication of new right-of-way and construction of additional infrastructure (e.g., gas pipelines, roads, and distribution lines).

   PSCo used best industry standards and extensive experiences from similar projects in planning the Rush Creek 345 kV Transmission Line Project so as to minimize the dedication of greenfield ROW and the construction of new infrastructure beyond that which is already contemplated in CO SB-07-100. The Preferred Alternative will parallel the existing NextEra 345kV transmission line from the Arapahoe/Elbert County line to the Missile Site Substation.

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1. APPLICANT INFORMATION

1.1 Applicant Address and Contact

Company:

Public Service Company of Colorado
1800 Larimer Street, 4th Floor,
Denver, Colorado 80202

Contact:

Erin A. Degutis, RLA, AICP, LEED AP
Telephone: 303.571.7735
Email: Erin.A.Degutis@xcelenergy.com

1.2 Background on Xcel Energy, Inc. and Public Service Company of Colorado.

Xcel Energy is a major U.S. electric and natural gas company with annual revenues of $11 billion. Based in Minneapolis, Minnesota, the company provides the energy that serving more than 3.3 million electric customers and 1.8 million natural gas customers across eight Western and Midwestern states, including Colorado, Michigan, Minnesota, New Mexico, North Dakota, South Dakota, Texas, and Wisconsin (**Figure 1-1**).

Xcel Energy's workforce of more than 12,000 is rising to the challenge of a changing industry— one that requires the company to be even more customer focused, forward thinking and productive. Xcel Energy remains committed to meeting its customers' fundamental need for safe, reliable, affordable energy.

Xcel Energy is a recognized industry leader in delivering renewable energy and reducing carbon and other emissions, efforts that have put it on a path to a more sustainable energy future. Xcel Energy is proud to be the No. 1 utility wind-generated electricity provider for the 12th consecutive year. Its business requires that it achieves the right mix in all it does—cultivating the right talent, offering customers the right options, collaborating with communities, investing for the future and protecting the environment. PSCo does not own or operate any other wind transmission projects in Colorado. Independent Power Producers (IPPs) own and operate the high voltage transmission lines from their wind farms that connect with PSCo substations. PSCo has a wind portfolio of over 2600 MW, which is purchased through 15 long-term purchase power agreements. PSCo purchases wind energy from the following wind farms in Colorado: Peetz Table; Cedar Creek I and II; Logan; Ridge Crest; Spring Canyon; North Colorado I and II; Cedar Point; Limon I, II, and III; Golden West; Colorado Green; and Twin Buttes. The inclusion of the Rush Creek Wind Project, the largest wind farm in the state when completed, will bring PSCo's wind portfolio total to over 3200 MW.

Xcel Energy Inc.'s operations include the activity of four wholly owned utility subsidiaries that serve electric and natural gas customers in eight states. These utility subsidiaries, referred to as operating companies, are Northern States Power Company-Minnesota, Northern States Power Company-Wisconsin, Public Service Company of Colorado (PSCo) and Southwestern Public Service Company. PSCo is the subsidiary of Xcel Energy that will own, construction, operate, and maintain the proposed Project that this application is prepared for.

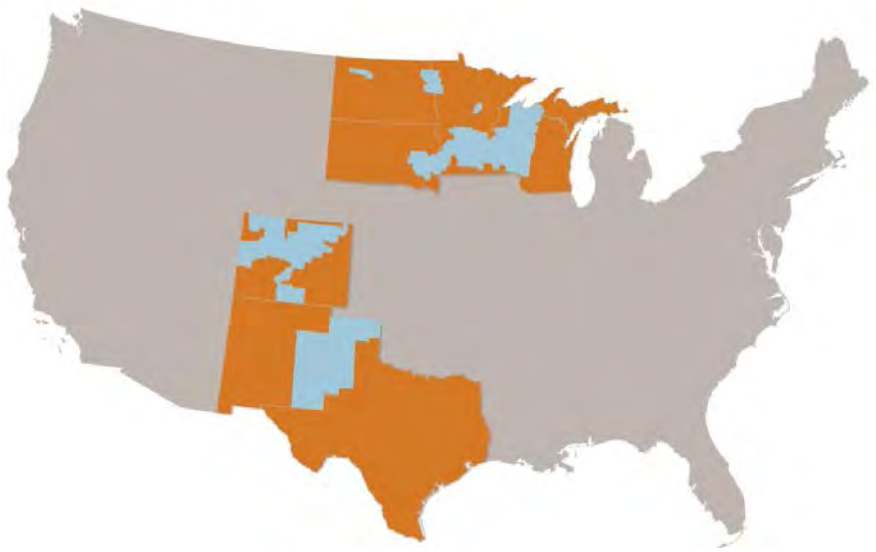

Figure 1-1 Xcel Energy Inc. Service Territory (Blue shaded areas)

1.3 Legal Description and Disclosure of Ownership

The Applicant, PSCo (the Applicant), is proposing to construct approximately 13.5 miles of 345 kilovolt (kV) transmission line in Arapahoe County (the Project). PSCo is submitting their Areas and Activities of State Interest (1041) permit application per the requirements outlined in Chapter 5 of the Regulations Governing Areas and Activities of State Interest in Arapahoe County for the Project. The Project Area within Arapahoe County is approximately 300 acres. It is PSCo's intent to secure options for transmission line easements (options) with the landowners within the Project Area prior to the Arapahoe Board of County Commissioners meeting this fall. State lands are crossed for 1 mile in Arapahoe County.

1.4 Project Finances

The Rush Creek wind project will save PSCo ratepayers over $800 million of dollar in energy costs over the next 25 years. With the wind farm and transmission facilities, PSCo will invest an estimated $1 billion dollars into the state's economy including the purchase of 300 Vestas wind turbines which will be manufactured in Brighton, Pueblo, and Windsor, Colorado. The wind farm will provide millions of dollars in sales and property taxes to local and state government and $3 to $7.5 million in annual landowner wind payments. At the peak of construction, the wind and transmission project will employ about 350 construction workers.

The Arapahoe County portion of the Rush Creek 345 kV Transmission Line Project will consist of approximately 13.5 miles of transmission line construction. The construction period in Arapahoe County will be approximately 15 to 20 weeks with various levels of activity occurring simultaneously during that time (see Section 2.4 below).

The total estimated cost to construct the entire 80-93 mile-long (depending on the alternative route selected) transmission Project is approximately $121 million. These costs will initially be paid out of PSCo's operating capital.

See Appendix G for the overview of PSCo's financial statement for fiscal year 2015. See pages 12-19 (34-39 page numbering within the file) in the Appendix G for a summary of PSCo's current finances in terms income, expenses, liabilities, etc. Xcel Energy's Annual Report for 2015 and the most recent 10-K filing with the Securities and Exchange Commission is available upon request.

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2. PROJECT DESCRIPTION

2.1 Project Purpose and Need

The demand for alternative energy sources has steadily increased in the United States and in Colorado. Colorado became the first state to create a RPS by ballot initiative, when voters approved Amendment 37 in November 2004. Through various legislative mechanisms, the RPS has increased in Colorado from three percent in 2007 to 30 percent by 2020. In Title 4 of the Colorado Code of Regulations 723-3, Section 3651 (Overview and Purpose), it states:

> *Energy is critically important to Colorado's welfare, and development, and its use has a profound impact on the economy and environment. Growth of the state's population and economic base will continue to create a need for new energy resources, and Colorado's renewable energy resources are currently underutilized. Therefore, in order to save consumers and businesses money, attract new businesses and jobs, promote development of rural economies, minimize water use for electricity generation, diversify Colorado's energy resources, reduce the impact of volatile fuel prices, and improve the natural environment of the state, it is in the best interest of the citizens of Colorado to develop and utilize renewable energy resources to the maximum extent practicable.*

From now through 2025, energy demand is expected to grow approximately two percent annually. The Colorado Department of Local Affairs estimates that the state's population will grow to over 6.7 million people by 2025, a 64 percent increase over the current population. PSCo's system in Colorado will continue growth at 1.4 percent annually, with approximately 126,000 new customers by year 2023. With population growth projections and energy demand growth, PSCo will need approximately 600 megawatts of additional power supplies through the year 2023. Upon completion, the proposed Rush Creek Wind Project will be the largest wind-generated electricity generation facility in Colorado, contributing significantly to Colorado achieving its renewable energy goals.

2.2 Project Overview

PSCo is proposing to develop 600 MW of new wind-generated electricity and approximately 80 to 93 miles (depending on the alternative) of new 345 kV transmission facilities on the eastern plains of Colorado. The wind projects will consist of two wind farms; an approximately 400 MW wind farm called Rush Creek I, located in Elbert County; and an approximately 200 MW wind farm called Rush Creek II, located in Lincoln, Kit Carson, and Cheyenne Counties. Land use permitting and leasing for these two farms will be completed by a wind developer, Invenergy LLC. Upon completion of permitting and leasing of the Rush Creek Wind Farms, PSCo will acquire the Rush Creek I and Rush Creek II Wind Farms from Invenergy LLC and complete development, including construction, operation, maintenance, and ongoing ownership of the farms.

PSCo is proposing to construct a new 345 kV transmission line interconnecting the Rush Creek I and Rush Creek II Wind Farms to the existing Missile Site Substation located in Arapahoe County. The 345 kV transmission line will be approximately 80 to 93 miles (depending on the Preferred Alternative) in length, with a 150 to 200-foot ROW. PSCo's Preferred Alternative is approximately 81 miles in length and crosses portions of Arapahoe, Elbert, and Lincoln Counties. All three counties will require land use

permits to construct the transmission line. Arapahoe and Elbert Counties will require 1041 and Special Use Permits; Lincoln County will require a Use by Special Review and Development Permit. PSCo filed a Certificate for Public Convenience and Necessity application with the Colorado PUC on May 13, 2016.

2.3 Rush Creek Wind and Transmission Project Overview

For background and context for the entire Rush Creek Wind Project, a brief overview of wind-generated electricity and a general overview of the Rush Creek Wind Project are included below. There will be no wind generation facilities in Arapahoe County and this 1041 Permit Application is for the Rush Creek 345 kV Transmission Line.

The basic components of any wind-generated electricity generation facility include the turbines, power collection system, roads, substations or switchyards, and transmission system. Wind-generated electricity production includes the following five basic components,

1. Electrical Power Generation – Wind blowing against the turbine blades causes the blades to rotate, which in turn rotates electrical generators that produce electricity.

2. Energy Transfer – The generated electricity is fed through cables within the tower to a base panel at ground level inside the tower. The electricity is fed to a transformer located in or adjacent to the tower that increases (steps up) the power to a higher voltage.

3. Collection System – The power stepped-up through the transformer is fed into an underground or overhead collection system. Power collection lines connect groups of wind turbines in the field to a substation.

4. Substation/Switchyard – At the substation, the voltage is stepped up again to that it can be fed into the electrical transmission system. At a switchyard, the electric transmission is connected into an existing transmission system of the same size. In Arapahoe County, there will only be upgrades to the existing Missile Site Substation to accommodate the interconnection for this project.

5. Utility Transmission – Electricity is sent through the electrical transmission lines to utility distributions systems for delivery to customers. The proposed 345 kV transmission line will connect to the existing Missile Site Substation in Arapahoe County north of Deer Trail, Colorado.

Table 2-1 Rush Creek Wind Project Overview by County

County	345 kV Transmission Line	Rush Creek I - 400 MW Project	Rush Creek II - 200 MW Project	Substations
Arapahoe	~ 13.5 miles	N/A	N/A	Modify the existing Missile Site Substation for the proposed 345 kV transmission line interconnection.
Cheyenne	N/A	N/A	Yes	N/A
Elbert	~ 41 miles	Yes	N/A	New collector substation for Rush Creek I.
Kit Carson	N/A	N/A	Yes	N/A

County	345 kV Transmission Line	Rush Creek I - 400 MW Project	Rush Creek II - 200 MW Project	Substations
Lincoln	~ 26 miles	N/A	Yes	New collector substation for Rush Creek II.

The Site Plan (**Exhibit A**) shows a layout of the proposed Rush Creek Wind Project, including the transmission line routing, arrangement of wind turbines, roads, and substations. Engineering design of the entire Rush Creek Wind Project is ongoing; this information is subject to minor changes, including the final transmission line routing and structure placement, substation locations, construction access roads, temporary staging and material yards, number of turbines and the specific locations of turbines, new roads, collection systems, and other associated project facilities.

2.4 Arapahoe County Project Site Description

The Arapahoe County – Rush Creek 345 kV Transmission Line Project Map (**Figure 2-1**) depicts the project location in the eastern area of Arapahoe County. The portion of the Project in Arapahoe County will be sited on private or state lands comprising approximately 300 acres of utility ROW that is between 150 and 200 feet wide. Of the approximately 13.5 miles of proposed transmission line in Arapahoe County, 100 % is co-located with existing transmission line. PSCo will finalize design and layout of the transmission and substation facilities and infrastructure prior to signature of final design that follows approval of 1041 Permit and associated permits (i.e., building permit, etc.) required for the Rush Creek 345 kV Transmission Line Project prior to construction.

The existing Missile Site Substation, owned by PSCo, will be the termination point of the 345 kV transmission line. The Arapahoe County – Rush Creek 345 kV Transmission Line Project Map (**Figure 2-1**) and **Exhibit A** contains a site plan of the proposed facilities in Arapahoe County. The transmission line will extend south from the Missile Site Substation for approximately two miles, then east for approximately three miles, then south across Jolly Road for approximately three miles, then east for approximately two and one-half miles, and then south across Wall Road to the Arapahoe/Elbert County line for approximately three miles. The Arapahoe County portion of the project is characterized by rural and semi-flat to gently rolling topography, with occasional drainages and ravines. The land use of the area is primarily dryland farming and ranching. The land is underlain by loamy soils covered by shortgrass vegetation or agricultural fields. The zoning in the eastern area of Arapahoe County is predominantly Agricultural Estate (A-E) with a few parcels of Agricultural-1 (A-1).

2.5 Transmission Line Siting Overview and Alternative Analysis Summary

2.5.1 Transmission Line Siting Overview

The siting of transmission lines is a complex process that must balance the engineering, environmental, and social factors of a project. In the siting of the transmission line for the Rush Creek Wind Project, PSCo first defined and Project Area with endpoints and then undertook a series of studies and analyses to evaluate several transmission line corridors. The criteria for siting was selected to minimize environmental impact, reduce proximity to residences, and meet engineering requirements. The end result was the identification of eight end-to-end alternatives and selection of a Preferred Alternative that

balances the factors necessary to ensure a properly sited transmission line that can be sited on available public and private land.

Several environmental resources were evaluated relative to the Preferred Alternative and the other identified end-to-end alternatives. These criteria were based on resources that could be quantified along each alternative with readily available data and which were potentially sensitive resources within Arapahoe County. These criteria are included in **Table 2-2** below.

.

ADAMS COUNTY
WASHINGTON COUNTY
ARAPAHOE COUNTY
LINCOLN COUNTY
KIT CARSON COUNTY
ELBERT COUNTY
EL PASO COUNTY
CHEYENNE COUNTY

Missile Site Substation
Deer Trail
Agate
Limon
Genoa
Arriba
Flagler
Matheson
Simla
Ramah
Hugo
Rush Creek I
Rush Creek II

Existing Missile Site Substation
Proposed Substation
Study Area
Proposed Wind Farm Boundary
Existing Substation
Existing 345 kV Transmision Line
Existing 230 kV Transmission Line
Existing 69 kV or 115 kV Transmision Line
County Boundary
Township Boundary
Interstate Highway
US Highway
State Highway
Railroad
State Lands
State Wildlife Area
Conservation Easement

Date: 7/26/2016

COLORADO
Project Location

Figure 2-1 Rush Creek 345 kV Transmission Line Project Map

0 6 12
Miles

POWER ENGINEERS
Xcel Energy

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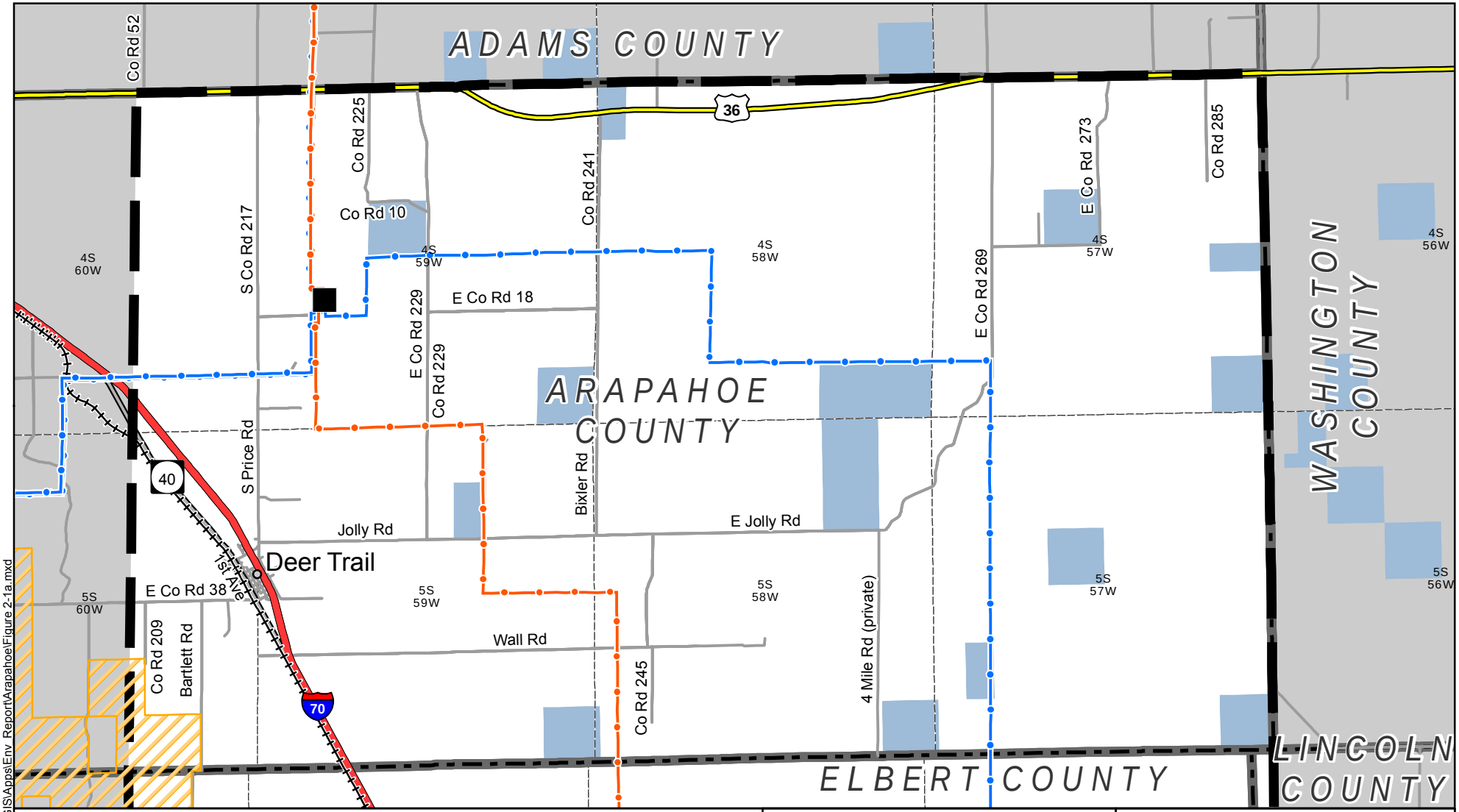
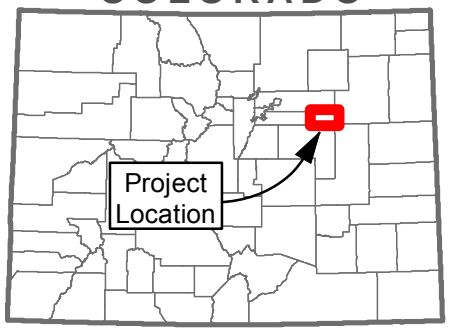


Existing Missile Site Substation
Proposed Substation
Study Area
Existing 345 kV Transmision Line
Existing 230 kV Transmission Line
County Boundary
Township Boundary
Interstate Highway
US Highway
State Highway
Local Road
Railroad
State Lands
Conservation Easement



Date: 8/19/2016

Figure 2-1a Rush Creek 345 kV Transmission Line Project Map

0 2.5 5
Miles

POWER ENGINEERS
Xcel Energy

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Table 2-2 Land Use and Environmental Transmission Line Siting and Analysis Criteria

Evaluation Criteria
Land Use/Engineering/Construction
Length of alternative route
Number of Angles
Slope of 30%
Total number of habitable structures[1] within 500 feet & 0.5 miles of ROW centerline
Total number of other structures within 500 feet & 0.5 miles of ROW centerline
Educational/daycare facilities
Churches
Medical facilities
Other (museums, libraries, commercial etc.)
Length of ROW parallel and adjacent to apparent property boundaries[2]
Length of ROW parallel and adjacent to existing transmission line ROW
Length of ROW parallel to other existing right of way (highways, railways, pipelines, etc.)
Number of parks/recreational areas[3] within 1,000 feet of ROW centerline
Length of ROW through cropland
Length of ROW through pasture/rangeland
Length of ROW through land irrigated by traveling systems (rolling or pivot type)
Number of pipeline crossings
Number of transmission line crossings
Number of railroad crossings
Number of Interstate, U.S. and State highway crossings
Number of cemeteries within 1,000 feet of the ROW centerline
Number of private airstrips within 10,000 feet of the ROW centerline
Length of ROW through active sand, gravel or coal extraction area
Number of heliports within 5,000 feet of the ROW centerline
Number of FAA recognized airports with at least one runway more than 3,200 feet in length located within 20,000 feet of ROW centerline
Number of FAA recognized airports having no runway more than 3,200 feet in length located within 10,000 feet of ROW centerline
Number of commercial AM radio transmitters within 10,000 feet of the ROW centerline
Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of ROW centerline
Aesthetics
Estimated length of ROW within foreground visual zone[4] of Interstate, U.S. and State highways
Estimated length of ROW within foreground visual zone[4] of parks/recreational areas[3]
Ecology
Length of ROW across National Wetland Inventory mapped wetlands
Length of ROW across known habitat of federally listed endangered or threatened species
Length of ROW across known habitat of state listed endangered or threatened species
Length of ROW across known habitat of raptor species
Acres of ROW that cross major vegetation cover types
Length of ROW across open water (lakes, ponds)
Length of ROW across playa lakes
Length of ROW across FEMA-designated floodplain
Number of stream crossings (including perennial, intermittent, and ephemeral streams)

Evaluation Criteria
Number of river crossings
Length of ROW parallel (within 100 feet) to streams or rivers
Cultural Resources
Number of recorded historic or prehistoric sites crossed by ROW
Number of additional recorded historic or prehistoric sites within 1,000 feet of ROW centerline
Number of National Register listed or determined eligible sites crossed by ROW
Number of additional National Register listed or determined eligible sites within 1,000 feet of ROW centerline
Length of ROW through areas of high archaeological/historic site potential

Notes:
[1] Single-family and multi-family dwellings, and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis within 500 feet of the centerline of a transmission project greater than 230-kV.
[2] Property lines created by existing roads, highway, or railroad ROW are not "double-counted" in the length of ROW parallel to property lines criteria.
[3] Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church.
[4] One-half mile, unobstructed.

2.5.2 Transmission Line Alternatives and Analysis Summary

Following collection and analysis of the Environmental Siting Criteria (see **Table 2-2** above), a geographic information system (GIS) was used to quantify the siting criteria for each of the eight Alternatives geospatially and select PSCo's Preferred Alternative. The geospatial quantification for each alternative and those portions occurring in Arapahoe County is summarized below and in **Table 2-3**. A map of the eight alternatives routes is shown in **Figure 2-2** – Transmission Line Alternatives Map.

2.5.2.1 Wetlands

Wetland crossings were identified using the National Wetland Inventory (NWI) digital database. This database, established in 1975 by the U.S. Fish and Wildlife Service (USFWS), provides wetlands data in map and digital form for the United States. Each Alternative was overlaid onto the NWI digital database to determine the number of wetlands crossed by each line. In Arapahoe County, Alternatives A, B, D, E, and H do not cross wetlands. Alternatives C, F, and G have the highest total length of NWI wetlands crossed by the ROW in Arapahoe County, with 0.3 miles.

2.5.2.2 Floodplains

Arapahoe County floodplains were mapped in GIS using Federal Emergency Management Agency (FEMA) and cross-checked with Arapahoe County's ArapaMap 3.6 online mapping tool (see **Exhibit B** – Water Resources – Arapahoe County Map). In Arapahoe County, Alternatives A, B, E, and H do not cross FEMA Floodplains. Alternatives A, B, E, and H do cross seven Arapahoe County defined floodplains (any drainage way with a tributary area of 130 acres or more). Alternatives C, F, and G have the highest total length of FEMA-designated floodplains crossed in Arapahoe County, with 0.8 miles. In Arapahoe County no perennial streams, ephemeral streams, or river are crossed. Alternatives C, F, and G have nine intermittent stream crossings; Alternatives A, B, E, and H have 15 intermittent stream crossings; and Alternative D has 25 intermittent stream crossings.

Table 2-3 Arapahoe County Transmission Line Comparison Table

Environmental Siting Criteria	Arapahoe County Portion of the Alternative								Entire Alternative							
	A	B	C	D	E	F	G	H	A	B	C	D	E	F	G	H
Length of alternative route (Miles)	13.5	13.5	8.4	22.1	13.5	8.4	8.4	13.5	80.9	82.4	86.0	93.0	87.6	88.0	86.1	84.8
Number of Angles (over 6 degrees)	4	4	11	10	4	11	11	4	34	36	31	34	34	36	37	31
Slope of 30% (Miles)	0	0	0	0	0	0	0	0	0	0	0	0.21	0.04	0	0	0
Total number of residences within 500 feet of right-of-way (ROW) centerline	1	1	1	0	1	1	1	1	5	7	8	2	4	7	6	10
Total number of residences within 0.25 miles of right-of-way (ROW) centerline	4	4	4	2	4	4	4	4	13	15	18	27	13	13	14	18
Total number of residences within 0.5 miles of right-of-way (ROW) centerline	9	9	12	2	9	12	12	9	23	25	35	205	34	62	30	32
Total number of other structures within 500 feet of right-of-way (ROW) centerline	0	0	5	0	0	5	5	0	7	10	19	11	10	25	17	16
Total number of other structures within 0.25 miles of right-of-way (ROW) centerline	4	4	6	0	4	6	6	4	16	22	38	27	29	41	26	33
Total number of other structures within 0.5 miles of right-of-way (ROW) centerline	7	7	11	0	7	11	11	7	46	49	84	155	88	96	68	69
Total number of Educational/daycare facilities within 500 feet of right-of-way (ROW) centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total number of Educational/daycare facilities within 0.25 miles of right-of-way (ROW) centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total number of Educational/daycare facilities within 0.5 miles of right-of-way (ROW) centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total number of Churches within 500 feet of right-of-way (ROW) centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total number of Churches within 0.25 miles of right-of-way (ROW) centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total number of Churches within 0.5 miles of right-of-way (ROW) centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total number of Medical facilities within 500 feet of right-of-way (ROW) centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total number of Medical facilities within 0.25 miles of right-of-way (ROW) centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total number of Medical facilities within 0.5 miles of right-of-way (ROW) centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total number of Other (museums, libraries, commercial etc.) within 500 feet of right-of-way (ROW) centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Total number of Other (museums, libraries, commercial etc.) within 0.25 miles of right-of-way (ROW) centerline	0	0	0	0	0	0	0	0	0	0	0	1	0	7	0	0
Total number of Other (museums, libraries, commercial etc.) within 0.5 miles of right-of-way (ROW) centerline	0	0	0	2	0	0	0	0	0	0	0	16	0	10	0	0
Length of ROW parallel and adjacent to apparent property boundaries[2]	0	0	4.5	0	0	4.5	4.5	0	30.7	29.7	47.7	21.3	35.1	32.0	45.2	31.9
Length of ROW parallel and adjacent to existing transmission line ROW	13.5	13.5	2.2	22.0	13.5	2.2	2.2	13.5	25.3	26.4	2.2	56.2	28.1	20.2	2.2	26.4
Length of ROW parallel to other existing right of way (highways, railways, pipelines, etc.)	0	0	0.3	0.1	0	0.3	0.3	0	9.9	11.8	14.7	7.2	11.3	19.3	16.2	17.2
Number of parks/recreational areas[3] within 1,000 feet of ROW centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Length of ROW through cropland	7.3	7.3	4.8	9.4	7.3	4.8	4.8	7.3	13.6	14.4	11.9	16.9	12.5	11.6	12.7	13.5
Length of ROW through pasture/rangeland	5.7	5.7	2.4	12.1	5.7	2.4	2.4	5.7	64.1	65.0	67.9	72.4	70.4	70.2	67.4	67.0
Length of ROW through land irrigated by traveling systems (rolling or pivot type)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of pipeline crossings	4	4	2	4	4	2	2	4	10	10	12	12	14	12	12	10
Number of transmission line crossings	5	5	4	3	5	4	4	5	7	7	5	7	7	7	5	7
Number of railroad crossings	0	0	1	0	0	1	1	0	2	2	2	2	2	2	2	2
Number of Interstate, U.S. and State highway crossings	0	0	1	0	0	1	1	0	5	5	5	4	4	5	5	4
Number of cemeteries within 1,000 feet of the ROW centerline	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Length of ROW through active sand, gravel or coal extraction area	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of private airstrips within 10,000 feet of the ROW centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of heliports within 5,000 feet of the ROW centerline	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0
Number of FAA registered airports with at least one runway more than 3,200 feet in length located within 20,000 feet of ROW centerline	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0

Environmental Siting Criteria	Arapahoe County Portion of the Alternative								Entire Alternative							
	A	B	C	D	E	F	G	H	A	B	C	D	E	F	G	H
Number of FAA registered airports having no runway more than 3,200 feet in length located within 10,000 feet of ROW centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of commercial AM radio transmitters within 10,000 feet of the ROW centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of FM radio transmitters, microwave towers, and other electronic installations within 2,000 feet of ROW centerline	0	0	0	0	0	0	0	0	1	1	1	3	1	7	3	1
Length of ROW across state lands	1.0	1.0	0	3.0	1.0	0	0	1.0	7.1	7.1	6.3	12.7	12.2	8.9	6.3	7.5
Estimated length of ROW within foreground visual zone[4] of Interstate, U.S. and State highways	0	0	2.2	0	0	2.2	2.2	0	6.7	6.7	6.6	8.7	5.5	9.9	7.4	5.5
Estimated length of ROW within foreground visual zone[4] of parks/recreational areas[3]	0	0	0	0	0	0	0	0	0	0	0	1.8	0	1.1	0	0
Length of ROW across National Wetland Inventory mapped wetlands	0	0	0.3	0.2	0	0.3	0.3	0	0.5	0.4	1.5	0.4	0.4	1.3	1.5	0.4
Length of ROW across known habitat of federally listed endangered or threatened species	0	0	0	0	0	0	0	0	0	0	0	1.0	0	0	0	0
Length of ROW across known habitat of state listed endangered or threatened species	0	0	0	0	0	0	0	0	2.2	2.2	9.3	7.6	2.8	13.0	9.4	2.0
Length of ROW across known raptor species nest or nest buffer	0	0	0	0	0	0	0	0	1.4	1.7	0	0	0.4	0	0	0.8
Length of ROW across mixed woodland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Length of ROW across shortgrass prairie	5.7	5.7	2.0	12.0	5.7	2.0	2.0	5.7	62.5	63.4	65.7	71.5	68.3	68.7	65.0	65.3
Length of ROW across eastern plains shrubland	0	0	0.0	0.1	0	0.0	0.0	0	1.4	1.5	1.4	0.2	1.8	0.4	1.6	1.3
Length of ROW across open water (lakes, ponds)	0	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0
Length of ROW across playa lakes	0	0	0.4	0.0	0	0.4	0.4	0	0.2	0.2	0.8	0.5	0.3	1.1	0.8	0.3
Length of ROW across FEMA-designated floodplain	0	0	0	0.0	0	0	0	0	0	0	0	0.1	0.0	0	0	0.0
Number of ROW crossings of Arapahoe County floodplains	7	7	8	26	7	8	8	7	-	-	-	-	-	-	-	-
Number of perennial stream crossings	0.5	0.5	1.1	0.6	0.5	1.1	1.1	0.5	3.2	2.9	6.2	3.7	4.6	6.3	6.0	4.4
Number of intermittent stream crossings	0	0	0	0	0	0	0	0	0.2	0.2	1.0	0.3	0.2	0.2	1.0	0.3
Number of ephemeral stream crossings	0	0	0.8	0.2	0	0.8	0.8	0	1.5	1.0	2.1	1.0	0.7	2.2	2.1	0.6
Number of river crossings	0	0	0	0	0	0	0	0	2	2	4	5	2	4	4	2
Length of ROW parallel (within 100 feet) to streams or rivers	15	15	9	28	15	9	9	15	82	78	76	115	84	90	71	84
Number of recorded historic or prehistoric sites crossed by ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of additional recorded historic or prehistoric sites within 1,000 feet of ROW centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of National Register listed or determined eligible sites crossed by ROW	0	0	0	0.2	0	0	0	0	0.4	0.2	1.1	1.5	0.6	1.5	1.1	0.2
Number of additional National Register listed or determined eligible sites within 1,000 feet of ROW centerline	0	0	1	0	0	1	1	0	2	2	4	14	4	7	5	4
Length of ROW through areas of high archaeological/historic site potential	0	0	1	0	0	1	1	0	1	1	7	8	2	9	6	2

ADAMS COUNTY
ARAPAHOE COUNTY
WASHINGTON COUNTY
LINCOLN COUNTY
KIT CARSON COUNTY
ELBERT COUNTY
EL PASO COUNTY
CHEYENNE COUNTY

Missile Site Substation
Deer Trail
Agate
Limon
Genoa
Arriba
Flagler
Matheson
Simla
Ramah
Hugo
Rush Creek I
Rush Creek II

Alternative Routes

- A (Preferred)
- B
- C
- D
- E
- F
- G
- H

- Existing Missile Site Substation
- Proposed Substation
- Study Area
- Proposed Wind Farm Boundary
- Existing Substation
- Existing Transmission Line
- County Boundary
- Township Boundary
- Interstate Highway
- US Highway
- State Highway
- Railroad

Date: 7/25/2016

COLORADO

Project Location

Figure 2-2
Transmission Line Alternatives Map

0 6 12
Miles

POWER ENGINEERS
Xcel Energy
RESPONSIBLE BY NATURE

Path: W:\Enviro_Projects\141794_Arriba_RushCreek\DD\GIS\Apps\Env_Report\All\Alternatives 11X17.mxd

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2.5.2.3 Sensitive Developed Areas

Arapahoe County Sensitive Development Areas are defined as prairie grasslands, riparian areas, wildlife habitats, and threatened species conservation areas, where development should be carefully evaluated and designed to minimize impacts on the land. Data from National Land Cover, NWI, FEMA floodplains, Colorado Natural Heritage Data, and data for CPW were obtained and crossed checked with the Arapahoe County Comprehensive Land Use Plan to determine the length of each route passing through these habitats. Wetland, floodplain, and stream crossings are summarized in previous subsections. Shortgrass prairie is crossed for two miles along Alternatives C, F, and G; for 5.7 miles along Alternatives A, B, E, and H; and for 12 miles along Alternative D.

2.5.2.4 Conservation Areas

Potential Conservation Areas are defined by the Colorado Natural Heritage Program as lands that provide habitat and ecological processes upon which a particular species, suite of species, or natural community depends for its continued existence. Although there are no Potential Conservation Areas bisected by any of the routes within the County, this information is presented to compare the alignment of each route relative to these lands on their approach to Arapahoe County. Each route was overlaid onto digital maps of Potential Conservation Areas and the number of miles traversing these lands was calculated.

2.5.2.5 Residences

Residences were identified using aerial photography and reconnaissance-level field data collection. Residences included farm dwellings with outbuildings; a single farm dwelling property consisting of multiple outbuildings constituted a single residence. A residence was considered viable if it had a complete roof, windows, and door(s). Each transmission alignment was buffered by 500 feet, 0.25 miles, and 0.5 miles on each side of the proposed transmission line to determine the number of residences that occurred within three previously mention distance bands from each route. The number of residences occurring within the buffered distance per alternative is summarized below in **Table 2-4**.

Table 2-4 Number of Residences Occurring within the Buffered Distance per Alternative

Alternative	Number of residences within 500 feet of the proposed transmission line.	Number of residences within 0.25 miles of the proposed transmission line.	Number of residences within 0.5 miles of the proposed transmission line.
A	1	4	9
B	1	4	9
C	1	4	12
D	0	2	2
E	1	4	9
F	1	4	12
G	1	4	12
H	1	4	9

In Arapahoe County, Alternative D is routed near the fewest residences and Alternatives C, F, and G are routed near the most residences.

2.5.2.6 Prime Farmland

Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses and is not urban, built up, or water areas (Natural Resources Conservation Service [NRCS] 2016). The Project Area within Arapahoe County would be located within soils that have been identified as prime farmland, if irrigated or prime farmland, if irrigated with other conditions (such as if cleared of excess salts). Each route was overlaid onto digital soil maps and the number of miles traversing soil types classified as prime, if irrigated farmland and prime farmland, if irrigated with other conditions were calculated.

2.5.2.7 Land Use

Existing land uses within the eastern area of Arapahoe County are primarily private land, dryland agriculture, pasture/grazing (rangeland), and associated low density residential or agricultural settlements. In the lower density residential areas across the county, settlements of clustered residences, barns, stables, and other agricultural outbuilding are common. Open space occurs primarily on individual private lands, but also on State Land. Colorado State Land Board-owned (State Land) lands are also leased within Arapahoe County in the Project Area (refer to Land Use, Transportation, and Recreation - Arapahoe County; **Exhibit C**). The Richmil Ranch Open Space, a 352-acre Arapahoe County open space area, is located just west and outside of the Project Area study corridors.

Existing transmission lines occur within several corridors in the Project Area and terminate or extend from the exiting Missile Site Substation. The Missile Site Substation is the northern extent of the Project Area. One pipeline also occurs with the Project Area in Arapahoe County. There are other no state, county, or local parks within the Project Area (refer to Land Use, Transportation, and Recreation - Arapahoe County; **Exhibit C**). There are no hiking or biking trails or fishing stream segments identified within the Project Area corridors by the State of Colorado, Arapahoe County, or the Town of Deer Trail.

Goals, Policies, and Strategies are detailed in the Arapahoe County Comprehensive Plan and address the basic policy direction for the County for eight distinct categories: Growth Management; Public Facilities and Services; Neighborhoods and Housing; Employment and Commercial Development; Transportation; Natural and Cultural Resources and the Environment; Open Space, Parks, and Trails; and Fiscal and Economic Impacts.

Countywide policies and Public Facilities and Services policies specifically apply to the development of a high-voltage transmission line. As defined by the Arapahoe County Comprehensive Plan, Public Facilities include “utility lines,” power substations, and power energy facilities. The Arapahoe County Land Development Code (ACLDC) identifies and establishes the zoning districts for the unincorporated portions of Arapahoe County, and details the regulations specific to each zone. The Zoning Districts are intended to correspond to and implement the “Rural Area Uses” and “Open Space” land use categories designated in the Land Use Plan element of the Arapahoe County Comprehensive Plan. Zoning districts within the Project Area include Agricultural Estate (A-E) and the Agricultural-1 (A-1). The regulations for A-E and A-1 are district-specific which are applied on a district-wide basis and generally relate back to the stated purposes of the zone district.

The A-E Zoning District’s specific purpose is:

- All development in the district must respect and respond to the district's unique agricultural and rural character, as well as its topography. All development must be sited to avoid or mitigate any adverse impacts on the rural environment and sensitive development areas, including impacts on the Rural Area's important riparian corridors that perform important drainage, habitat, and recreational functions.

- All development must have no detrimental effects on soil stability or ground water supplies, and all development must also mitigate impacts from runoff or from changes to the drainage characteristic of the land.

The A-1 Zoning District's specific purpose is:

- The A-1 Zoning District is intended to provide and preserve land for agricultural and rural economic uses in the Rural Area of unincorporated Arapahoe County as designated in the Comprehensive Plan. The primary uses allowed in this district are agricultural and open land uses, agriculture-dependent or agriculture-related uses, and other uses supportive of a rural, agriculture-based economy.

- All development in the district must respect and respond to the district's unique agricultural and rural character, as well as its topography. All development must be sited to avoid or mitigate any adverse impacts on the rural environment and sensitive development areas, including impacts on the Rural Area's important riparian corridors that perform important drainage, habitat, and recreational functions.

- All development must have no detrimental effects on soil stability or ground water supplies, and all development must also mitigate impacts from runoff or from changes to the drainage characteristic of the land.

The agricultural zoning districts were established to promote and preserve a rural, agricultural economic base, and lifestyle in the eastern areas of unincorporated Arapahoe County. Residential uses are secondary in the agricultural districts and are developed at very low densities or clustered to protect and conserve existing open and agricultural lands as well as to preserve a rural character. Major Electrical, Natural Gas, and Petroleum-Derivative Facilities of a Private Company are considered an allowed Use by Special Review (USR) in the ACLDC. Refer to **Exhibit D** (Zoning, Special Districts and Parcels – Arapahoe County Map) for zoning districts within the County.

2.5.3 Selection of the Preferred Alternative

When considering landowner interest, both within Arapahoe County and along the entire transmission line route, the selected Preferred Alternative was designed to balance minimizing the number of residences passed along the route within Arapahoe County, minimizing the distance passed through sensitive environmental areas, and minimizing impacts to various resources while maximizing engineering design optimization and the purpose and need of the Project. Alternative A is the shortest end-to-end alternative, it would pass by the fewest number of residences within 0.25 and 0.5 miles (13 and 23 residences, respectively), and has the third lowest number of residences within 500 feet. Alternative A would avoid Potential Conservation Areas and would have the fewest number of wetland crossings. The entire length of Alternative A within Arapahoe County would rank second with respect to the number of stream

crossings. Alternative A within Arapahoe County would have negligible impacts to potential prime farmland soils through the implementation of BMPs; these soils are only considered prime if irrigated.

After reviewing the various resource categories relative to each route alternative through Arapahoe County, Alternative A was selected as the Preferred Alternative. Alternative A would be the second longest alternative through Arapahoe County; however, it would minimize impacts to several key resources and would parallel the existing NextEra 345 kV Transmission Line for its entire length in Arapahoe County. The Preferred Alternative would pass by the fewest number of residences within 1,000 feet and crosses the fewest number of wetlands and floodplains, as defined by Arapahoe County through FEMA data. The Preferred Alternative would rank second for the number of stream crossings and the number of miles through Arapahoe County Sensitive Development Areas; three miles of the preliminary selected route in Arapahoe County were relocated to the west to avoid riparian habitat areas associated with the Muddy Creek drainage. The Preferred Alternative would pass through the most miles of potential prime farmland; however, soils comprising these lands are considered only potential prime farmland and are classified as prime if they are irrigated. The Preferred Alternative would rank second for miles passing through agricultural cropland lands and shortgrass prairie.

In summary, to accommodate landowner interest while seeking to minimize environmental impacts, Alternative A was selected as the Preferred Alternative for this balance based on the analysis compared to the other seven alternatives. Alternative A is compliant with the Arapahoe County Comprehensive Plan, it minimizes impacts to residents, natural resources, and cultural resources and it parallels an existing transmission line corridor for 100% of its length through the County. Similar minimization principals also apply to Alternative A from an end-to-end perspective (**Table 2-3**).

2.6 Project Features

2.6.1 Transmission Line

2.6.1.1 Structures

The proposed transmission structure types for the 345 kV transmission line would be single-circuit steel H-frame and three-pole steel angle structures (see **Figures 2-3 and 2-4**). Transmission pole structures would be Core-ten (self-weathering) steel, which weathers to a dark chocolate brown color. In some areas, steel transmission structures would be guyed to provide additional structure support. In areas that require long spans between structures, such as riparian or stream crossings, or rugged terrain, a taller, larger H-frame structure would typically be used. In areas where the line changes direction resulting in a greater angle, the transmission line could be supported by three-pole steel angle transmission structures.

Weathering steel

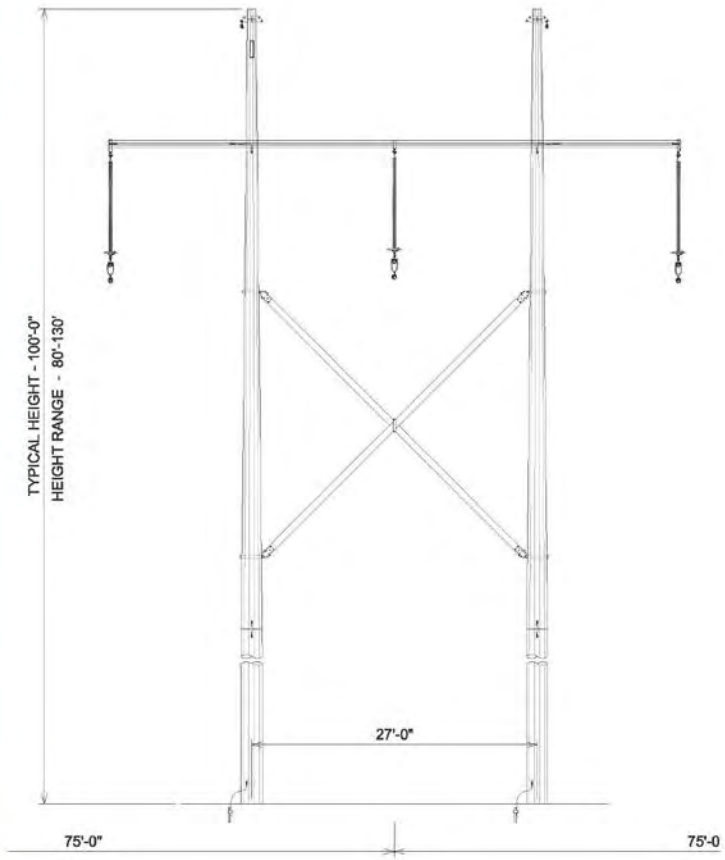

Figure 2-3 Typical Steel H-Frame Transmission Structure

Figure 2-4 Typical Steel Three-Pole Angle Transmission Structure

Typical transmission structure heights for the tangent (structures that hold the line up, but bear little tension), dead-end (structure that bears tension) and angle transmission structures (structure that supports change in line direction and bears tension) would be approximately 80 to 130 feet above the existing ground, depending on terrain and span length. Structures spans would typically be 600 to 900 feet in length. In most cases, transmission structures would be directly embedded into the ground. Additional foundation support, such as drilled pier concrete foundations, is not anticipated at this time, but may be used in special design cases depending on geotechnical conditions. The diameter of the transmission structure poles would be approximately three to five feet, depending on framing configuration and the angle to adjacent transmission structures.

2.6.1.2 Conductors and Associated Hardware

The 345 kV transmission line would consist of three phases with each phase consisting of bundled conductors composed of two 954 aluminum conductor steel supported (ACSS) cables or conductors of comparable capacity. An ACSS consists of seven steel wires surrounded by 54 aluminum strands. Each conductor is approximately 1.2 inches in diameter. Minimum conductor height above the ground for the 345 kV transmission line would be 30.3 feet, at 167 degrees Fahrenheit based on National Electrical Safety Code (NESC) standards and PSCo's standards. At road crossings, minimum clearance would typically increase to approximately 37.3 feet above ground.

2.6.1.3 Fiber Optics

Fiber optic ground wire (OPGW) cable for substation-to-substation control would be installed on top of each transmission structure in the shield wire. The outer strands would consist of aluminum wire and the entire OPGW would be approximately 0.55 inch in diameter. The OPGW would be reserved for use by PSCo only.

PSCo will install a series of swan diverters on the shield wire, matching the location and spacing of the swan diverters on the adjacent NextEra 345 kV transmission line. Each swan diverter is made of a pre-formed ¼-inch diameter PVC coil that is light gray to white in color. Swan diverters enable raptors and waterfowl to see the shield wire and subsequently avoid collisions. Swan diverters are used by PSCo as an element of the Company's adopted Avian Protection Plan to reduce collisions and injury with transmission and distribution infrastructure by raptors and waterfowl (EDM International 2003).

2.6.2 Substations

The existing Missile Site Substation is the substation directly associated with the proposed transmission line in Arapahoe County. The proposed transmission line will interconnect to the Missile Site Substation in the south central portion of the existing site (see **Figure 2-5**). The Transmission line will connect to step-down infrastructure in an available empty bay within the substation. The substation perimeter fence will be moved to accommodate the interconnection with the Rush Creek 345 kV Transmission Line.

2.6.3 Right-of-Way Acquisition

Easements for the transmission line ROW, temporary work areas, and temporary access roads would be required for the transmission line. Some public road upgrades may be necessary and will be negotiated

through the County Road Transportation Division and private landowners. Transmission line facilities on private lands would be obtained as perpetual easements.

ROW width would vary from 150 to 200 feet, depending on the structure type, terrain, span, and other factors. A 150-foot wide ROW would be required for the typical H-frame and a three-pole angle and guyed structures may require upwards of 200 feet for ROW.

2.6.4 Access Roads

The Project would use existing roads and overland travel wherever feasible for access in order to minimize new disturbance. The Project follows an existing utility corridor for 100% of the portion of the transmission line in Arapahoe County. Some new permanent or temporary access/short spur roads may be required to access structure locations within the ROW. New access roads within the existing ROW would retain access for maintenance. Portions of existing access roads located outside of the proposed ROW may require improvements as well as new access roads (temporary or permanent). To minimize ground disturbance and/or reduce visual contrast of the landscape, the alignment of any new temporary access roads or cross-country routes would follow the landform contours in designated areas where practicable, providing that such alignment does not impact other resource values additionally. All temporary access roads would be revegetated with native grasses and forbs following construction. Where ground disturbance is substantial, surface preparation and reseeding would occur. The method of restoration would normally consist of loosening the soil surface, reseeding, installing cross drains for erosion control, placing water bars in the former access road, and filling temporary ditches and swales.

All new access that is not required for maintenance would be closed with concurrence of the landowner or land manager. Gates, where present or if installed, would be closed and/or locked, depending on the agreement with each landowner. Access roads on private property may be maintained with mutual consent of the landowner.

2.6.5 Laydown / Material Staging Areas

One to two temporary laydown / material staging areas will be required to store materials and equipment and to assemble structures for the duration of construction of the Project, with the potential of one site at the Missile Site Substation. Each site would be approximately 20 acres in size, located at level areas in close proximity to existing roads within the Project Area. The laydown / staging areas would be used to store material and equipment prior to delivery to the structure sites, park vehicles, and possibly for locating a portable construction trailer. The staging areas would be surveyed for environmental impacts, and if any are found, the staging areas would be relocated or shifted to avoid such sensitive areas. The staging areas would be revegetated and reclaimed after completion of the Project. Confidential negotiations are ongoing with landowners to locate temporary staging areas on private lands and adjacent to public roads. PSCo will provide the locations of the temporary staging areas to the County at the time of construction permit submission.

2.6.6 Protection of Private Property and Resources

Existing improvements would be repaired or replaced if they are damaged by construction activities. All existing roads would be left in a condition equal to their condition prior to the construction of the transmission line.

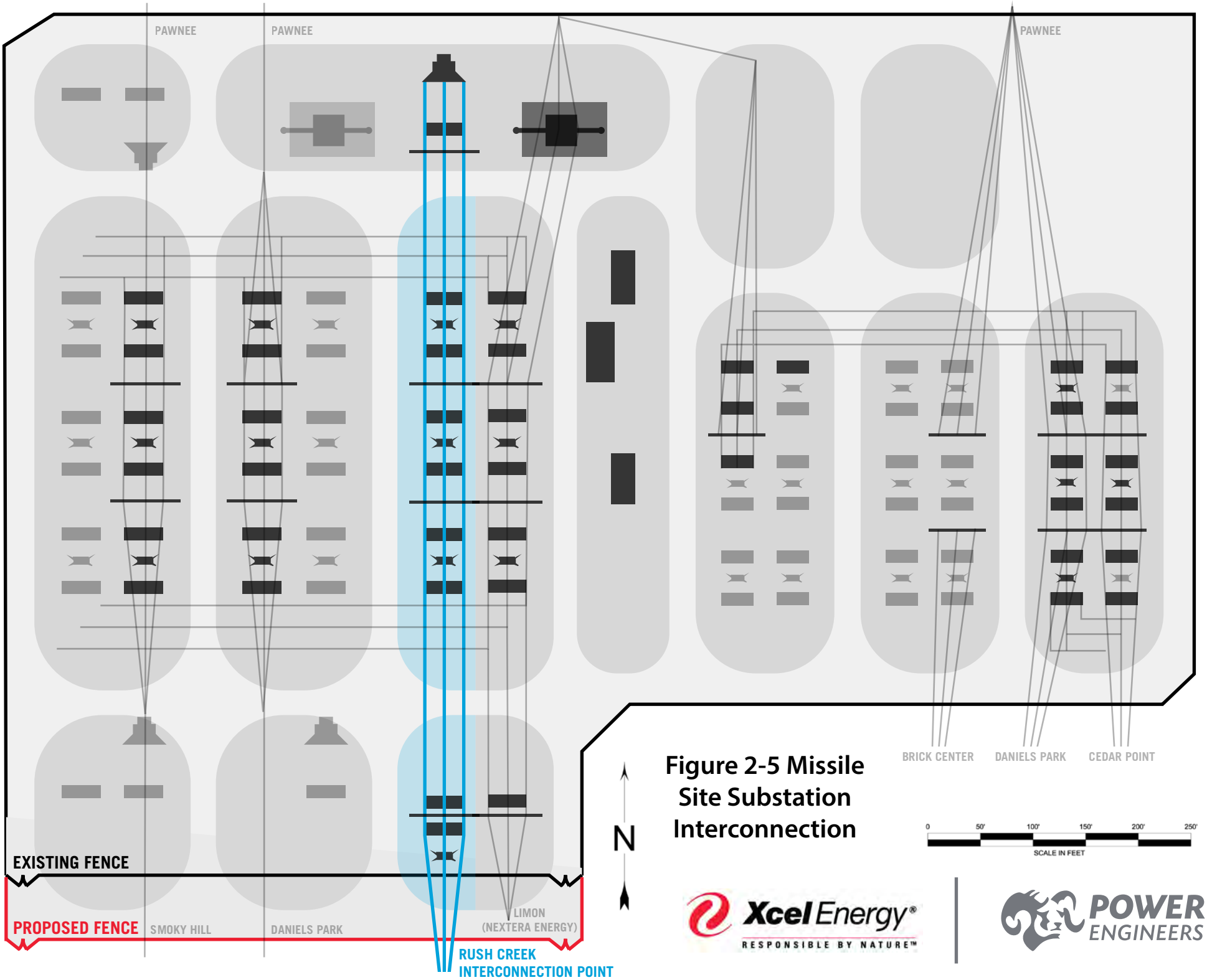

Figure 2-5 Missile Site Substation Interconnection

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Fences and gates would be installed, or repaired and replaced (if they are damaged by construction activities) to their original conditions as required by the landowner. Temporary gates would be installed only with the permission of the landowner and would be restored to original condition following construction. Gates would be closed and locked, depending on the agreement with the private landowners.

Prior to construction, all supervisory construction personnel would be instructed on the protection of ecological resources. To assist in this effort, the construction contract would address: (a) federal, state, and local laws regarding wetlands, vegetation, and wildlife; (b) the importance of these resources and the purpose and necessity of protecting them; and (c) methods for protecting sensitive resources.

All waste products, including food garbage, from construction sites would be deposited in a covered waste receptacle, or removed daily. Garbage would be hauled to a suitable and appropriately permitted disposal facility.

To minimize the amount of sensitive features disturbed in designated areas, transmission pole would be located during the engineering design process so as to avoid sensitive features such as, but not limited to, riparian areas and watercourses and/or to allow conductors to clearly span the features, within limits of standard pole design.

2.7 Construction Activities

The proposed Rush Creek 345 kV Transmission Line Project will use standard construction and operation procedures used for other transmission projects in the western United States. The construction of the Project in Arapahoe County is expected to take approximately 15 to 20 weeks. It is expected that approximately 40 people will be required for the transmission line construction effort. The Project's construction schedule has activity commencing in the first quarter of 2017 and concluding the second quarter of 2018. The Rush Creek Wind farm will be commissioned in October 2018 and in full operation in December 2018.

2.7.1 Transmission Line Construction

2.7.1.1 Sequence of Activities

After landowner easement permission has been granted, the construction of the Project would follow the sequence of: 1) new structure locations surveyed and staked; 2) access roads improved or built where necessary; 3) laydown/materials yard and work areas cleared as needed; 4) materials distributed along centerline; 5) structure holes dug and poles framed and erected; 6) conductors installed; and 7) the site would be cleaned-up and reclaimed. The timing of construction activities may occur at different locations throughout the construction process. This may require several crews operating simultaneously at different locations.

Temporary work/material staging areas would be located on existing disturbed areas or other areas on private lands along the line route with negotiated access rights from private landowners. The yards would serve as field offices, reporting locations for workers, parking space for vehicles and equipment, or sites for temporary marshalling of construction materials.

2.7.1.2 Surveying

Construction survey work for the proposed Project consists of ascertaining soil and geotechnical conditions for foundations, specific pole locations and delineation of ROW and work area boundaries, and, in some areas, roads to access work areas.

2.7.1.3 Access Road Construction

The Project would be located in close proximity to many public roads in order to access the Project corridor ROW. The construction of temporary construction access roads or overland travel may be required to allow access of construction equipment in the transmission line corridor. This may involve clearing vegetation and crushing vegetation for overland travel. In construction areas where re-contouring is not required, disturbance would be limited to overland driving, where feasible, to minimize changes in the original contours. Large rocks and vegetation may be moved within these areas to allow vehicle access.

Equipment to construct the access roads would include hand tools, bulldozers, and graders. Specific actions would be implemented to reduce construction impacts. Standard design techniques such as installing water bars and dips to control erosion would be included. In addition, measures would be taken to minimize impacts such as rutting and soil compaction in specific locations and during certain periods of the year.

2.7.1.4 Structure Holes

Excavations for structure holes would be generally made with truck mounted power auger equipment or a standard sized backhoe or large excavator. Where the soil and geotechnical conditions permit, a truck-mounted power auger would be used. The foundation excavation and installation requires equipment access to the foundation sites. Structure hole excavation and installation require access to the site by a power auger or drill, a crane, and material trucks.

Structure holes left temporarily open or unguarded during construction would be covered and/or fenced where practical to protect the public, livestock, and wildlife. Soil removed from foundation holes would be stockpiled on the work area and used to backfill holes. All remaining soil not needed for backfilling would be spread on the work area or removed from the site.

2.7.1.5 Structure Framing and Assembly

Steel pole sections and associated hardware would be shipped to each laydown/materials yard site by truck. Steel structures would be assembled off-site and transported to the appropriate pole locations by truck or helicopter. Insulator strings and stringing sheaves are installed at each ground wire and conductor position while the pole is on the ground. Stringing sheaves (pulleys) are used to guide the conductor during the stringing process for attachment onto the insulator strings. The assembled pole would then be hoisted into place by a crane. Helicopter assisted construction may be utilized for portions of the line.

2.7.1.6 Conductor Installation

Once structures are in place, a pilot line would be pulled (strung) from structure to structure and threaded through the stringing sheaves on each insulator. A larger diameter, stronger line would then be attached to the pilot line and strung. This is called the pulling line. This process is repeated until the ground wire and conductor is pulled through all insulator sheaves.

Conductor would be strung using powered pulling equipment at one end and powered braking or tensioning equipment at the other end. For public protection during wire installation, guard structures would be erected over roadways, transmission and distribution lines, structures, and other obstacles. Guard structures would consist of H-frame poles temporarily placed on either side of an obstacle. These structures prevent ground wire, conductor, or equipment from falling on an obstacle. Equipment for erecting guard structures includes augers, line trucks, pole trailers, and cranes. Guard structures may not be required for small roads. On such occasions, other safety measures such as barriers, flagmen, or other traffic control devices would be used.

Conductor splicing would be required at the end of a conductor spool or if a conductor is damaged during stringing. The work would occur on work areas for the poles or pulling/tensioning sites.

2.7.1.7 Helicopter Use

Access is required to each transmission structure site for construction activities, and helicopters may be used to support construction activities on unique areas of the Project that limit vehicle access. Project construction activities potentially facilitated by helicopters may include:

- Transport of equipment and materials to transmission structure sites
- Transmission structure placement
- Hardware installation
- Wire and conductor stringing operations

All helicopter operations would be coordinated with and approved by the FAA.

2.7.1.8 Construction Waste Disposal

Construction sites, laydown and material storage yards, and access roads would be kept in an orderly condition throughout the construction period. Refuse and trash would be removed from the sites and disposed in an approved manner. Oils and fuels would be hauled to an approved site for disposal. No open burning of construction trash would occur at any time.

2.7.1.9 Site Reclamation

Work sites would be reclaimed using excess materials, native vegetation, and topsoil stockpiled for that purpose. The contractor would dispose of excess soil materials, rock, and other objectionable materials that cannot be used in reclamation work.

Disturbed areas, with the exception of access roads, would be reclaimed, to the extent possible, to their original contour and reseeded where appropriate. Ripping and other surface scarification on construction roads or other areas would be done as necessary. In some cases the amount of soil compaction and

vegetation destruction may not warrant ripping and reclamation. This would be determined on a case-by-case basis.

2.8 Operation and Maintenance

2.8.1 Permitted Uses

After the constructed transmission line has been energized, land uses compatible with safety regulations, operation and maintenance (O&M) would be permitted within and adjacent to the ROW. Existing land uses such as agriculture and grazing are generally permitted within the ROW. Incompatible land uses include construction of permanent dwellings and any use requiring changes in surface elevation that would affect NESC electrical clearances of existing or planned facilities.

Safety is PSCo's primary concern in the planning and design of this transmission line. An AC (alternating current) transmission line would be protected with power circuit breakers and related line relay protection equipment. If a conductor failure occurs, power would be automatically removed from the line. Lightning protection would be provided by overhead static and grounding wires along the length of the line. All fences, metal gates, pipelines, etc., that cross or are within the transmission line ROW would be grounded to prevent electrical shock and to meet NESC requirements.

2.8.2 Maintenance

Maintenance of the transmission line would be performed as needed. When access is required for non-emergency maintenance and repairs, PSCo would adhere to the same precautions taken during the construction activities. PSCo routinely contacts landowners when it needs access to their lands for maintenance activities on transmission lines.

Emergency maintenance would involve prompt movement of crews to repair or replace any damage. Crews would be instructed to protect vegetation, wildlife, and other environmental resources to the extent possible. Reclamation procedures following completion of repair work would be similar to those prescribed for normal construction. Limiting noise, dust and the danger caused by maintenance vehicle traffic provide for the comfort and safety of local residents.

2.9 Traffic Safety

Minimal additional vehicular traffic will occur on public roads in the portions of the Project area located in Arapahoe County as a result of construction and O&M of the transmission line. Estimated construction traffic during the construction phase of the transmission line will be approximately 12 to 22 vehicles per day. Because of the low number of vehicles needing access to the transmission line minimal impacts are anticipated. The transmission line would not cross U.S. or State highways in Arapahoe County. County road use and crossings in Arapahoe County would be coordinated with the County Transportation Division and additional details are included in **Appendix C** – Draft Arapahoe County Road Use Agreement

2.10 Agency Coordination

PSCo has coordinated with several federal, state, and local agencies and other entities throughout the planning process for the transmission line in Arapahoe County. In **Appendix D** – Agency Correspondence, there are correspondence documents showing coordination with the relevant agencies. Entities coordinated with include:

- Arapahoe County Engineer
- Arapahoe County Public Works and Development, Planning Division
- Colorado Department of Transportation
- Colorado State Land Board
- Colorado Parks and Wildlife
- Colorado State Historic Preservation Office
- Federal Aviation Administration
- U.S. Army Corps of Engineers
- U.S. Fish & Wildlife Service
- Colorado Cattleman's Association
- Colorado Farm Bureau

The federal, state, and county permits, approvals or consultations required for the project are summarized below is Table 2-5

Table 2-5 Major Permits, Approvals, and Consultations for the Project

Agency	Permit/Approval/Consultation
Federal	
US Army Corps of Engineers	Clean Water Act Section 404 Permit (Nationwide Permit 12)
US Environmental Protection Agency	National Pollution Discharge Elimination System Compliance through Arapahoe County
US Fish and Wildlife Service	Avian Protection Plan for Transmission Lines
US Fish and Wildlife Service	Bald and Golden Eagle Protection Act Compliance
US Fish and Wildlife Service	Endangered Species Act Compliance
US Fish and Wildlife Service	Migratory Bird Treaty Act Compliance
State	
Colorado Department of Public Health and Environment – Water Quality Control Division	Stormwater Pollution Prevention Plan General Permit and NOI / CWA Section 401 Water Quality Certification
Colorado Department of Agriculture	Noxious Weed Act Compliance
Colorado Department of Transportation	Road Use Agreement through Arapahoe County
Colorado Office of Archaeology and Historic Preservation	Historical, Prehistorical, and Archaeological Resources Act of 1973 (CRS 24-80-401 to 410) Compliance
Colorado Parks and Wildlife	Colorado Non-game, Endangered, and Threatened Conservation Act compliance/Senate Bill (SB) 40 Certification for impacts to SB 40 jurisdictional streams
County	
Public Works and Development, Planning Division	Areas and Activities of State Interest/1041 Land Use Permit and Special Use Permit
Public Works and Development, Planning Division	Grading, Erosion, and Sediment Control Plan
Public Works and Development, Engineering	Floodplain Delineation Study/Floodplain Development

Agency	Permit/Approval/Consultation
Services Division	Permit
Public Works and Development, Engineering Services Division	Street Cut and Right-of-Way Use permit
Public Works and Development, Planning Division	Road Use Agreement
Public Works and Development, Planning Division	Access and Traffic Control Plan
Public Works and Development, Planning Division	Spill, Prevention, Control and Countermeasure Plan (SPCC)
Public Works and Development, Planning Division	Arapahoe County Comprehensive Plan and Arapahoe County Land Development Code for land use/zoning Compliance

3. REGULATORY FRAMEWORK

PSCo will obtain and comply with the required approvals necessary from county, state, and federal regulatory authorities for the construction, operation, and maintenance of the Project in Arapahoe County. PSCo will obtain Arapahoe County land use, building, and grading, erosion, and sediment control permits in connection with the construction, operation, and maintenance of the proposed transmission line. Material permits applicable to the transmission line in Arapahoe County will include state level permits for stormwater discharge, air (fugitive dust), utility, and oversized load permits. PSCo anticipates that a Nationwide permit under the CWA from the United States Army Corps of Engineers (USACE) will be required.

3.1 Conformance with Arapahoe County Land Use Plans

The existing substation and the transmission line are the only elements of the Rush Creek Wind Project located in Arapahoe County. Planning and development goals, policies and strategies detailed in the Arapahoe County Comprehensive Plan (Arapahoe County 2001) address policy direction for the County under eight distinct categories: Growth Management; Public Facilities and Services; Neighborhoods and Housing; Employment and Commercial Development; Transportation; Natural and Cultural Resources and the Environment; Open Space, Parks, and Trails; and Fiscal and Economic Impacts. Each category has goals and is supported by a set of policies and strategies with specific measures to carry the Plan forward. Countywide policies and Public Facilities and Services policies specifically apply to the development of a high-voltage transmission line. As defined by the Arapahoe County Comprehensive Plan, Public Facilities include “utility lines”, power substations, and power energy facilities.

Arapahoe County Comprehensive Plan Countywide Policy GM 2.4 - Allow Development of Public Facilities, Strategy 2.4(a) - Evaluate Public Facilities on a Case-by-Case Basis recognizes that facilities such as the transmission line will be allowed (see Use by Special Review, Arapahoe County Development Code) throughout the county, including in the Rural Area applicable to the Project, except in sensitive development and riparian corridor areas.

Within the Public Facilities and Services category, Policy PFS 4.2 – Achieve Land Use Compatibility, when Siting Regional and Local Utilities requires utilities to be built in a manner that is safe and compatible with surrounding land uses. Strategy PFS 4.2(c) - Require Mitigation of Impacts from Regional Utilities requires mitigation of impacts “on property owners and residents of the county.

The ACLDC identifies and establishes the zoning districts for the unincorporated portions of Arapahoe County, and details the regulations specific to each of the districts. Zoning districts within the Project Area include Agricultural Estate (A-E) and Agricultural-1 (A-1). The zoning districts are intended to correspond to and implement the “Rural Area Uses” and “Open Space” land use categories designated in the Land Use Plan element of the Comprehensive Plan. The regulations for A-E and A-1 are district-specific which are applied on a district-wide basis and generally relate back to the stated purposes of the zone district.

The agricultural zoning districts were established to promote and preserve a rural, agricultural economic base and lifestyle in the eastern parts of unincorporated Arapahoe County. Rural residential uses are secondary uses in these districts, and are developed at very low densities or clustered to protect and

conserve existing open and agricultural lands and to preserve a rural character. Major Electrical, Natural Gas, and Petroleum-Derivative Facilities of a Private Company are considered an allowed use by special review in the ACLDC. Please refer to **Exhibit D** - Zoning, Special Districts and Parcels – Arapahoe County Map for zoning districts within the County.

The Project has been designed to minimize impacts on land crossed in Arapahoe County. The proposed Project is consistent with Arapahoe County planning and zoning and will comply with all County regulations and requirements.

4. ENVIRONMENTAL RESOURCES: EXISTING CONDITIONS

4.1 Land Use and Recreation

This section describes land uses, public recreation, and agency planning and zoning in the Project Area. Land use planning in Colorado is implemented at the county and local level through comprehensive or master plans. C.R.S. 30-28-106 authorizes counties to adopt master plans and details the content to be included. The Project Area generally includes a two-mile wide corridor for greenfield alternatives and a ½-mile wide corridor in areas adjacent to existing transmission lines. Data for the Arapahoe County land use, recreation, and planning analysis was drawn from various sources, including the following:

- Arapahoe County Comprehensive Plan and Amendments (Arapahoe County 2001)
- Arapahoe County Open Space Plan Master Plan (Arapahoe County 2010b)
- Arapahoe County Development Code (Arapahoe County 2016)
- Arapahoe County Open Spaces Website
- Colorado Park and Wildlife Website
- Colorado State Board of Land Commissioners Geographic Information System Web Mapping Application
- Colorado State Fishing Atlas Website, Colorado Parks and Wildlife
- Colorado Parks and Wildlife Website
- National Land Cover Database (NLCD 2011)

4.1.1 Existing Conditions

Land use in the Project Area region is largely agricultural and ranching related (rangeland). Irrigated cropland occurs in very limited areas, with cultivated dryland agriculture being most prevalent. Residences associated with farms and ranches are dispersed across the region. More concentrated development occurs within incorporated and unincorporated population centers west of the Project area. Incorporated municipalities within Colorado include statutory towns, home rule municipalities, consolidated cities, statutory cities and unincorporated towns. Incorporated areas in the eastern area of Arapahoe County include Deer Trail and Bennett. Conservation easements restrict development on many private parcels, and are often located adjacent to publicly owned unique or sensitive natural areas. Colorado State Land Board-owned (State Land) is also leased for agricultural activities.

For the purposes of this study, existing land use was based on field review and the land cover classifications identified by the NLCD. The NLCD land classifications identified within the Project Area are predominantly Grassland/Herbaceous, Pasture/Hay, Shrub/Scrub, and Cultivated Crops. Small areas of other classifications, such as Deciduous forest, Herbaceous and Woody Wetlands, and other (undeveloped) classes are assumed to be used for grazing or ranching (“rangeland”) because these areas occupy a small percentage of total land cover, are generally scattered and patchy except along riparian corridors, and because the most of private land in the area that is not cultivated is used for grazing cattle. Refer to Land Use, Transportation and Recreation – Arapahoe County Map, **Exhibit C** showing rangeland land uses, and Section 4.6 Biological Resources for more detailed vegetation community descriptions.

Utility scale wind development and other power generating facilities occur within the region (i.e., Limon Wind #1, #2 & #3, Cedar Point, and Golden West). Oil and gas wells and associated pipelines occur throughout eastern Colorado. Private air strips, airports, and heliports typically associated with institutional or agricultural operations, and communication towers also occupy limited areas of land.

Existing land uses within the eastern area of Arapahoe County are primarily private land, dryland agriculture and pasture/grazing (rangeland), and associated low density residential. In the lower density residential areas across the county and outside of Deer Trail, barns, stables, and other agricultural outbuilding are common. The Town of Deer Trail has the highest development concentration within the Project Area and is developed with residential and commercial land uses, primarily. The Town of Deer Trail is located approximately 0.5 miles south and west of the Project. Open space occurs primarily on individual private lands, but also on State Land. Colorado State Land Board owned (State Land) lands are also leased within Arapahoe County in the Project Area (refer to **Exhibit C** - Land Use, Transportation, and Recreation - Arapahoe County Map).

Existing transmission lines occur within several utility corridors in the Project Area terminating or extending from the exiting Missile Site Substation. The transmission lines within the Project Area include the Missile Site to Limon 230 kV Transmission Line, Missile Sub To Smoky Hill (West) 345 kV, Missile Sub To Daniels Park Sub 230 kV, Pawnee Plant - Brick Center Sub 230 kV, Pawnee Sub To Missile Sub (East) 345 kV, Pawnee Plant - Brick Center Sub 230 kV, Pawnee Plant-5457 - Missile Substation 230 kV, Cedar Point 2 to Missile Site 345 kV. The Missile Site Substation is also located within the Project Area.

Richmil Ranch Open Space, a 352-acre Arapahoe County open space area, is located west and outside of the Project Area corridors. The privately owned Deer Trail Rodeo Grounds is located within the Town of Deer Trail and within the Project Area. There are no other state, county, or local parks within the Project Area in Arapahoe County (refer to **Exhibit C** - Land Use, Transportation and Recreation- Arapahoe County Map). There are no hiking or biking trails, or fishing stream segments identified within the Project Area corridors by the State of Colorado, Arapahoe County, or the Town of Deer Trail.

Goals, Policies and Strategies

Goals, Policies and Strategies are detailed in the Arapahoe County Comprehensive Plan addressing the basic policy direction for the County under eight distinct categories:

- Growth Management;
- Public Facilities and Services;
- Neighborhoods and Housing;
- Employment and Commercial Development;
- Transportation;
- Natural and Cultural Resources and the Environment;
- Open Space, Parks, and Trails; and
- Fiscal and Economic Impacts.

Each category includes a set of goals. Each goal is supported by a set of policies and strategies with specific measures to carry the Plan forward. Countywide policies and Public Facilities and Services

policies specifically apply to the development of a high-voltage transmission line. As defined by the Arapahoe County Comprehensive Plan, Public Facilities include “utility lines”, power substations, and power energy facilities.

Relevant Arapahoe County policies for the Project in include:

- Arapahoe County Comprehensive Plan Countywide Policy GM 2.4 - *Allow Development of Public Facilities*
    - Strategy 2.4(a) - *Evaluate Public Facilities on a Case-by-Case Basis* recognizes that facilities such as the transmission line will be allowed (see Use by Special Review, Arapahoe County Development Code) throughout the county, including in the Rural Area applicable to the Project, except in sensitive development and riparian corridor areas.
- Within the Public Facilities and Services category, Policy PFS 4.2 – *Achieve Land Use Compatibility when Siting Regional and Local Utilities* requires utilities to be built in a manner that is safe and compatible with surrounding land uses.
    - Strategy PFS 4.2(c) - *Require Mitigation of Impacts from Regional Utilities* requires mitigation of impacts “on property owners and residents of the county”.

Zoning Districts

The ACLDC identifies and establishes the zone districts for the unincorporated portions of Arapahoe County, and details the regulations specific to each of the districts. Zoning districts within the Project Area include Agricultural Estate (A-E) and the Agricultural-1 (A-1). The Zoning Districts are intended to correspond to and implement the “Rural Area Uses” and “Open Space” land use categories designated in the Land Use Plan element of the Comprehensive Plan. The regulations for A-E and A-1 are district-specific which are applied on a district-wide basis and generally relate back to the stated purposes of the zone district.

The agricultural zoning districts were established to promote and preserve a rural, agricultural economic base and lifestyle in the eastern area of unincorporated Arapahoe County. Rural residential uses are secondary in these districts, and are developed at very low densities or clustered to protect and conserve existing open and agricultural lands and to preserve a rural character. Major Electrical, Natural Gas, and Petroleum-Derivative Facilities of a Private Company are considered an allowed USR in the ACLDC. Refer to **Exhibit C** - Land Use, Transportation, and Recreation - Arapahoe County Map for zoning districts within the County.

4.2 Transportation

For the purpose of the following discussions, transportation facilities in and around the Project Area include named roads, railroads, and airports. The U.S. Department of Transportation’s Federal Highway Administration regulates vehicle travel on interstates and other U.S. routes and the Colorado DOT regulates vehicle travel on its state highways and roads. Arapahoe County officials regulate vehicle travel on the county roads. In and around the Project Area, many of these county roads are unpaved and do not include markings for lanes and shoulders. In general, these county roads are situated in a north-south, east-west square grid pattern and are spaced approximately one mile apart.

PSCo has prepared a Draft Road Use Agreement (**Appendix C**) for Arapahoe County as a template for the Final Road Use Agreement, which will identify existing and proposed temporary and permanent access roads. More specifically, the Final Road Use Agreement will identify existing roads to be used in their present condition, existing roads that will require modifications or upgrades to accommodate the Project's construction vehicles, and proposed access roads in new locations. The Final Road Use Agreement will also describe precautions for ensuring the traveling public's and construction workers' safety, including utilizing flagmen and pilot cars to control traffic, and signing alternate travel routes or detours.

4.2.1 Existing Conditions

In Arapahoe County, transportation facilities in the Project Area include the Interstate 70 (I-70), U.S. Route 40, and U.S. Route 287 corridor, U.S. Route 36, State Route 40, numerous county roads, the Union Pacific Railroad, and East Moore Field, a private airport. **Table 4-1** below lists more information about each facility. Additionally, the Project Area includes unnamed dirt roads that land owners use to access crops and pasture/rangeland. These unnamed roads are not listed in **Table 4-1**, but may be used for access during the Project's construction, operation, and maintenance activities with permission from each landowner. As mentioned previously, the Final Road Use Agreement will identify existing and proposed temporary and permanent access roads. Refer to **Exhibit C** - Land Use, Transportation, and Recreation - Arapahoe County Map for transportation facilities within the County.

Table 4-1 Transportation Facilities In and Around the Project Area – Arapahoe County

Transportation Facility	General Location	Orientation	Number of Lanes	Surface
I-70 U.S. Route 40 U.S. Route 287	Bisects the Town of Deer Trail.	North-South	4; 2 NB, 2 SB	Paved
U.S. Route 36	Parallel to and co-located with the Arapahoe-Adams County Line.	East-West	2; 1 EB, 1 WB	Paved
State Route 40	Generally parallel to I-70 along the Town of Deer Trail's west side.	North-South	2; 1 NB, 1 SB	Paved
East County Route 18	Approximately 4 miles north of the Town of Deer Trail.	East-West	Space for 2 lanes of travel	Dirt / Gravel
East County Route 34 / Jolly Road	Extends east from the Town of Deer Trail.	East-West	2; 1 EB, 1 WB	Paved
County Route 38 / Woodis Road	Borders the Town of Deer Trail's southern limit.	East-West	Space for 2 lanes of travel	Dirt / Gravel
County Route 47 / Wall Road	Approximately 1 mile south of the Town of Deer Trail.	East-West	Space for 2 lanes of travel	Dirt / Gravel
County Route 221 / Huntington Road	Approximately 1 mile east of the Town of Deer Trail.	North-South	Space for 2 lanes of travel	Dirt / Gravel
County Route 229 / South Deter-Winters Road	Approximately 3 miles east of the Town of Deer Trail.	North-South	Space for 2 lanes of travel	Dirt / Gravel
East County Route 241	Approximately 6 miles east of the Town of Deer Trail.	North-South	Space for 2 lanes of travel	Dirt / Gravel
East County Route 245	Approximately 6.5 miles southeast of the Town of Deer Trail.	North-South	Space for 2 lanes of travel	Dirt / Gravel
County Route 269 / E Road	Approximately 11 miles east of the Town of Deer Trail.	North-South	Space for 2 lanes of travel	Dirt / Gravel

Transportation Facility	General Location	Orientation	Number of Lanes	Surface
4 Mile Road	Approximately 11 miles east of the Town of Deer Trail.	North-South	Space for 2 lanes of travel	Dirt / Gravel
South Price Road	Extends north from the Town of Deer Trail.	North-South	2; 1 NB, 1 SB	Paved
Hampden Avenue	Approximately 3 miles northeast of the Town of Deer Trail.	East-West	Space for 2 lanes of travel	Dirt / Gravel
South Hayward Road	Approximately 4 miles east of the Town of Deer Trail.	North-South	Space for 2 lanes of travel	Dirt / Gravel
UP Railroad	Generally parallels the west side of State Route 40	North-South	Not Applicable	Railroad Bed
East Moore Field	Approximately 6.5 miles northwest of the Town of Deer Trail on South Horrogate Road.	North-South	Runway 18/36	Dirt

NB = northbound; SB = southbound; EB = eastbound; WB = westbound

In Arapahoe County, East Moore Field (FAA identifier: 8CO4), a private use airfield, is the closest airport to the Project's transmission route alternatives. This airport does not have published instrument procedures but is depicted on the Denver Sectional chart. The airport features a 2,600-foot-long, 40-foot-wide dirt runway (AirNav.com 2016).

4.3 Visual Resources and Aesthetics

This section describes visual and aesthetic resources in the Project Area for Arapahoe County. Data for the visual resource analysis was drawn from various sources, including the following:

- Arapahoe County Comprehensive Plan and Amendments (Arapahoe County 2001)
- Arapahoe County Open Spaces Website
- National Land Cover Database (NLCD 2011)
- Colorado Parks and Wildlife Website
- Google Earth
- Site visits by visual resource specialist to the Project Area

4.3.1 Regional Context

The regional landscape is characterized by open, expansive high plains and topographically variable, dissected landscape of eastern Colorado. Foothills on the Colorado Front Range transition to flatter, more gently undulating landforms to the east. Ribbons of riparian vegetation within floodplains provide most of the wooded areas adding visual interest by introducing greater vertical variability, additional color and texture into the uniform, low growing homogeneous short-grass prairie vegetation that dominates the regional landscape. This low growing vegetation often appears undeveloped, but grazing and ranching modify the natural landscape by introducing water impoundments, fence lines, corrals, sheds and other associated structures.

Cultivated dryland agriculture is common throughout the region and introduces a more uniform groundcover than the native shortgrass prairie landscapes. Other built landscape features include transportation corridors (roads, highways, and railroads), small and large scale overhead utility corridors, agricultural structures and associated residences, and suburbanized clusters in and around towns and

incorporated areas. Utility scale wind development also adds a developed character to typically rural settings within the region. The utility corridors, distribution and telephone lines, communication structures, and wind farms also provide additional distinctive, built, vertical developed elements to the horizontally-oriented landscape. Residences typically have a high visual sensitivity. Recreation areas may have a high or moderate sensitivity, depending on associate recreational activities and use levels. Highways, county and local roads typically have a moderate to low sensitivity.

4.3.1.1 Arapahoe County

Arapahoe County's natural features and developed landscapes within the Project Area reflect the broader agriculturally dominated landscapes of the region. Cultivated dryland agriculture and dispersed clusters of agriculturally associated structures and residences define landscape character. The Project Area's natural landscape is typically characterized by shortgrass prairie and rolling rangeland vegetated with shortgrass prairie grasses and few clusters of trees. The East Bijou Creek riparian corridor is a scenic natural feature within the Project Area. Although it is a perennial stream, flowing water is not visually apparent. The Muddy Creek drainage is also a significant landscape feature, but there is no substantial riparian vegetation associated with the stream and it generally blends with the landscape except in the immediate vicinity of the stream corridor. Existing utility corridors often dominate the viewshed in the Project Area in Arapahoe County. Refer to **Exhibit E** - Scenic Areas and Visual Quality - Arapahoe County for landscape features and visually sensitive areas. Also see **Appendix E** for characteristic photos of Arapahoe County's landscape.

Visually sensitive areas include the Deer Trail area, I-70, County roads, and dispersed residences. Viewsheds are generally open and panoramic, except in areas in and around Bijou Creek where tree cover provides screening, and from within more densely developed area of Deer Trail where landscaping and structures screen and limit the potential viewshed. Localized areas of more variable topography occasionally limit panoramic views, but this is an exception. Key Observation Points (KOPs) showing representative and important viewsheds, scenic vistas, unique landscapes within Arapahoe County are shown in **Exhibit F** (Photosimulations of Proposed Transmission Line).

4.4 Soils, Geology and Natural Hazards

Existing soils data were obtained from the NRCS soil surveys and the Soil Survey Geographic (SSURGO) database for the area. This included the soil surveys and SSURGO data of Arapahoe County (NRCS 1964-2005; NRCS 2016). Soil, geology, and natural hazards information was obtained from the Colorado Geological Survey website and the U.S. Department of Agriculture (USDA) Handbook 296.

4.4.1 Regulations

4.4.1.1 Federal

Soil erosion is governed by regulations contained in U.S. Environmental Protection Agency stormwater management regulations (40 Code of Federal Regulations [CFR] §§ 122.26, 123.25), pursuant to Section 402 of the CWA (33 United States Code [U.S.C.] § 1342).

Under the CWA, the National Pollution Discharge Elimination System (NPDES) stormwater program requires operators of construction sites one acre or larger (including smaller sites that are part of a larger common plan of development) to obtain authorization to discharge stormwater under an NPDES construction stormwater permit. The development and implementation of a SWPPP is the focus of NPDES stormwater permits for regulated construction activities. A SWPPP is required to control discharges for storm events.

4.4.1.2 State

Most states, including Colorado, are authorized to implement the stormwater NPDES permitting program. Compliance with state requirements will be necessary for construction stormwater activities. All Colorado stormwater general permits (NPDES #NER11,0000) may be obtained by submitting a Notice of Intent and fee and at the conclusion of construction activities, terminated by submitting a Notice of Termination to the Colorado Department of Public Health and Environment.

4.4.1.3 County

The information that will likely be required for the counties includes a Grading, Erosion, and Sediment Control Plan, which would be part of a SWPPP for the Project. A drainage study may be required as well.

PSCo submitted a drainage and stormwater plan (Grading, Erosion, and Sediment Control Study, 2012) for the initial development of the Missile Site Substation, which includes plans and calculations for the total buildout for the substation. The sizing of the existing stormwater pond reflects the total impervious area of structures and equipment pads. PSCo does not anticipate additional development at the Missile Site Substation after the construction of the Project.

4.4.2 Existing Conditions

4.4.2.1 Regional Conditions

The Central High Plains Major Land Resource Area (MLRA) is on an elevated, smooth to slightly irregular plain consisting of sediments deposited by rivers that drained the young and actively eroding Rocky Mountains. This old plain is now a dissected peneplain with a few dissected, lava-capped plateaus and buttes. In many areas, the undulating to rolling shale plain is mantled by loess or windblown sand, alluvium, and outwash. East-flowing streams and rivers have slowly been eroding the sedimentary formations, exposing older Cretaceous-aged formations while depositing Quaternary-aged alluvium along eastern terraces and floodplains. The Project Area crosses a highly diverse landscape of exposed Cretaceous-aged formations and Quaternary-aged alluvial and eolian deposits.

The dominant soil orders in this MLRA are Mollisols, Alfisols, Aridisols, and Entisols. The soils in the area dominantly have a mesic soil temperature regime, an aridic or limited soil moisture regime, and mixed, carbonatic, or smectitic mineralogy. They are very shallow to very deep, generally well drained, and loamy or clayey.

Prime farmland, as defined by the USDA, is land that has the best physical and chemical characteristics for production of food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pasture land, forestland, or other land, but it is not urban or built-up land or water areas.

Although the NRCS has rated the vast majority of the soils in the area as not prime farmland (NRCS 2016), nearly all of this area is in farms or ranches. About two-thirds of the area supports native short grasses used for grazing. About one-tenth of the area is dry-farmed and winter wheat, corn, and grain are the main crops.

Much of the area is considered low risk for geologic and natural hazards. The topography has fairly level relief (0-10 percent slope), with gently rolling terrain and floodplains occasionally interrupted by drainages with steeper side slopes. The occurrence of major landslides within the area has not been recorded, although the potential for sheet and rill erosion and gully formation may be moderate to severe in some areas. For seismic purposes, Colorado is considered a region of minor earthquake activity, although there are many uncertainties because of the very short time period for which historical data are available. This portion of eastern Colorado and Arapaho County can be considered aseismic.

The Colorado Geological Survey has not identified any points of geological interest in this area (Colorado Geological Survey 2016). Refer to **Exhibit G** – Soil Qualities - Arapahoe County for soil information.

4.4.2.2 Arapahoe County

Soils

The dominant soils in the eastern portion of the county are silt loams, sandy loams, and loams on nearly level to gently sloping uplands with slopes ranging from 0 to 10%. A small percentage of soils are on hills and ridges with slopes ranging from 5 to 20%. There are no all hydric soils in this area and the small number of hydric soil inclusions is less than 0.01% of the area. The hydric soils are located on streams, floodplains, and swales.

Erosion Potential

Soils are subject to erosion from wind and water. Wind erodibility indicates the potential for wind erosion based on slope, soil types, and wind characteristics. Wind erodibility is relatively low where slopes are gentle (0 to 14%) and soils are permeable as well as vegetated, which is the majority of the area. Wind erodibility is moderate on steeper slopes (greater than 15%) and on low permeable soils with little to no vegetation. Wind farms are being proposed in this area because of appropriate wind characteristics, so this factor generally increases the overall wind erodibility of the area.

Water erosion is slight to moderate due to the highly permeable nature of soils, except where slopes are steep (over 15 percent). The NRCS rates the erosion hazard for soils for both off-road use and unsurfaced road use. Approximately 15% of the area is rated as severe for erosion hazard for unsurfaced road use which indicates erosion hazard after roads are built. Approximately one percent of the area is rated as severe for erosion hazard for off-road use which indicates erosion hazard after off-road disturbance activities occur (NRCS 2016). These ratings are based on soil erosion factor K, slope, and content of rock fragments. A severe rating indicates that significant erosion is expected, roads or trails require frequent maintenance, and erosion control measures are needed. The remaining soils types are rated as slight to moderate erosion hazard, with approximately three percent of the soils not rated.

Prime Farmland

The NRCS identifies approximately 30% of the Project Area as prime farmland, if irrigated or prime farmland, if irrigated with other conditions (NRCS 2016). The prime farmland is located where the slopes

range from 0 to 9 percent and soils are suitable for farming practices. The main soil types designated as prime farmland include Adena, Colby, Weld, and Deertrail silt loams and fine sandy loams.

4.5 Water Resources and Wetlands

Surface water data were obtained from the U.S. Geological Survey National Hydrography Dataset GIS database. Groundwater information was obtained from the Colorado Department of Natural Resources, Division of Water Resources website and the USDA Handbook 296.

Digital wetland inventory maps were obtained from the USFWS NWI. The NWI maps provide approximate locations of wetlands one acre or larger that may or may not be jurisdictional based on the 1987 USACE Wetlands Delineation Manual. In this report, wetlands are classified according to the Cowardin system (Cowardin et al. 1979), which was used by the USFWS to inventory and map the wetlands in the Project Area.

Playa lake information was obtained from the Playa Lakes Joint Venture, which creates and maintains a region-wide spatial data layer of probable playas and county-based maps of probable playa locations. Multiple sources of geographic data went into making the playas data layer and maps, including the NWI, SSURGO database, and satellite imagery (Playa Lakes Joint Venture 2016).

4.5.1 Regulations

4.5.1.1 Federal

The CWA (33 U.S.C. §1251 et seq.) was enacted with the intent of restoring and maintaining the chemical, physical and biological integrity of the waters of the U.S. Specific sections of the CWA that may apply to the Project include the following:

- Section 303(d) List of Impaired Waters
- Section 130.7 Total Maximum Daily Load
- Section 401 Water Quality Certification
- Section 402 National Pollutant Discharge Elimination System Permits
- Section 404 Waters of the U.S. Permits

4.5.1.2 State

The CDPHE, Water Quality Control Division authorizations and guidance that are applicable to wetlands and waters of the U.S. Permitting and mitigation requirements for the Rush Creek Project are summarized below.

- CWA Section 401 Water Quality Certification (WQC).
- Under the Colorado 401 Certification Regulation, all Nationwide CWA Section 404 permits are certified by statute and do not require a certification by the Water Quality Control Division.
- All WQCs for Individual CWA Section 404 permits and licenses are subject to specified state requirements. For Individual CWA Section 404 permits, documents must be submitted to the Water Quality Control Division for CWA Section 401 certification.

- In 2012, the CDPHE Water Quality Control Division certified, with conditions, the use of Nationwide Permit 12 in the State of Colorado.

4.5.1.3 County

The permits and information that will likely be required for the counties includes the following:

- Surface water impact analysis,
- Wetland and riparian impact analysis,
- Floodplain Study
- A Grading, Erosion and Sediment Control Plan, which would be part of a SWPPP developed for the Project and a drainage study may be required as well.

4.5.2 Existing Conditions

4.5.2.1 Regional Conditions

Climate

The Project Area lies in the Central High Plains Major Land Resource Area (MLRA) of the Great Plains Province, a region of elevated piedmont plain that adjoins the Rocky Mountains. Across much of the plains, annual precipitation is less than potential evapotranspiration, resulting in moisture deficits and a semi-arid climate (Bailey 1995).

Surface Water and Groundwater

Many rivers, including the South Platte and Arkansas Rivers, flow east across this region from their headwaters in the mountains. Due to limited rainfall, groundwater recharge and discharge occur mainly in depressions, and water tables are usually mounded beneath depressions and drainages. Approximately 29% of water withdrawals are from ground water sources and 71% is from surface water sources. In this region, the surface water is of good quality and has few limitations affecting its use (USDA 2006).

The Denver Basin aquifer underlies an area of approximately 7,000 square miles that extends from Greeley south to near Colorado Springs and from the Front Range east to Limon. This aquifer is not well connected to other major aquifers in the area. The water generally has more than 1,000 parts per million total dissolved solids and is considered soft. The water generally contains sodium bicarbonate and sulfate ions (USDA 2006). The deeper consolidated sand and gravel deposits in the Denver Basin aquifer provide water for livestock, for some domestic use, and for limited local irrigation.

Wetlands

Wetlands occupy only a small percent of the semi-arid Central High Plains landscape (Dahl 1990), but their diversity is high, including freshwater marshes, wet meadows, floodplain and riparian wetlands, seeps, fringe wetlands surrounding lakes and reservoirs, playa lakes, and other fresh depressional systems. Wetlands are often discharge systems, and the water table is a muted reflection of surface topography (Richardson et al. 2001).

The predominate NWI identified wetlands in this area are palustrine wetlands including unconsolidated bottom (PUB), unconsolidated shore (PUS), and emergent (PEM). The PUB classification includes all

wetland and deepwater habitats with at least 25% cover of particles smaller than stones and a vegetative cover less than 30%. The PUB classification includes all wetland habitats having three characteristics: 1) unconsolidated substrates with less than 75% areal cover of stones, boulders, or bedrock; 2) less than 30% areal cover of vegetation other than pioneering plants; and 3) any of the following water regimes: irregularly exposed, regularly flooded, irregularly flooded, seasonally flooded, temporarily flooded, intermittently flooded, saturated, or artificially flooded. PEM wetlands are characterized by perennial, erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years.

The PEM, PUB, and PUS wetlands are located adjacent to streams or smaller drainages associated with these streams, as well as in small depressions. The PEM wetlands are dominated by graminoids (sedges, rushes, grasses) and have soils saturated near the surface in early summer, but rarely have standing water and are typically dry by the end of the growing season.

The PUB, PUS, and PEM wetlands are primarily located adjacent to streams or smaller drainages associated with these streams. Some of the PUB and PUS wetlands would be considered playa lakes. Playa lakes are a common wetland type in the region which are shallow circular basins apparently formed by wind erosion and/or calcium carbonate dissolution. Precipitation and local runoff are usually held at the surface by a clay-rich layer, forming shallow ponds and vegetated wetlands. Water is lost through evapotranspiration and seepage at the basin margins above the level of the clay layer. Wetland plants in playas are typically annuals that frequently change during a growing season in response to precipitation. The most commonly encountered plants include: ragweeds (*Ambrosia* spp.), goosefoots (*Chenopodium* spp.), kochia (*Bassia* spp.), spikerushes (*Eleocharis* spp.), and bulrushes (*Schoenoplectus* and *Scirpus* spp.) (Culver and Lemly 2013).

There are a smaller number of riparian wetlands associated with the larger streams in the area. The riparian wetlands consist of palustrine forested (PFO), palustrine scrub-shrub (PSS) wetlands and some PEM wetlands. PFO wetlands are characterized by woody vegetation that is 6 meters (20 feet) tall or taller. PSS wetlands include areas dominated by woody vegetation less than 6 meters tall. In this region, the woody plants include willows (*Salix* spp.), alders (*Alnus* spp.), birch (*Betula* spp.), and cottonwood (*Populus* spp.) trees. A few intermittent riverine (R4) wetlands are associated with the larger streams in this area as well. In this riverine subsystem, the channel contains nontidal flowing water for only part of the year. When the water is not flowing, it may remain in isolated pools or surface water may be absent.

Floodplains

Arapahoe County floodplains were mapped in GIS using Federal Emergency Management Agency (FEMA) and cross-checked with Arapahoe County's ArapaMap 3.6 online mapping tool (see **Exhibit B** – Water Resources – Arapahoe County Map). Arapahoe County regulated floodplains (a drainage tributary area of 130 acres or more) were analyzed in GIS and crossings were quantified. A separate Floodplain Study Report was prepared and submitted to Arapahoe County as a separate document with this Application. In Arapahoe County, Alternatives A, B, E, and H do not cross FEMA Floodplains and cross seven (7) Arapahoe County regulated floodplains. Alternatives C, F, and G cross the lowest number of Arapahoe County regulated floodplain crossings (eight crossings) and these Alternatives have the highest total length of FEMA-designated floodplains with 0.8 miles. Alternative D crosses the highest number of Arapahoe County regulated floodplains with 26 crossings. In Arapahoe County no perennial streams, ephemeral streams, or river are crossed. Alternatives C, F, and G have nine intermittent stream

crossings; Alternatives A, B, E, and H have 15 intermittent stream crossings; and Alternative D has 25 intermittent stream crossings. A summary of wetlands, floodplains, and stream crossings by alternative in Arapahoe County is included in Table 5-3 (Section 5.5.7).

4.5.2.2 Arapahoe County

Surface Water

The Project is located in the eastern area of Arapahoe County which is within the Bijou, Beaver, and Middle South Platte – Sterling watersheds (Hydrologic Unit Codes 1019001, 10190013, and 10190012 respectively). There are no rivers in the Project Area, but there are seven named creeks including East Bijou, First, Muddy, Badger, Cottonwood, Rattlesnake, and Beaver. East Bijou Creek and Muddy Creek are the only two streams which have mapped floodplains by the FEMA. Arapahoe County regulatory floodplains (a drainage tributary area of 130 acres or more) were identified and mapped. Noonen Reservoir is the only lake or reservoir in the Project Area and it is located on Muddy Creek on the north side of the county, south of U.S. Highway 36. Refer to **Exhibit B** – Water Resources – Arapahoe County Map for more information on surface water in Arapahoe County.

In compliance with the CWA, CDPHE has identified 303(d) water quality limited streams and lakes for development of Total Maximum Daily Load criteria. Within the Project Area, the only waterbody listed as impaired or 303(d) listed is Beaver Creek, a tributary of the South Platte River. The Beaver Creek impairments are Escherichia coli (E. coli) and selenium and the cause of these impairments are pathogens and metals (other than mercury) (Environmental Protection Agency 2012).

Groundwater

Two smaller aquifer systems occur within the Project Area, the Laramie-Fox Hills aquifer and Laramie Formation aquifer, which are part of the Denver Basin aquifer. The depth of water wells in these aquifers ranges from approximately 25 to 600 feet.

A portion of the Project Area is within the North Kiowa Bijou 7 groundwater management district. There are no designated groundwater recharge areas in the Project Area.

Wetlands

A few PUB, PUS, and PEM wetlands are scattered throughout the Project Area, which are relatively small in size. These wetlands are primarily located adjacent to streams or smaller drainages associated with these streams and in small depressions. Some of the PUB and PUS wetlands may be considered playa lakes as described above. There are a few PFO and PSS wetlands adjacent to the East Bijou Creek. A few R4 wetlands are also associated with East Bijou Creek.

4.6 Biological Resources

4.6.1 Introduction

This section describes, terrestrial and aquatic plant life, terrestrial and aquatic species, and associated habitat in the Project Area. Data for the Arapahoe County portion of the Project was drawn from various sources, including the following:

- Colorado Natural Heritage Program (CNHP)
- Colorado Department of Agriculture, Colorado Noxious Weeds
- Colorado Parks and Wildlife (CPW) Threatened and Endangered List
- Colorado Parks and Wildlife National Diversity Information Source
- United States Federal Emergency Management Agency, Floodplains
- United States Department of Agriculture, Plant Database
- United States Fish and Wildlife Service Information, Planning and Conservation System (USFWS IPaC)
- United States Fish and Wildlife Service National Wetland Inventory
- United States Fish and Wildlife Service Species Report - Arapahoe County
- Project field visits by PSCo and POWER staff (May and June 2016).

4.6.1.1 Regulations

Federal

The United States' *Endangered Species Act* (ESA) protects federally listed plant and animal species with the goal of ensuring their long-term survival. The ESA is administered by the United States Fish and Wildlife Service (USFWS).

The United States' *Migratory Bird Treaty Act* (MBTA) and the Bald and *Golden Eagle Protection Act* regulate vegetation clearing, earth-moving, bridge demolition, and other construction activities that have the potential to disrupt nesting activity or destroy nests of bird species protected under the MBTA. The USFWS administers these requirements.

State

The Colorado's *Non-game, Endangered, and Threatened Species Conservation Act* provides some protection within the State for listed species and establishes the State's intent to protect endangered, threatened, or rare species. The Colorado Parks and Wildlife (CPW) is responsible for listing species.

In addition to regulations primarily designed to protect fish and wildlife species, regulations are in place to protect habitat from plant species determined to be "noxious. The Colorado Department of Agriculture Noxious Weed Act of 2003 (Colorado Revised Statutes [CRS] 35-5-101; CRS 35-5.5-101; Executive Order D-006-99), defines and prioritizes management objectives for State-designated noxious weeds.

Colorado Senate Bill 40 (SB 40) requires that State agencies obtain certification from CPW when an agency plans construction in any stream, stream bank, or tributary. Any portions of the Project that could impact an SB 40 Jurisdictional stream may require SB 40 certification, which would include mitigation measures designed to improve fish and wildlife habitat.

4.6.2 Existing Conditions

The Project is located within the High Plains and Southwestern Tablelands ecoregions of Colorado (Chapman et al. 2006). There are several regions within each ecoregion. The Project Area south/southeast of Limon, Colorado is within the Moderate Relief Plains and Flat Rolling Plains regions of the High Plans ecoregion. The regions are typified by irregular plains and the land use is predominantly rangeland and dryland farming Winter wheat is the main cash crop, with a smaller acreage in forage

crops. Soils are silty and clayey loams, formed from eolian sediments and with veneer loess as you head to the uplands. Blue grama-buffalograss was the natural prairie type. Land is mostly rangeland and irrigated agriculture occurs along the Big Sandy Creek.

The Project Area west and northwest of Limon, Colorado is within the Piedmont Plains and Tablelands region of the Southwestern Tablelands ecoregion. This vast region consists of irregular and dissected plains underlain by shale and sandstone. The shortgrass prairie within this region contains buffalograss (*Bouteloua dactyloides*), blue grama (*Bouteloua gracilis*), western wheatgrass (*Pascopyrum smithii*), galleta (*Pleuraphis jamesii*), alkali sacaton (*Sporobolus airoides*), sand dropseed *(Sporobolus cryptandrus*), sideoats grama (*Bouteloua curtipendula*), and yucca (*Yucca* spp. L.).

4.6.2.1 Terrestrial and Aquatic Wildlife

Wildlife and Wildlife Habitat

Existing land uses along the Project Area in Arapahoe County consists primarily private land dryland agriculture and pasture/grazing (rangeland). An existing transmission line utility corridor, the Missile Site to Limon 230 kV Transmission Line, is paralleled along the entire Preferred Route (Alternative A) in Arapahoe County. Given the presence of the agricultural lands, rangeland and existing utility corridor, it is likely that the natural vegetation, soils, and hydrology have been altered by these activities.

The Project Area is within the Western Great Plains Shortgrass Prairie (CNHP 2016). In much of its range, this system forms the matrix system with *Bouteloua* spp. dominating. Other associated graminoids may include *Buchloe dactyloides, Hesperostipa comata, Koeleria macrantha (= Koeleria cristata), Pascopyrum smithii (= Agropyron smithii)*, *Aristida purpurea* and *Sporobolus cryptandrus*. Although tallgrass and mixed grass species may be present especially on more mesic soils, they are secondary in importance to the sod-forming short grasses. Shrub species such as sand sagebrush (*Artemisia filifolia*)*, big sagebrush* (*Artemisia tridentata),* and rabbitbrush (*Chrysothamnus* spp.) that dominate the Western Great Plains shrubland systems may also be present. A healthy shortgrass prairie system should support prairie dog (Genus *Cynomys*) complexes, viable populations of pronghorn, endemic grassland birds, and other Great Plains mammals such as swift fox (*Vulpes velox*), white-tailed deer (*O. virginianus*), mule deer (Genus *Odocoileus*), pronghorn (*Antilocapra americana*), and coyote (*Canis latrans*) (CNHP 2005). However, the shortgrass prairie landscape within the Project Area is almost entirely dominated by lands converted to agriculture, rangeland and urban uses. Refer to **Exhibit H** – Terrestrial and Aquatic Animal and Plant Habitat – Arapahoe County Map for more information. Section 5.6 addresses impacts to Biological Resources. Section 5.6.1, Impacts to the Preferred Alternatives, discusses mitigation. Section 5.6 also discusses BMPs and other pre-emptive activities to reduce impacts and mitigation measure to protect Biological Resources.

General Wildlife and Livestock

Animal husbandry and livestock production has altered the look and character of the shortgrass prairie (CPW 2003). This alteration and fragmentation has changed the level of wildlife diversity once supported by the landscape. Species that regularly occur in the Project Area include American badger (*Taxidea taxus*), mule deer, pronghorn, white-tailed deer, coyote, prairie rattlesnake (*Crotalus viridis*), swift fox, prairie dog and other common species. Most grassland reptiles are widely distributed.

Raptors and Other Migratory Birds

Numerous avian species may be present within the Project Area in Arapahoe County. These include year-round residents or migrant species passing through the Project Area during the spring/fall or use the area for nesting during the spring/summer or overwinter. The Project Area is within the Central Flyway and the majority of the birds that use it make direct north and south journeys from breeding grounds in the North to winter quarters in the South. Resident avian species utilizing the grassland structures ranging from heavily grazed and even bare areas to dense and tall cover includes species of grassland birds, waterfowl and raptors. Common representative species of waterfowl found within the Central Flyway in Colorado includes the common mallard (*Anas platyrhynchos*), American widgeon (*Anas americana*), shoveler (*Anas clypeata*), northern pintail (*Anas acuta*), goldeneye (*Bucephala clangula*), redhead (*Aythya americana*), merganser (*Mergus merganser*), snow goose (*Chen caerulescens*), and American coots (*Fulica americana*) (USFWS 2016). Representative raptors species include red-tailed hawk (*Buteo jamaicensis*), Swainson's hawk (*Buteo swainsoni*), prairie falcon (*Falco mexicanus*), northern harrier (*Circus cyaneus*), American kestrel (*Falco sparverius*), golden eagle (*Aquila chrysaetos canadensis*), rough-legged hawk (*Buteo lagopus*) and great horned owl (*Bubo virginianus*). Representative grassland species include horned lark (*Eremophila alpestris*), Western meadowlark (*Sturnella neglecta*), lark sparrow (*Chondestes grammacus*), mourning dove (*Zenaida macroura*), and American goldfinch (*Spinus tristis*).

Information regarding raptor nest occurrences was obtained from the CPW, CNHP and survey reports from projects within the Project Area. No active raptor nests were identified within the Project Area in Arapahoe County (CPW 2016a; SWCA 2016; CNHP 2016; CPW 2008).

Aquatic Wildlife

No perennial streams or other suitable aquatic habitat to support fisheries populations, fisheries of special concern, or essential fish habitat were identified within or immediately adjacent to the Project Area within Arapahoe County. Most grassland amphibians are widely distributed. The number of species in any location is a function of the presence of water (which amphibians need to complete their life cycle) and of complex habitats (CPW 2003).

Federal and State Listed Species

Lists of federally listed threatened, endangered, proposed, and candidate species with the potential to occur were obtained by county using the USFWS IPaC system (USFWS 2016). Information regarding the potential occurrence of state-listed species of concern (including state endangered, threatened, special concern, species deemed in need of management, and historic species) was obtained from the CNHP and from the CPW (CNHP 2016; CPW 2016a, b, c, d, e). Additional information was obtained from the National Diversity Information Database (NDIS), USDA plant database and survey reports in the Project area (NDIS 2016, USDA 2016). Data from the agencies included site-specific species occurrence data for the Project Area and a five-mile area buffer to account for potential movement by species into the Project Area. For the purpose of this study, this information is not used as a substitute for a presence/absence survey, but as an indication of previous occurrences within suitable habitat for the species.

The USFWS regulates activities affecting plants and animals designated as endangered or threatened under the ESA (16 U.S.C. § 1531 et seq.). By definition, an endangered species is in danger of extinction throughout all or a significant portion of its range. A threatened species is defined as likely to become endangered within the near foreseeable future throughout all or a significant portion of its range.

Candidate species are those that have sufficient information on their biological vulnerability and threat(s) to support listing as threatened or endangered and might be proposed for listing in the near foreseeable future. The ESA also provides for the conservation of "designated critical habitat," which is defined by the USFWS as the areas of land, water, and air space that an endangered species needs for survival. Designated critical habitat includes sites with food and water, breeding areas, cover or shelter sites, and sufficient habitat to provide for normal population growth and behavior for the species. USFWS data regarding designated critical habitat areas were reviewed (USFWS 2016a). No designated critical habitat areas were identified within the Project Area.

Table 4-2 lists the federally and state-listed wildlife species with potential to occur in Arapahoe County and indicates whether potential habitat for each species occurs within the Project Area.

4.6.2.2 Terrestrial and Aquatic Plant Life

Vegetation Communities

Cropland/Rangeland
This community consists of irrigated cropland in limited areas, with cultivated dryland agriculture being most prevalent. The majority of the Project Area appears to be used for hay production or as pastureland with grazing of domestic livestock. This vegetation community is largely disturbed.

Barren Land (Rock/Sand/Clay)
This community consists of bedrock, desert pavement, scarps, talus, slides, gravel pits and other accumulations of earthen material. Generally this vegetation community accounts for less than 15 percent of total cover.

Developed
Developed areas include roads, built structures, and associated infrastructure. Areas generally considered developed include dirt and paved roads, transmission lines, railroads, and any other permanent structures. Ornamental landscaping is associated with developed areas, and can consist of both maintained native and non-native plant species.

Western Great Plains Shortgrass Prairie
In much of its range, this system forms the matrix system with grama grass (*Bouteloua spp*.) dominating. Other associated graminoids may include buffalograss (*Buchloe dactyloides),* needle-and-thread grass *(Hesperostipa comata),* prairie Junegrass *(Koeleria macrantha (= Koeleria cristata)),* western wheatgrass *(Pascopyrum smithii (= Agropyron smithii)),* fringed sage (*Aristida purpurea)* and sand dropseed (*Sporobolus cryptandrus)*. Although tallgrass and mixedgrass species may be present especially on more mesic soils, they are secondary in importance to the sod-forming short grasses. Shrub species such as sagebrush and rabbitbrush that dominate the Western Great Plains shrubland systems may also be present (CNHP 2016). The plains of Colorado are in the shortgrass zone, but fingers of mid-grass prairie extend into the short-grass prairie, and patches of tall grasses occur in riparian areas where conditions are sufficiently moist year-round.

The short grasses that dominate this system are extremely drought- and grazing-tolerant. These species evolved with drought and large herbivores and, because of their stature, are relatively resistant to

overgrazing. Land use within this vegetation community is primarily rangeland with grazing of domestic livestock.

Table 4-2 Federally and State-Listed Wildlife Species with Potential to Occur within the Arapahoe County Portion of the Project

CLASS	COMMON NAME	SCIENTIFIC NAME	LISTING STATUS		HABITAT DESCRIPTION	POTENTIALLY SUITABLE HABITAT OBSERVED
			FEDERAL [1]	STATE [2]		
Birds	Least Tern (interior population)	*Sternula antillarum*	E	E	Nests in summer along reservoirs, lakes and rivers with bare sandy shorelines or islands. In Colorado, least terns breed only in the Lower Arkansas River Basin. During migration, they occasionally occur in the Lower South Platte River Basin, and less frequently on the west slope (CPW 2016b).	No, lack of suitable habitat.
	Mexican Spotted Owl	*Strix occidentalis lucida*	T	T	Mature, old-growth forests that possess complex structural components; canyons, riparian, and conifer communities. Mixed-conifer forests are commonly used throughout most of the range which may include Douglas-fir and/or white fir, with codominant species including southwestern white pine, limber pine, and ponderosa pine. The understory often contains the above coniferous species as well as broadleaved species such as Gambel oak, maples, box elder, and/or New Mexico locust (USFWS 2016c).	No, lack of suitable habitat.
	Piping Plover	*Charadrius melodus*	T	T	Wetlands, lakeshores, and marshes. Nesting habitat is along reservoirs, lakes, and rivers with bare sandy/pebbly areas with sparse vegetation. They occur in eastern Colorado as very rare migrants and have been known to nest at a few reservoirs: Adobe Creek, John Martin, Neegronda, and Neeskah (CPW 2016c).	No, lack of suitable habitat.
	Whooping Crane	*Grus americana*	E	E	Utilizes wetlands, irrigated meadows, and reservoir edges as stopovers during migration.	No. It is rare for whooping cranes to stop in Colorado as they migrate from central Canada to Texas Gulf Coast each fall (CPW 2004)
	Burrowing Owl	*Athene cunicularia*	n/a	T	Inhabit treeless areas with short vegetation (<10 cm; 4 in), especially in association with colonies of prairie dogs or ground squirrels. Burrowing owls nest in burrows dug by the rodents, and prefer the extremely short vegetation found in the colonies. Burrowing owls breed throughout the eastern plains and in river valleys (Rocky Mountain Bird Observatory [RMBO] 2000a).	Yes. Known records in the Project Area.

CLASS	COMMON NAME	SCIENTIFIC NAME	LISTING STATUS		HABITAT DESCRIPTION	POTENTIALLY SUITABLE HABITAT OBSERVED
			FEDERAL [1]	STATE [2]		
	Plains Sharp-Tailed Grouse	*Tympanuchus phasianellus jamesii*	n/a	E	Prefers subclimax brush-grasslands. The plains sharp-tailed grouse use rolling hills with scrub oak thickets and grassy glades. As an equivalent to sagebrush, they use scrub oaks, serviceberries and willows. In Colorado, birds of the subspecies *jamesii* reside in Douglas County, northern Weld County, and Logan County (RMBO 2000b).	No, no records or known to occur in Arapahoe County.
	American Peregrine Falcon	*Falco peregrinus anatum*	n/a	C	Peregrine falcons breed throughout the Colorado Plateau and Southern Rocky Mountain ecological provinces of Colorado. However, nesting does not occur on the eastern plains (CPW 2004).	No, suitable habitat
	Bald Eagle	*Haliaeetus leucocephalus*	n/a	T	Habitat includes reservoirs and rivers. In winter, they may also occur locally in semi-deserts and grasslands, especially near prairie dog towns.	Yes. Could occur during migration or winter roosting, although unlikely due to the lack of large trees in the Arapahoe County Project Area.
	Ferruginous Hawk	*Buteo regalis*	n/a	C	Preferred habitat is arid and semiarid grassland, foothills or mid-elevation plateaus with few trees. Avoids cultivated fields and developed areas.	Yes, suitable habitat
	Greater Sandhill Crane	*Grus canadensis tabida*	n/a	C	In Colorado, greater sandhill cranes select sites that are almost always closely associated with water. The species utilizes large wetlands, irrigated meadows, reservoirs, and river sandbars during the migration through the plains states. Willow-lined streams or beaver ponds are preferred sites in Colorado. At higher elevations, the species prefer open parkland was surrounded by quaking aspen mixed with lodgepole pine (*P. contorta*), fir (*Abies* sp.), and blue spruce (*P. pungens*) (Stone 2009). In Colorado, a greater sandhill crane migration stopover site is centered on the Monte Vista National Wildlife Refuge, a large complex of marsh habitat surrounded by many small grain fields (Van Graham 2014).	No, lack of suitable habitat and no known nesting sites or records in Arapahoe County.
	Long-Billed Curlew	*Numenius americanus*	n/a	C	Grassland species, but they are rarely observed far from water. In Colorado, they are usually associated with ponds, reservoirs, playas, and wet meadows. During migration, long-billed curlews occur sporadically in western Colorado and regularly throughout eastern Colorado (CPW 2016d).	Yes, potential habitat

CLASS	COMMON NAME	SCIENTIFIC NAME	LISTING STATUS		HABITAT DESCRIPTION	POTENTIALLY SUITABLE HABITAT OBSERVED
			FEDERAL [1]	STATE [2]		
	Western Snowy Plover	*Charadrius alexandrinus*	n/a	C	Snowy plovers nest on sandy beaches or alkaline flats with little or no vegetation; nests are located within 150 m (500 ft.) of water. Within the Central Shortgrass Prairie in Colorado, they breed on the shores of reservoirs near the Arkansas River between La Junta and Lamar (RMBO 2000c).	No, lack of suitable habitat.
	Mountain Plover	*Charadrius montanus*	n/a	C	Habitat includes prairie grasslands, arid plains, and fields. Nesting occurs on grazed shortgrass prairies, overgrazed tallgrass prairies, and fallow fields.	Yes. Record of species in the area
Fish	Pallid Sturgeon	*Scaphirhynchus albus*	E	Scaphirhynchus albus	The species requires turbid water, diverse habitat types, and flow rates afforded by large, free flowing rivers (USFWS 1993). Known population in Mississippi River from Missouri to the Gulf of Mexico.	No, lack of suitable habitat
Mammals	Preble's Meadow Jumping Mouse	*Zapus hudsonius preblei*	T	T	Occurs in the Front Range along permanent or intermittent streams in areas with herbaceous cover and adequate cover of shrubs and trees.	No, lack of suitable habitat.
	Black-Tailed Prairie Dog	*Cynomys ludovicianus*	n/a	C	Habitat consists of intermixed shrublands, sagebrush habitat, and/or shortgrass and mixed-grass prairies. Occurs in central and south-central Colorado.	Yes, species known to occur in Project area.
	Black-Footed Ferret	*Mustela nigripes*	E	E	Occurs in grasslands or shrublands in association with prairie dog colonies.	No. Population has been extirpated in Colorado, with the exception of managed experimental populations.
	Northern Pocket Gopher	*Thomomys talpoides*	n/a	C	The northern pocket gopher occurs in upland areas of the eastern plains (Colorado State University 2016).	Yes. Suitable habitat present.
	Swift Fox	*Vulpes velox*	n/a	C	Swift fox typically prefer short- or mixed-grass prairie with flat to gently rolling terrain and low-growing sparse vegetation that allows for good mobility and visibility. The swift fox is native to the Great Plains region of North America. Today the swift fox can be found in fragmented, smaller populations in portions of Colorado (CPW 2013).	Yes. Suitable habitat is present and has been observed within the Project Area as recent as June 2016 during reconnaissance level site visits to the Project Area in Arapahoe County.

CLASS	COMMON NAME	SCIENTIFIC NAME	LISTING STATUS		HABITAT DESCRIPTION	POTENTIALLY SUITABLE HABITAT OBSERVED
			FEDERAL [1]	STATE [2]		
Amphibians	Northern Leopard Frog	*Rana pipiens*	n/a	C	A variety of aquatic habitats that include slow-moving or still water along streams and rivers, wetlands, permanent or temporary pools, beaver ponds, and human-constructed habitats such as earthen stock tanks and borrow pits. Northern leopard frogs have also gone extinct or become severely reduced at low elevation sites in Colorado (CPW 2016e).	No, lack of suitable habitat
Reptiles	Common Garter Snake	*Thamnophis sirtails*	n/a	C	Inhabits marshes, ponds, and the edges of streams and for the most part restricted to aquatic, wetland, and riparian habitats along the floodplains of streams.	Yes, very little suitable habitat exists within the project area.
	Massasauga	*Sistrurus catenatus*	n/a	C	In Colorado, massasaugas are associated with xeric grasslands in the southeastern portion of the state (USFWS and CPW 2007).	No, lack of suitable habitat.
Plants	Ute Ladies'-Tresses	*Spiranthes diluvialis*	T	n/a	Sub-irrigated alluvial soils along streams; open meadows on floodplains, including riparian areas.	No, lack of suitable habitat
	Western Prairie Fringed Orchid	*Platanthera praeclara*	T	n/a	Mesic to wet unplowed tallgrass prairies and meadows.	No, lack of suitable habitat

1 Federal status codes: LE = Endangered PE = Proposed Endangered PT = Proposed Threatened D3C = Delisted taxon, recovered C = Candidate n/a = Not applicable

2 State status codes: E = Endangered T = Threatened S = Special concern D = Deemed in need of management n/a = Not applicable

HIGHLIGHTED species are known to occur and/or likely to occur in the Project Area.

Eastern Plains Shrubland

This system is characterized by a sparse to moderately dense woody layer dominated by sand sagebrush. These shrubs usually do not grow as clumps but as individuals, and the intervening ground is most often dominated by a sparse to moderately dense layer of tall, mid- or short grasses (CNHP 2016). Associated species can vary with geography, precipitation, disturbance and soil texture. Graminoid species such as sand bluestem (*Andropogon hallii*), sand dropseed (*Sporobolus cryptandrus*), prairie sandreed (*Calamovilfa longifolia*), giant sandreed (*Calamovilfa gigantea*), needle and thread (*Hesperostipa comata*), and needle grama (*Bouteloua* spp.) are often associated with this system. Other shrub species may also be present including soapweed yucca (*Yucca glauca*), honey mesquite (*Prosopis glandulosa*), skunkbush sumac (*Rhus trilobata*), and Watson's plum (*Prunus angustifolia*).

In eastern Colorado, this system is found primarily in extensive tracts on Quaternary eolian deposits. There are patches of this community along Cottonwood Creek and Badger Creek in Arapahoe County. Land use within this vegetation community is primarily rangeland with grazing of domestic livestock.

Wetlands/Open Water

This system includes a variety of depressional wetlands or playas scattered throughout the eastern plains of Colorado and adjacent areas of the Shortgrass Prairie ecoregion. Occurrences are primarily upland depressional basins supporting freshwater wetland vegetation. These wetlands are small, shallow, and generally isolated in an extremely localized watershed, although they are typically part of a larger complex of depressional wetlands embedded in a terrestrial matrix system (CNHP 2016). The basins are typified by the presence of an impermeable layer such as dense clay, and hydric soils. They are rarely linked to outside groundwater sources, and are instead dependent on rainwater and nearby runoff. Ponds and lakes (i.e. open water) associated with this system can experience periodic drawdowns during drier seasons and years, and are often replenished by spring rains.

Please refer to Section 4.5 for additional details regarding surface water and wetland resources within the Project area.

4.6.2.3 Noxious Weeds

Noxious weeds are non-native plants and are considered invasive and often crowd out native vegetation, crops or other desirable vegetation. The State of Colorado considers 71 plant species noxious, and Arapahoe County is home to 17 species on this list. The state list is prioritized into three categories: A, B and C. Weeds that are considered List A are rare and have not established in Colorado or occur in limited areas. List B weeds are well established in defined areas throughout the state. List C weeds are widespread and well established, they are considered naturalized. The Colorado Department of Agriculture works with each county to maintain the weed program and develop specific lists of noxious weeds targeted for management (Colorado Department of Agriculture 2013). Ongoing coordination with the State Weed Coordinator is occurring to develop a specific list for the Project Area.

4.6.2.4 Federally Listed Plant Species

Two federally-listed plant species have the potential to occur within Arapahoe County, the Ute ladies'-tresses *(Spiranthes diluvialis)* and Western prairie fringed orchid *(Platanthera praeclara).* Refer to **Table 4-2** for details on the species habitat and potential for occurrence.

4.7 Paleontological and Cultural Resources

4.7.1 Existing Conditions

On behalf of PSCo, POWER Engineers conducted a formal file search request on April 22, 2016, of the Colorado Office of Archaeology and Historic Preservation cultural resource database. In Arapahoe County, the Project centerline alternatives cross one site, which is the only one within 1,000 feet of the Project centerline. **Tables 4-3 and 4-4** summarize these results.

Table 4-3 Previously Identified Cultural Resources Crossed by the Project Centerline – Arapahoe County

Site Num.	Age	Site Name	NRHP Status
5AH.808	Historic	1869 Union Pacific Railroad	Eligible

Table 4-4 Previously Identified Cultural Resources within 1,000 feet of the Project Centerline – Arapahoe County

Site Num.	Age	Site Name	NRHP Status
5AH.808	Historic	1869 Union Pacific Railroad	Eligible

Site 5AH.808 is the historic route of the Union Pacific Railroad through Arapahoe County (see Appendix H). This resource is considered Eligible for the National Register of Historic Places (NRHP). It is the only cultural resource located along the Preferred Route and the Alternatives in Arapahoe County. This is likely due to the relatively small number of cultural resource inventories that have been undertaken in this portion of the State.

4.8 Socioeconomics

Socioeconomics examines how social and economic variables interact to influence population patterns, which in turn can influence the land cover and use patterns described above. Identifying spatial and temporal boundaries helps to understand how social and economic variables interact. Spatial boundaries identify a given geography or place. Temporal boundaries identify a period of time. Unlike the transmission route alternatives' finite geographic boundaries, the Project's socioeconomic spatial boundary spans greater distances to include communities that might provide a labor force for Project construction, operation, and maintenance activities and would be expected to provide goods, services, and housing for the Project's temporary and permanent labor force. The Project's socioeconomic temporal boundary would be expected to last throughout Project construction, operation, and maintenance activities; essentially lasting for the life of the Project.

In analyzing the Project's spatial and temporal boundaries, PSCo can estimate where, when, and to what extent the Project would affect socioeconomic variables, which are described below to include population, employment and income, and housing characteristics. For these variables, State of Colorado and county data are presented for comparison to the communities below.

Data presented below were excerpted from the United States Census Bureau (USCB) and the Colorado Department of Labor and Employment's Labor Market Information Gateway.

4.8.1 Existing Conditions

In Arapahoe County, the Project's socioeconomic spatial boundary includes the City of Aurora, the Census-Designated Place (CDP) of Byers, the Town of Deer Trail, and the CDP of Strasburg. It is important to note that Aurora lies in Adams, Arapahoe, and Douglas Counties, while Byers and Deer Trail lie wholly in Arapahoe County. Strasburg lies in Adams and Arapahoe Counties. Socioeconomic spatial boundaries often cross county and other municipal borders due to favorable real estate prices and tax liabilities, and/or proximity to more goods, services, and housing.

In Arapahoe County, Deer Trail is the closest incorporated town to the transmission route alternatives. Byers and Strasburg lie approximately 11 miles and 17 miles northwest of Deer Trail, respectively. The City of Aurora lies approximately 44 miles west of Deer Trail. Byers, Deer Trail, and Strasburg are small communities compared to Aurora, but are closer to the transmission route alternatives than Aurora and would likely provide adequate goods, services, and housing for the Project's labor force. Given the uncertainty of where the Project's temporary laborers may reside, socioeconomic data for all of these communities are presented below.

4.8.1.1 Population

According to the USCB, between 2010 and 2014, the populations for Byers, Deer Trail, and Strasburg experienced increases of approximately 3.3% and 5.8%, respectively, while Strasburg's population increased by approximately 43.6%. Between 2010 and 2015, Aurora's and Arapahoe County's population each increased by 10 to 11%, and the State of Colorado's population increased by approximately 8.5%. **Table 4-5** presents these communities' most recent population estimates.

The Coty of Aurora's approximate 2,100 people per square mile (mi^2) contrasts relatively to Arapahoe County's approximate 717 people per square mile, Deer Trail's approximate 351 people per square mile, Byers' approximate 318 people per square mile, and Strasburg's approximate 144 people per square mile. The State of Colorado's population density is far less at approximately 49 people per square mile (USCB 2015).

Table 4-5 Arapahoe County Population Data

AURORA	BYERS	DEER TRAIL	STRASBURG	ARAPAHOE COUNTY	STATE OF COLORADO
359,407[a]	1,361[b]	386[b]	2,999[b]	631,096[a]	5,456,574[a]

Source: USCB 2014 and 2015.
[a] 2015 Census estimate.
[b] 2014 Census estimate.

4.8.1.2 Employment and Income

From 2010 to 2014, the percentages of the populations age 16 or older who were employed in the civilian labor force in Aurora, Byers, Deer Trail, and Strasburg totaled 70.8%, 62.0%, 53.2%, and 72.0%, respectively. This sector of Arapahoe County's labor force totaled 71.1%, while the State of Colorado totaled 67.9%. The sector is defined as the population aged 16 or older employed in the civilian labor force. In these geographies, unemployment rates were the lowest in Deer Trail at 1.3% and greatest in Strasburg at 12.9%. Byers', Arapahoe County's, and the State of Colorado's unemployment rates ranged from 7.4% to 8.1%. Aurora's unemployment rate totaled 10.1% (USCB 2014).

According to economic characteristics compiled for the USCB's 2010-2014 American Community Survey, the educational, health care, and social assistance services industry employed the single-largest percentage of workers in Aurora, Byers, Deer Trail, Strasburg, Arapahoe County, and the State of Colorado. In each of these geographies, this industry's workers accounted for approximately 19 to 27% of the civilian labor force. Professional, scientific, and management services and the retail trade industries' workers accounted for 10 to 20% of these geographies' civilian labor force. Other industries' workers accounted for smaller percentages (USCB 2014).

Table 4-6 presents the median household incomes and per capita incomes for the communities, Arapahoe County, and the State of Colorado. Across these geographies, median household incomes vary by approximately 230% and per capita incomes vary by approximately 72%. The values presented in **Table 4-6** reflect 2014 inflation-adjusted dollars (USCB 2014).

Table 4-6 2014 Median Household Incomes and Per Capita Incomes – Arapahoe County

VARIABLE	AURORA	BYERS	DEER TRAIL	STRASBURG	ARAPAHOE COUNTY	STATE OF COLORADO
Median Household Income	$52,275	$57,721	$32,083	$74,018	$62,213	$59,448
Per Capita Income	$24,732	$27,490	$19,511	$25,443	$33,574	$31,674

Source: USCB 2014

4.8.1.3 Housing

Single-family, detached housing units dominate the housing by type in Aurora, Byers, Deer Trail, and Strasburg, though at greater densities than outlying portions of Arapahoe County. **Table 4-7** presents the total number of housing units in these geographies along with the percentage of single-family, detached housing units in these geographies.

Table 4-7 Total Housing Units and Percentage of Single-family, Detached Housing Units – Arapahoe County

VARIABLE	AURORA	BYERS	DEER TRAIL	STRASBURG	ARAPAHOE COUNTY	STATE OF COLORADO
Total Housing Units (Number)	130,835	564	228	1,004	240,486	2,238,624
Single-Family, Detached Housing Units (Percent)	51.0	73.9	59.6	80.2	56.2	62.9

Source: USCB 2014.

The percentage of vacant housing (single family and multi-family) units is the lowest in Strasburg at 1.5% and greatest in Deer Trail at 21.9%. Aurora's, Byers', Arapahoe County's, and the state's stock of vacant housing units represents 5.7%, 8.9%, 5.1%, and 10.7% of these geographies' total housing units, respectively. According to the USCB's data, there are 7,491 vacant housing units in Aurora, 50 vacant housing units in Byers, 50 vacant units in Deer Trail, and 15 vacant units in Strasburg (USCB 2014).

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5. ENVIRONMENTAL IMPACTS, MITIGATION, AND BEST MANAGEMENT PRACTICES

PSCo analyzed eight end-to-end route alternatives (Alternatives A – H) and selected a Preferred Alternative for the entire Rush Creek 345 kV Transmission Line Project. In Arapahoe County the eight end-to-end route alternatives represent three discrete routes due to several of the end-to-end route alternatives sharing common segments in Arapahoe County. For clarity and comparison of Alternatives, the discussion of the eight end-to-end alternatives that share common route segments have been combined into the following: 1) Alternatives A, B, E and H; 2) Alternatives C, F, and G; and 3) Alternative D. The combined alternative discussions are presented below for each resource.

When considering landowner interest, both within Arapahoe County and along the entire transmission line route, the selected Preferred Alternative was designed to balance minimizing the number of residences passed along the route within Arapahoe County, minimizing the distance passed through sensitive environmental areas, and minimizing impacts to various resources while maximizing engineering design optimization and the purpose and need of the Project. Alternative A was selected as the Preferred Alternative. Alternative A would be the longest alternative through Arapahoe County; however, it would minimize impacts to several key resources and would parallel the existing NextEra 345 kV Transmission Line for its entire length in Arapahoe County. The Preferred Alternative would pass by the fewest number of residences within 1,000 feet and crosses the fewest number of wetlands and floodplains. The Preferred Alternative would rank second for the number of stream crossings and the number of miles through Arapahoe County Sensitive Development Areas; three miles of the preliminary selected route in Arapahoe County were relocated to the west to avoid riparian habitat areas associated with the Muddy Creek drainage. The Preferred Alternative would pass through the most miles of potential prime farmland; however, soils comprising these lands are considered only potential prime farmland and are classified as prime if they are irrigated. The Preferred Alternative would rank second for miles passing through agricultural cropland lands and shortgrass prairie.

5.1 Land Use and Recreation

5.1.1 Impacts and Mitigation

5.1.1.1 Alternatives A (Preferred Alternative), B, E and H

Land use impacts are identical for Alternatives A, B, E, and H because they share the same alignment within Arapahoe County. Impacts would result primarily from the footprint area of the 345 kV H-frame transmission line structures removing small areas of dryland agriculture or pasture from production, affecting both private land production and State land leases on the northern portion of the Alternatives. Additionally, improved existing roads or new access roads may minimally affect the area available for grazing; no new permanent access roads are proposed in cultivated cropland. Grazing and pasture impacts would occur on the southern portions of the Alternative within the County. Overland access will be used to the extent possible, but road grading may occur in areas where overland access is not possible. The Preferred Alternative will parallel the existing NextEra 345kV transmission line project, thus reducing resource impacts compared to a greenfield alternative which would have higher resource impacts.

Agricultural activities would continue to occur unaffected along the vast majority of land within the 150-foot ROW. Planting and harvesting patterns may need to be adjusted in areas of dryland production to account for structures. Because these Alternatives follow an existing transmission line along the entire length of Alternatives A, B, E and H in Arapahoe County (see **Table 5-1**) where agricultural land uses occur, operators currently adjust their planting and harvesting patterns to account for existing (H-frame) structures located in agricultural fields. Grazing would continue around the transmission line structures. Existing transmission lines and pipelines would be crossed by these Alternatives (in the same locations) that would require coordination with the respective utility or owning entity (e.g., Tri State Electric, Colorado Interstate Gas Co.). **Table 5-1** summarizes land use impacts for Alternatives located in Arapahoe County.

Direct impacts on residential, commercial, institutional, and other land uses would not occur as a result of Alternatives A, B, E, and H. Residential and other structures occur within 0.5 mile of the Alternatives as detailed in **Table 5-1**, but would not be directly impacted by the Project (please refer to Section 5.3 for Visual Impacts).

No direct or indirect land use impacts on State, County, or local parks, trails, or fishing stream segments would occur as a result of these Alternatives, and there are no parks and recreational areas within 1,000-feet of these Alternatives.

These Alternatives would be consistent with the Arapahoe County Comprehensive Plan because the Project will be evaluated by the County under Use by Special Review/1041 Regulations, and the transmission line will not be constructed in riparian or Sensitive Development Area identified under the Plan. Mitigation measures will be implemented as discussed at the end of this section to reduce impacts on property owners and residents of the County.

5.1.1.2 Alternatives C, F and G

For Arapahoe County land use impacts on cultivated and grazing areas would be similar for Alternatives C, F, and G as they are for Alternatives A, B, E, and H, but would occur in a greenfield corridor within the western part of the study area. Cultivated area impacts would occur where the Alternatives cross cropland on the northern portion of the route and in the area east of Deer Trail. Although the total length of the ROW through cropland would be less than Alternatives C, F and G, these Alternatives do not parallel existing transmission lines except along a 2.2-mile section immediately south of the Missile Site Substation. Cultivation currently occurs along the existing lines in this area of Arapahoe County. In the area east of Deer Trail, the Project would create a new transmission line corridor through cultivated areas where none currently exist, causing new impacts as a result of modified planting and harvesting patterns and reduced production potential in areas occupied by the structures. Cultivated area impacts would occur along a higher proportion of Alternatives A, B, E, and H compared to Alternatives C, F, and G. Impacts on grazing would be similar to Alternatives A, B, E, and H. No State land leased for agricultural activities would be impacted by these Alternatives.

Although no residential areas are crossed, the total number of residences located within 0.5 mile and the total number of structures within 0.5 mile of Alternatives C, F, and G would be higher than Alternatives A, B, E, and H (refer to Section 5.3 for Visual Impacts). Impacts on recreation would be identical to Alternatives A, B, E, and H (none).

Consistency with the Arapahoe County Comprehensive Plan would be identical to Alternatives A, B, E, and H.

5.1.1.3 Alternative D

Land use impacts on cultivated areas and rangeland for Alternative D would be similar to Alternatives A, B, E and H in that they would occur adjacent to existing transmission line corridors, but these impacts would occur over greater distance for this Alternative. This Alternative also crosses a higher proportion of rangeland for the entire route as compared to the other Alternatives, and would affect 2.1 miles more cultivated agriculture and 6.4 miles more rangeland than Alternatives A, B, E and H. However, Alternative D has fewer residences within 500 feet, 0.25 mile and 0.5 mile of the Project than any of the other Alternatives. State land leased for agricultural activities in three locations over four miles along Segment 5 would be impacted by this Alternative. Impacts on recreation would be identical to Alternatives A, B, E and H (none).

Consistency with the Arapahoe County Comprehensive Plan would be identical to Alternatives A, B, E and H.

Table 5-1 Arapahoe County Land Use Impacts by Alternative

Land Use Impact	Alternative		
	A, B, E, H	C, F, G	D
Length within County (mi.)	13.5	8.4	22.1
Number of Residences within 500 ft. of ROW Centerline	1	1	0
Number of Residences within 0.25 mi. of ROW Centerline	4	4	2
Number of Residences within 0.5 mi. of ROW Centerline	9	12	2
Number of Other Structures within 500 ft. of ROW Centerline	0	5	0
Number of Other Structures within 0.25 mi. of ROW Centerline	4	6	0
Number of Other Structures within 0.5 mi. of ROW Centerline	7	11	0
Length of ROW Parallel to an Existing Transmission Line (mi.)	13.5	2.2	22.0
Length of ROW Parallel to an Existing Transmission Line (% of total Alternative Length)	*100.0*	*26.2*	*99.5*
Length of ROW through Cropland (mi.)	7.3	4.8	9.4
Length of ROW through Cropland (% of total Alternative Length)	*54.1*	*57.1*	*42.5*
Length of ROW through Pasture/Rangeland (mi.) [1]	5.7	2.4	12.1
Length of ROW through State Leased Agricultural/Grazing Land	1.0	0	3.0

[1]All Barren Land, Forest, Wetlands, Shortgrass Prairie and Eastern Plains Shrubland Land Cover assumed to be used for Pasture/Rangeland

Impacts on land use are associated with agricultural operations and ranching. These impacts would be reduced by implementing the following Mitigation Measures:

LU-1: Modify Structure/ROW Location and Construction Timing
This mitigation measure will be implemented as necessary to avoid cultivated areas and other land use conflicts where identified by reducing the potential operational and maintenance interference, typically by spanning or micrositing. Construction will also be timed, where practical, to minimize disruption of normal seasonal activities for cropland (planting and harvesting) and rangeland. Construction operations will avoid, to the extent feasible, the disturbance of agricultural soil during period of heavy precipitation.

LU-2: Match Existing Structure Locations
New structures would be sited span-for-span with the existing structures within the limits of standard tower design and in conformance with engineering and PSCo requirements. This mitigation measure will be implemented for Alternatives collocated with existing transmission lines to avoid intermittent structures that impact the operation of agricultural equipment and harvesting patterns.

LU-3: Maintain and Repair Fences, Gates and Other Improvements
To minimize impacts on grazing operations, fences and gates will be replaced or repaired to their original condition as required by the landowner in the event that they are removed, damaged, or destroyed by construction activities. Temporary gates or enclosures will be installed only with the permission of the landowner or the land management agency and will be removed following construction. Temporary gates will be kept closed and locked, depending on agreement with the landowners.

LU-4: Coordinated Livestock Management s
During Project construction, it may be necessary to relocate livestock from areas where heavy equipment operations are taking place. Arrangements will be made with landowners and livestock owners to keep livestock out of these areas during the specific construction periods.

5.2 Transportation

The following discussions describe general transportation impacts that PSCo anticipates for all of the route alternatives in Arapahoe County.

5.2.1 General Impacts

5.2.1.1 Construction Activities

As mentioned above, PSCo has prepared a Draft Road Use Agreement for Arapahoe County (**Appendix C** - Draft Road Use Agreement) in accordance with local, state, and federal requirements for transporting construction materials and overweight/oversize loads on local, state, and federal roads. Implementing the Draft Road Use Agreement would minimize or avoid to the extent possible impacts to the transportation network in and around the Preferred Alternative. The Final Road Use Agreement will identify access road locations and, where necessary, locations where upgraded existing roads and/or new access roads are required. The Final Road Use Agreement will include provisions for construction activities' hours of operation, potential traffic delays, pilot cars, flagmen, and alternative access routes for the traveling public to use during peak construction periods.

Near the Preferred Alternative, the majority of the roads feature dirt or gravel surfaces, with only the following paved roads:

- Interstate (I) 70
- U.S. Routes, 40, 287, 24 and 36
- State Route 40
- County Route 34/Jolly Road and South Price Road in Arapahoe County
- County Road 42/ Wall Road (partial)

During the construction period, temporary delays may occur on federal, state, and local roads during the movement of oversized/overweight loads. The delays would be expected to last only a few minutes at a time as construction vehicles enter and exit the roads en route to and from construction staging areas and structure work areas. Construction-related impacts to traffic along I-70 and the U.S. and state routes above would be expected to be minimal. These roads are accustomed to handling tractor trailers and other large vehicles and at greater volumes than the unpaved, local roads near the route alternatives. In contrast, construction-related impacts to traffic along local roads would be expected to be moderate, as the road surface condition can reduce driving speeds. While traveling along local roads near the route alternatives, local residents and visitors might experience slightly longer delays as construction vehicles enter, travel along, and exit these roads.

In addition to ground-based construction vehicles, PSCo may use helicopters to transport construction materials to structure work areas, and to string the proposed transmission line's conductors and shield wires. Prior to commencing these aerial operations, PSCo would coordinate with the FAA's Denver Flight Service Station to file a flight plan. PSCo would also coordinate with the owners and operators of nearby private airports to ensure that the Project's aerial transport activities avoid conflicts with aerial spraying operations on agricultural land or other aircraft operations at these private airports.

5.2.1.2 Operation and Maintenance Activities

Operating and maintaining the proposed transmission line would not be expected to adversely impact the transportation network near the route alternatives. During maintenance activities, temporary delays may occur as maintenance crews reduce traffic to one lane to perform work on roadside transmission structures and facilities. However, the first scheduled maintenance or inspection activities may occur at least 15 to 20 years after the transmission line is energized.

5.2.2 County Specific Impacts

Per the *Regulations for Governing Areas and Activities of State Interest in Arapahoe County*, the following discussions describe the Project's anticipated impacts on the transportation network near the route alternatives. The impacts are assumed to be similar for all of the route alternatives in Arapahoe County.

5.2.2.1 Transportation Facilities Required for Existing and Future Land Uses

During construction activities, PSCo would rely on the existing road network to the maximum extent practicable; thereby minimizing the need for new access roads in new locations. In Final Road Use Agreement, PSCo will identify existing dirt or gravel roads that might require modifications or upgrades to accommodate construction vehicles' turning radii and other physical considerations, as well as spur roads from existing roads. It is anticipated that construction activities would not modify existing paved roads. After construction activities are completed, PSCo would work with land owners and county officials to ensure that access roads are returned to pre-construction conditions. PSCo does not anticipate that the Project would substantially impact the existing transportation facilities that local residents use to access existing land uses during construction.

During operation and maintenance activities, it is anticipated that only negligible delays might occur along existing roads as maintenance crews travel to and from transmission structures. The first scheduled maintenance activities would not likely occur for at least 15 to 20 years after the transmission line is

energized. These activities would likely last for only a few hours at a time. PSCo does not anticipate that the Project would substantially impact the transportation facilities that local residents and visitors would use to access future land uses during operation and maintenance activities.

5.2.2.2 Traffic Volume and Level of Service Impacts

Given the low-density, sparsely populated area of the county in which the route alternatives would be situated, no substantial impacts would occur to existing and future traffic volumes and Level of Service (LOS). LOS is a qualitative measure used to relate the quality of traffic service. LOS is used to analyze highways by categorizing traffic flow and assigning quality levels of traffic based on performance measures including vehicle speed and volume. LOS is scored using letters from A to F, where A represents the best conditions (free-flow traffic conditions) and F represents failure of the system with excessive delay (failure or breakdown in the traffic system). Roadway corridors that operate at LOS C or better are categorized as uncongested and generally operate in free-flow conditions where drivers can operate at their desired speed without undue delay.

Rural roads in Arapahoe County currently operate at a LOC C or better (Arapahoe County 2010a). Roads near the route alternatives would be expected to continue to operate at or above LOS C during and after Project construction activities. PSCo anticipates that estimated construction traffic during the construction phase of the Project will be 15-20 vehicles per day. PSCo anticipates that construction activities would occur six days per week.

5.3 Visual Resources and Aesthetics

5.3.1 Alternatives A (Preferred Alternative), B, E, and H

Impacts on visual resources would occur primarily as a result of contrasts created by the H-frame 345 kV transmission structures that affect visual quality as seen from sensitive viewpoints. In addition to contrasts created from structures, structure contrasts would result in the short-term from the presence of construction equipment such as cranes, graders, concrete trucks, line trucks, and other associated equipment necessary to erect the structures, string the conductors, and access the ROW. Low levels of vegetation and landform contrasts may also result from the clearing of groundcover around structures and to allow access to the ROW. Vegetation contrast would be lower in agricultural areas because production and harvesting would still occur in and around the structures. In areas of rangeland (Shortgrass Prairie/Eastern Plains Shrubland), disturbed areas would be revegetated, and long-term contrasts would be very weak or would not occur. Landform contrasts could occur in steeper areas where road cut or fill is visible, but the majority of the landscape terrain is flat enough that these contrasts would be minimal. Substantial areas of road blading would not likely be necessary due to flat terrain and dominance of low rowing herbaceous vegetation where overland access could occur.

Distance to the Project (Distance Zone: immediate foreground-within 1,000 feet of the Project; foreground- 1,000 feet to 0.5 mile; middleground- 0.5 to 1 mile, background- beyond 1.0 mile), contrast levels (strong, moderate, weak), and landscape or viewer sensitivity (high, moderate, low) affect overall impacts. Strong contrasts seen by a high sensitivity viewer in the foreground would cause higher impacts on visual quality than weak contrasts seen in the middleground by a moderate sensitivity viewer. Visual impacts are identical for Alternatives A, B, E and H because they share the same alignment within

Arapahoe County. An illustration of a typical Project 345 kV Corten steel (self-weathering) structure is shown in **Figures 2-3 and 2-4**.

Moderate or weak structure contrasts, and weak to no vegetation and landform contrasts would be seen by highly sensitive residences in the immediate foreground in two locations for Alternative A/B/E/H. The Project would be viewed adjacent to an existing (Missile Site to Limon 1) 230 kV transmission line and near the existing Missile Site Substation. The existing 230 kV transmission line is of lower voltage than the Project and has the similar H-frame configuration as the Project structures. The Corten steel finish of the Project structures would be similar, but would be darker brown and of a more uniform texture than existing wood structures, and would more visually dominant. Weak structure contrasts would be seen in the vicinity of the substation due to the multiple transmission lines and substation equipment. Other highly sensitive receptors would also view these Alternatives in the context of the existing 230 kV transmission line in the foreground, middleground and background distance zones. Key Observation Point (KOP) 1, representing immediate foreground and foreground views by residences (**Exhibit F**), are documented with a photo simulation located in **Appendix F** showing a photo of the existing Missile Site to Limon 1 230 kV Transmission Line structures.

Sensitive receptors such as visitors and users of the Deer Trail Rodeo Grounds, residences located in Deer Trail, and the Richmil Ranch County Open Space area would not see these Alternatives due to distance and screening by vegetation, landform or built features. Local roads would be paralleled or crossed by these Alternatives, but due to their low sensitivity, low impacts would result. **Table 5-2** summarizes visual impacts for alternatives located in Arapahoe County.

The East Bijou Creek corridor would not be visually affected by Alternatives A, B, E and H due to distance from the corridor and terrain.

5.3.2 Alternatives C, F, and G

Visual impacts caused as a result of Alternatives C, F and G would be similar to Alternative A/B/E/H in the area of the Missile Site Substation and the two mile shared segment with those Alternatives. Impacts would be moderate to low due to the presence of the existing transmission line and substation infrastructure, with the Project creating moderate to weak contrasts within the immediate foreground and foreground distance zone view of residences. South and east of Deer Trail, these Alternatives would cross ranchland and agricultural landscapes where no transmission line corridors are currently located. The resulting strong structure contrasts, and weak vegetation and structure contrasts would be viewed in the immediate foreground by several residences located west of the Project causing high visual impacts. Alternatives C, F and G would be within about 0.6 miles of Deer Trail residences, and strong structure contrasts would be viewed in the middleground as a result of a new transmission line corridor. Overall, these Alternatives would cause the highest impacts of those located within Arapahoe County due to proximity to the highest number of sensitive viewpoints and number of viewers associated with local and state roads.

5.3.3 Alternative D

Visual impacts caused as a result of Alternative D would be similar to Alternatives A, B, E and H in that foreground views would occur from residential areas adjacent to existing transmission line corridors, but structure contrast would be somewhat stronger due to the difference of the existing single pole structures

and the new H-frame structures relative to structure configuration and visual complexity of the existing structures. However, fewer overall residences would view this Alternative in the immediate foreground, foreground and middleground. Visual impacts occurring in the vicinity of the Missile Site Substation would be similar to the other Alternatives, with the addition of an additional transmission line corridor viewed within the context of the substation infrastructure. Overall impacts would be lower than the other Alternatives due to the fewer number of sensitive viewers in the vicinity of Alternative D. Alternative D would also have the fewest number of residences potentially viewing the Project within the foreground.

Table 5-2 Arapahoe County Visual Impacts by Alternative

VISUAL IMPACT	ALTERNATIVE		
	A, B, E, H	C, F & G	D
Length within County (mi.)	13.5	8.4	22.1
Number of Residences within 500 ft. of ROW Centerline	1	1	0
Number of Residences within 0.25 mi. of ROW Centerline	4	4	2
Number of Residences within 0.5 mi. of ROW Centerline	9	12	2
Length ROW within Foreground of Interstate, US, or State Highway (mi.)	0	2.2	2.2
Length ROW within Foreground Park or Recreation Area (mi.)	0	0	0

Visual impacts would be reduced by implementing the following Mitigation Measures:

VIS-1: *Utilize Non-specular Conductors* – This mitigation measure will be implemented to reduce the potential glint and glare associated with standard aluminum conductor (wire).

VIS-2: *Match Existing Structure Locations* – Project segments that are collocated with existing transmission lines, new structures would be sited near existing structures within the limits of standard tower design and in conformance with engineering and PSCo requirements. This mitigation measure will be implemented to avoid intermittent structures that would otherwise increase structure contrasts.

5.4 Soils, Geology and Natural Hazards

5.4.1 Impacts Common to All Alternatives

5.4.1.1 Soil Erosion

Project construction activities affecting soils include permanent and temporary land-disturbance activities such as structure work areas, wire-pulling, tensioning and splicing sites, construction yards, and temporary and permanent access roads. Ground disturbance during construction may increase the potential for erosion, such as removal of protective vegetation may expose soil to potential wind and water erosion. Certain soils within the Project Area would be more susceptible to soil erosion impacts, including soils with high K Factor, low T Factor, and steep slopes. The primary soil erosion factor is water erosion on steep slopes and wind erosion on bare soils.

Potential erosional effects from Project operations would consist of soil disturbances necessary to maintain the transmission lines in working order and conduct necessary repairs. Stormwater BMPs, including erosion and sediment control structures, as well as new culverts would require inspection, maintenance, and repair throughout the operation life of the Project to minimize soil erosion or

sedimentation to surface water. Temporary access roads, not retained for operations, would be seeded with a native grass mix and allowed to revegetate and thereby minimizing the surface exposed to erosive conditions.

The areas used for construction would be reclaimed as soon as possible, which may include regrading to original land contours, topsoil replacement, and revegetation. Implementation of a SWPPP (a CDPHE requirement) and Grading, Erosion, and Sediment Control Plan (GESC, an Arapahoe County requirement), and use of appropriate soil mitigation measures and BMPs would be used to reduce the effects of erosion. The SWPPP and GESC are discussed more fully under the Water Resources and Wetlands section.

The majority of soil types in the eastern areas of the Arapahoe County are rated as slight to moderate erosion hazard primarily due to low to moderate slopes (0 to 15%). There were no slopes over 30% in the ROW for any of the alternatives. These factors indicate that impacts from soil erosion would be similar for all alternatives.

5.4.1.2 Prime Farmland

Potential soil impacts to prime farmland, if irrigated from transmission line construction include soil erosion, damage to agricultural drainage systems, mixing of topsoil and subsoil, potential loss of topsoil, and soil compaction. Prime farmland within the construction ROW may be unavailable to agriculture production during the construction period. Prime farmland would be reclaimed as soon as possible, which may include regrading to original land contours, relieving compaction, topsoil replacement, and revegetation.

Although the primary land use activity is farming and ranching, only approximately 30% of the area is considered prime farmland if irrigated or prime farmland if irrigated with other conditions as indicated by NRCS. Prime farmland was not a criteria used for routing because most agricultural activities in this area can be conducted within the proposed transmission line ROW. Due to this factor, impacts to prime farmland would be similar for all route alternatives.

5.4.1.3 Accidental Spills

During construction, use of trucks, heavy equipment, or stored supplies could result in accidental discharge of fuel, lubricants, and automotive fluids. Although the potential exists, any spills would be accidental, unlikely due to PSCo's safety and construction standards, of limited extent, and would be considered minor to negligible and temporary in duration. BMPs for construction housekeeping, spill prevention, and cleanup would be used to prevent and remediate accidental spills. Therefore, accidental spills would not result in widespread or long-term effects to Project soils.

5.4.1.4 Permanent Soil Loss

The area within the footprint of each transmission structure would result in minor long-term loss of that acreage to productive soil uses such as for agriculture (because of structures occupying the site); however the implementation of BMPs will avoid any long-term loss of soil.

5.4.2 End-to-End Route Summary

Alternative D would have greater potential for soil erosion and Alternative E would have slightly greater potential for soil erosion, both due to a small percentage of ROW slopes over 30%; otherwise the end-to-end alternatives would have similar potential impacts to soil, geology, and natural hazards. Alternative A, the Preferred Alternative, would have negligible to minor impacts to soil, geology, and natural hazards due to the relatively low to moderate slopes (0 to 15%), ability to conduct agricultural practices under the transmission line, and lack of geologic features and natural hazards.

5.5 Water Resources

5.5.1 Impacts to Surface Water

The potential sources of surface water resource impacts from the Project include permanent and temporary soil-disturbance activities from structure work areas, wire-pulling, tensioning and splicing sites, laydown and materials yards, and temporary and permanent roads as well as potential accidental spills of hazardous materials during the construction period. Short-term impacts from soil disturbances that increase erosion (or water runoff in areas with compacted soils) may result in an increase in suspended sediments within adjacent waterbodies and accidental spills of hazardous materials could wash into and pollute surface water; however, the potential impacts to surface water will be negligible and temporary in nature due to the implementation of BMPs to include properly maintaining equipment, storing fuels and petroleum away from excavated areas, cleaning up any spills and spanning water features and drainages.

In addition to soil-disturbance activities, impacts to surface waters may include stream crossings. All of the alternatives within Arapahoe County cross intermittent streams only; no perennial streams will be crossed. All of the intermittent streams will be spanned by the transmission line and individual structures will be located well outside the stream banks to avoid potential impacts. Where available, existing crossings of intermittent streams will be utilized for construction access. Intermittent stream crossings may result in short-term sedimentation impacts to waterbodies from stream bank disturbance and riparian vegetation disturbance and/or removal from the installation of culverts. If culverts are designed or installed incorrectly, they can alter or reduce water flow, change a stream's hydrodynamics and impede fish passage. If needed, culverts would be designed and installed to ensure the continued free flow of water, as well as to allow both the upstream and downstream movement of aquatic organisms. Culverts may get blocked by debris in streams and cause water to back up and flood areas. As appropriate, any permanent culverts would be inspected, maintained, and repaired regularly throughout the life of the Project to minimize impacts. These activities would be permitted through the applicable agencies.

Stormwater BMPs will be used during construction to reduce potential impacts from erosion, sedimentation, and turbidity in surface waters during construction. A SWPPP and GESC will be developed and implemented for the Project, which will meet the construction stormwater discharge permit requirements of the CDPHE and county GESC requirements. The SWPPP and GESC will include a number of measures to control runoff and to reduce erosion and sedimentation at construction sites. Additionally, the implementation of a SWPPP will also minimize potential impacts. Examples of potential BMPs that may be used includes silt barrier fences to control runoff, sediment traps and basins, and minimizing exposed soils by using temporary and permanent seeding and mulching. All disturbed areas

will be re-vegetated as requested by landowners. Seed mix and seeding rates will be developed through consultation with the local NRCS and landowner preference.

The construction, O&M of the Project would not contribute to surface water impairments identified by 303(d) listed waterbodies (Big Sandy Creek), which include *E. coli* and selenium, due to control of stormwater runoff and soil erosion, which will be included in the SWPPP and GESC.

5.5.2 Impacts to Floodplains

It is reasonable to assume that all watercourses that convey natural flows, whether mapped as floodplains, flood hazard areas, or not, present some level of flood hazard. Encroachment of a structure into a flood path could result in flooding of or erosion damage to the encroaching structure and diversion of flows. Transmission structures will be set back from channel banks to avoid impacts to floodplains.

5.5.3 Impacts to Ground Water

It is unlikely the Project would affect groundwater to any extent. Excavations for transmission line structures may contact shallow groundwater; however, the groundwater contact would be unlikely to adversely impact this resource, unless an accidental spill of fuel or petroleum from construction equipment occurs near an open excavation or is not cleaned up in a timely manner. Techniques to avoid and minimize groundwater impacts would include properly maintaining equipment, storing fuels and petroleum away from excavated areas, fueling in designated areas, and immediately cleaning up any spills before they become a problem. Typically, contact with construction equipment would not impact groundwater quality except to potentially increase turbidity temporarily, and only in a limited area. After application of mitigation measures and BMPs, impacts to groundwater will be negligible.

No water wells would be drilled for the proposed Project. All water used for Project construction will come from existing sources which will be identified and secured prior to construction.

5.5.4 Impacts to Wetlands

The potential wetlands identified by NWI will be verified in the field and inventoried and/or delineated to determine the actual locations and extent of wetlands prior to construction of the Project. All wetlands would be spanned by the transmission line to avoid impacts. Wire pulling and tensioning sites will be sited to avoid wetlands to the extent practicable. If wetlands cannot be avoided, matting and other protective temporary measures will be used. Depending on the condition of the wetland soil and hydrology, matting may be used in some cases to protect wetlands from rutting. No permanent loss of wetlands would occur from installation of transmission line structures and conductors.

Increased soil disturbances can lead to the germination of exotic plant species, which can alter the composition and function of wetlands. Impacts could result from soil compaction or alteration of surface or subsurface water movement in wetlands and riparian areas. Failure to restore disturbed areas to their pre-construction conditions (contours, hydrology, segregation, and restoration of topsoil), could impede the re-establishment of wetland vegetation during revegetation and restoration efforts.

5.5.5 Impacts Common to Alternatives with Forested Wetlands and Riparian Areas

Impacts to surface water resources may also result from vegetation disturbance and/or removal within the transmission line ROW. In areas where the transmission line crosses forested riparian areas, trees would be cleared from the width of the ROW. Tree stumps would not be removed to avoid soil erosion. Long-term impacts may result from removal of riparian vegetation may include reduced stream shading, reduced large woody debris input, reduced terrestrial organic input, and increased bank instability and erosion potential. Vegetation removal associated with crossings in forested settings is expected to be localized and minimal, without an overall increase in stream temperatures. In areas where the roots of riparian vegetation are the primary bank stabilizing force, loss of riparian vegetation can result in stream migration. Erosion, sedimentation, and stream instability would be minimized with the use of BMPs and appropriate revegetation activities.

5.5.6 Impacts Common to Alternatives with Geology and Natural Hazards Areas

Project construction, operation, and maintenance activities will not impact geologic resources due to lack of points of geological interest in this area and because much of the proposed Project area is considered low risk for geologic hazards. Project activities will not impact natural hazards due to the low occurrence of major landslide and earthquakes as well as the fairly level relief (0-10 percent slope throughout the Project area).

5.5.7 Impacts in Arapahoe County

PSCo analyzed eight end-to-end route alternatives (Alternatives A – H) for the entire Rush Creek 345 kV Transmission Line Project. In Arapahoe County the eight end-to-end route alternatives represent three discrete routes due to several of the end-to-end route alternatives sharing common segments in Arapahoe County. A crosswalk of the end-to-end route alternatives and route segments only occurring in Arapahoe County is included below. Impacts are discussed in the Impacts Common to All Alternatives section above. **Table 5-3** identifies the water resources and wetlands routing criteria and the numbers for each alternative.

Table 5-3 Water Resources and Wetlands Criteria for Arapahoe County Alternative Routes

ROUTING CRITERIA	ARAPAHOE COUNTY		
	A, B, E, H	C, F & G	D
Number of perennial stream crossings	0	0	0
Number of intermittent stream crossings	15	9	28
Miles of ROW parallel (within 100 feet) to streams	0	0	0.2
Miles of ROW crossing FEMA designated floodplains	0	0.8	0.2
Number of ROW crossings of Arapahoe County floodplains	7	8	26
Miles of ROW crossing NWI wetlands	0	0.3	0.2
Miles of ROW crossing playa lakes	0	0	0

5.5.7.1 Preferred Alternative A and Alternatives B, E, and H

Alternatives A, B, E, and H share common route segments in Arapahoe County and will share identical potential impacts from the proposed Project. The impacts for water resources and wetlands are discussed below.

Surface Water

Alternatives A, B, E and H do not cross any perennial streams, crosses 15 intermittent streams, and do not cross FEMA-designated floodplains, but do cross 15 Arapahoe County-regulated floodplains. The number of intermittent stream crossings is greater than Alternatives C, F, and G, but are lower than Alternative D. The potential impacts will be negligible to minor due to the ability to span water features and avoid impacts during construction.

Wetlands

The alternatives do not cross NWI wetlands or playa lakes. These represent smaller numbers than the other two alternatives. The potential impacts to wetlands will be negligible to minor due to the ability to span wetland features and avoid impacts during construction.

Floodplains

The alternatives do not cross FEMA mapped floodplains. The alternatives cross seven unmapped Arapahoe County defined floodplains. The total liner feet of Arapahoe County defined floodplains crossed is 632-feet. The shortest crossing is 29-feet and the longest crossing is 159-feet. A Floodplain Analysis Report was prepared and submitted as an accompanying dociument to this Application.

5.5.7.2 Alternatives C, F, and G

Alternatives C, F, and G share common route segments in Arapahoe County and will share identical potential impacts from the proposed Project. The impacts for water resources and wetlands are discussed below.

Surface Water

These alternatives cross no perennial streams, nine intermittent streams, and 0.8 mile of FEMA-designated floodplain, which is associated with East Bijou Creek. These alternatives also cross eight Arapahoe County regulated floodplains.

Wetlands

These alternatives cross 0.3 mile of NWI wetlands and no playa lakes. Aside from one small PEM and one R4 wetland (First Creek), all of these NWI wetlands are associated with East Bijou Creek, including PFO, PSS, and R4 wetlands.

Floodplains

The alternatives cross 0.8 miles of FEMA mapped floodplains. The alternatives cross eight unmapped Arapahoe County defined floodplains.

5.5.7.3 Alternative D

Surface Water

Alternative D would cross no perennial streams, 28 intermittent streams, 0.1 mile of playa lakes, and 0.2 mile of FEMA-designated floodplain, which is associated with Muddy Creek. This alternative also crosses 26 Arapahoe County regulated floodplains.

Floodplains

The alternatives cross 0.2 miles of FEMA mapped floodplains. The alternatives cross 26 unmapped Arapahoe County defined floodplains.

5.6 Biological Resources

In Arapahoe County, the eight end-to-end route alternatives represent three discrete routes due to several of the end-to-end route alternatives sharing common segments in Arapahoe County. A crosswalk of the end-to-end route alternatives and route segments only occurring in the County is in **Table 5-4**, which identifies the biological resources routing criteria crossed by all the alternatives in the County.

Table 5-4 Arapahoe County Biological Resource Impacts by Alternative Routes

BIOLOGICAL RESOURCES IMPACTS	ALTERNATIVES		
	A, B, E, H[1]	C, F, G[1]	D[1]
Length of ROW across known habitat of federally listed endangered or threatened species	0.0	0.0	0.0
Length of ROW across known habitat of state listed endangered or threatened species	0.0	0.0	0.0
Length of ROW across known raptor species nest or nest buffer	0.0	0.0	0.0
Length of ROW across developed land	2.0	3.3	0.6
Length of ROW across mixed woodland	0.0	0.0	0.0
Length of ROW across shortgrass prairie	5.7	2.0	12
Length of ROW across eastern plains shrubland	0.0	0.0	0.1
Length of ROW through cropland/pasture	7.3	4.8	9.4
Length of ROW across open water (lakes, ponds)	0.0	0.0	0.0
Length of ROW across playa lakes	0.0	0.0	0.0
Number of ephemeral stream crossings	0	0	0
Number of perennial stream crossings	0	0	0
Number of intermittent stream crossings	15	9	28
Number of river crossings	0	0	0
Length of ROW parallel (within 100 feet) to streams or rivers	0.0	0.0	0.2

[1] The length is calculated in miles

5.6.1 Alternatives A (Preferred Alternative), B, E, and H

Alternatives A, B, E, and H share common route segments in Arapahoe County and will share identical potential impacts from the Project. Below is the biological impact analysis for the portions of Alternatives A, B, E, and H with shared route segments.

5.6.1.1 Terrestrial and Aquatic Wildlife (Alternative A (Preferred), B, E, and H)

Wildlife and Wildlife Habitat

Wildlife species that may occur within the Project Area include those adapted to the habitats present. A diverse species composition is anticipated given the range of habitat identified within the Project Area however, species may be limited due to the extent of residential, cropland, and rangeland development. The primary impacts of construction activities on terrestrial wildlife species are typically associated with temporary disturbances from construction activities, and with the removal of vegetation (habitat modification/fragmentation) within the 150-foot ROW. Increased noise and equipment movement during construction may temporarily displace mobile wildlife species from the immediate workspace area. These impacts are considered short-term in duration and normal wildlife movements would be expected to resume after construction is completed. Potential long-term impacts include those resulting from habitat modifications and/or fragmentation. During the routing process, PSCo attempted to minimize potential habitat fragmentation by paralleling existing linear features and avoiding paralleling streams to the extent feasible.

Construction activities might also impact small, immobile, or fossorial (living underground) animal species through incidental takes or from the alteration of local habitats. Incidental takes of these species might occur due to equipment or vehicular movement on the ROW by direct impact or due to the compaction of the soil if the species is fossorial. Potential impacts of this type are not typically considered significant and are not likely to have an adverse effect on any species population dynamics.

It is anticipated that increased noise and human activity during construction will discourage wildlife from entering Project work sites. Additionally, implementation of the following BMPs will minimize the potential for injury or death to wildlife:

- Providing environmental awareness training to all construction personnel working on the Project.
- Properly disposing of trash and food debris in secured containers.
- Allowing wildlife that has entered the work area to leave the area on their own.
- Checking for wildlife under vehicles and equipment that have been stationary for more than one hour and each morning prior to moving or operation.
- Checking trenches, excavations, and uncapped pipe segments for wildlife.
- Installing escape ramps at night.
- Complying with posted speed limits.
- Prohibiting firearms or pets at Project work sites.

The construction of the project is not anticipated to have any effect on species in this area. If any potential suitable habitat for threatened endangered species is identified during a field survey of the Preferred Alternative, PSCo will further coordinate with USFWS and CPW to determine avoidance or mitigation strategies.

Raptors and Migratory Birds

No known raptor species nest or associated nest buffers are crossed by Alternatives A, B, E, and H. PSCo proposes to complete all ROW clearing and construction activities in compliance with the Migratory Bird Treaty Act (MBTA) to avoid or minimize potential impacts. If ROW clearing occurs during bird nesting season, potential impacts could occur within the ROW area related to migratory bird eggs and/or

nestlings. Increases in noise and equipment activity levels during construction could also potentially disturb breeding or other activities of bird species nesting in areas adjacent to the ROW.

Transmission lines can also present additional hazards to birds due to electrocutions and/or collisions. Measures can be implemented to minimize this risk with transmission line engineering designs. The electrocution risk to birds should not be significant since the engineering design distance between conductors, conductor to structure, or conductor to ground wire for the proposed 345 kV transmission line is greater than the wingspan of any bird potentially within the area (i.e., greater than eight feet). While the conductors are typically thick enough to be seen and avoided by birds in flight, the shield wire is thinner and can present a risk for avian collision. This risk can be minimized by installing bird flight or swan diverters or other marking devices on the line within high bird use areas. PSCo will coordinate with USFWS on the installation of bird flight or swan diverters or other marking devices as determined necessary for specific locations.

Measures to protect migratory birds and their habitats include:

- Conducting tree/vegetation clearing outside the nesting season (generally considered to be April 15 to August 1), where feasible, to discourage birds from establishing nests in Project work areas.
- Conducting pre-construction nest surveys prior to initiating construction activities, unless vegetation clearing has been completed prior to the nesting season.

If migratory bird nests are identified and activities that may disturb migratory bird habitat are unavoidable during the nesting season, protective measures to be implemented may include:

- Notifying the USFWS of the location of the nest(s) and determining appropriate site-specific protection measures, as necessary, in consultation with the USFWS and/or applicable state resource agency.
- Retaining a qualified biologist to monitor active nests and the associated birds' behavior.
- Establishing an appropriate buffer zone around the nest, as necessary, in consultation with the USFWS and/or applicable state resource agency.
- Suspending construction within the designated protective buffer zone until the young have fledged or until further instruction is given by the applicable agency. Personnel vehicles will still be allowed to travel along existing access roads that may fall within the active nest buffer zone.

Aquatic Wildlife

Fifteen intermittent streams are crossed by Alternatives A, B, E, and H. Potential impacts to aquatic systems would include effects of erosion, siltation, and sedimentation. Clearing the ROW of vegetation might result in increased suspended solids in the surface waters traversed by the transmission line. Increases in suspended solids might adversely affect aquatic organisms that require relatively clear water for foraging and/or reproduction. Physical aquatic habitat loss or alteration could result wherever riparian vegetation is removed and also at temporary crossings required for access roads. Increased levels of siltation or sedimentation might also potentially impact downstream areas, primarily affecting filter feeding benthic and other aquatic invertebrates.

To avoid or minimize these impacts, PSCo proposes to span all surface waters, riparian areas, and wetlands to the extent feasible. Temporary and permanent impacts to wetland vegetation will occur; however, refer to the Water Resources section for details on BMPs that will be implemented. Additionally, the implementation of a SWPPP will also minimize potential impacts. Therefore, no significant adverse impacts are anticipated to any aquatic habitats crossed or located adjacent to the ROW for any of the alternative routes.

Federal and State Listed Species

No known occurrences of any federal/state listed threatened or endangered plant or animal species or designated critical habitat areas were identified along Alternatives A, B, E and H within Arapahoe County, refer to **Table 4-2**. The construction of the project is not anticipated to have any effect on listed species in this area. If any potential suitable habitat for threatened endangered species is identified during a field survey of the Preferred Alternative, PSCo will further coordinate with USFWS to determine avoidance or mitigation strategies.

5.6.1.2 Terrestrial and Aquatic Plant Life (Alternative A (Preferred), B, E, and H)

Potential impacts to vegetation within Alternative A, B, and H would result from clearing the ROW of cropland (approximately 7.3 miles), short-grass prairie (approximately 5.7 miles) and developed lands (approximately 2.0 miles, refer to **Table 5-4**. These activities facilitate ROW access for structure construction, line stringing, and future maintenance activities of the proposed transmission line. Impacts to vegetation would be limited to the150-feet wide ROW. ROW clearing activities would be completed while minimizing the impacts to existing groundcover vegetation when practical. Mowing and/or shredding of herbaceous vegetation might be required within grasslands/pasturelands. Future ROW maintenance activities might include periodic mowing and/or herbicide applications to maintain the herbaceous vegetation layer within the ROW. Measures to minimize vegetation-related impacts (in addition to the measures previously identified to minimize impacts on wildlife habitat and covered under Water Resources for wetlands) include:

- Restoring contours and seeding temporary disturbance areas following final grading (unless otherwise specified by local resource agencies), weather and soil conditions permitting.
- Preparing a seedbed to a depth of three to four inches using appropriate equipment.
- Adhering to recommended seed mixes, application methods and rates, and timing windows provided by local resource agencies.

Disturbance related to construction or maintenance activities has the potential to generate infestations of noxious weed species, particularly if vegetation is cleared. During re-growth, the native species will be competing to re-establish at the same time that the noxious weed species are attempting to dominate the cleared area. Soils and mud on vehicle and equipment tires, tracks, and undercarriages have the potential to carry and disperse weed seeds. Invasive and/or non-native species can then be spread along access roads and Project work areas, increasing the likelihood of introducing new populations or increasing existing populations. The potential for the introduction and/or spread of invasive non-native species (including noxious weeds) will be minimized by implementing the following best management practices BMPs:

- Ensuring all construction equipment is cleaned prior to beginning work on the Project.

- Requiring the construction contractor to use certified weed-free straw or hay bales for sediment barrier installations and/or mulch.
- Using certified weed-free seed mixes for post-construction revegetation.
- Controlling noxious weeds within the ROW using mechanical or herbicide application, as necessary.
- Adhering to applicable invasive species management practices in accordance with federal, state, and local regulations.
- Removing excess dirt and mud from equipment and vehicles prior to leaving areas with noxious weed populations.

5.6.2 Alternatives C, F, and G

Biological resources impacts on terrestrial and aquatic wildlife would be similar for Alternatives C, F and G as they are for Alternatives A, B, E, and H, but would occur in a different area. Impact on terrestrial and aquatic species would be identical to Alternatives A, B, E, and H. This Alternative crosses 9 intermittent streams. Surface water is present for brief periods (from a few days to a few weeks) during the growing season, but the water table usually lies well below the ground surface for the most of the season. To avoid or minimize these impacts, PSCo proposes to span all surface waters and wetlands to the extent feasible. Additionally, the implementation of a SWPPP and BMPs will also minimize potential impacts. Therefore, no significant adverse impacts are anticipated to any aquatic habitats crossed or located adjacent to the ROW for Alternatives C, F, and G.

No known raptor species nest or associated nest buffers are crossed by these alternatives. PSCo proposes to complete all ROW clearing and construction activities in compliance with the MBTA to avoid or minimize potential impacts.

No known occurrences of any federal/state listed threatened or endangered plant or animal species or designated critical habitat areas were identified along any of the alternative routes within Arapahoe County, please refer to **Table 4-2**. If any potential suitable habitat for threatened endangered species is identified during a field survey of the Preferred Alternative, PSCo will further coordinate with USFWS to determine avoidance or mitigation strategies.

Alternatives C, F, and G would primarily cross existing disturbed areas such as cropland for approximately 4.8 miles. The total length of the ROW through shortgrass prairie would be less, approximately 2.0 miles; however, these Alternatives do not parallel existing transmission lines except along a 2.2 mile section immediately south of the Missile Substation. Impact on terrestrial and aquatic plant life would be identical to Alternatives A, B, E, and H.

5.6.3 Alternative D

Biological impacts on terrestrial wildlife and aquatic species would be similar to Alternatives A, B, E, and H, but these impacts would occur over greater distance for Alternative D. This Alternative crosses 28 intermittent streams. To avoid or minimize these impacts, PSCo proposes to span all surface waters and wetlands to the extent feasible. Additionally, the implementation of a SWPPP and BMPs will also minimize potential impacts. Therefore, no significant adverse impacts are anticipated to any aquatic habitats crossed or located adjacent to the ROW for Alternative D.

No known raptor species nest or associated nest buffers are crossed by Alternative D. PSCo proposes to complete all ROW clearing and construction activities in compliance with the MBTA to avoid or minimize potential impacts. This would include conducting tree/vegetation clearing outside the nesting season (generally considered to be April 15 to August 1), where feasible, to discourage birds from establishing nests in Project work areas and conducting pre-construction nest surveys prior to initiating construction activities, unless vegetation clearing has been completed prior to the nesting season.

No known occurrences of any federal/state listed threatened or endangered plant or animal species or designated critical habitat areas were identified along Alternative D within Arapahoe County, refer to **Table 4-2**. If any potential suitable habitat for threatened endangered species is identified during a field survey of the preferred route, PSCo will further coordinate with USFWS to determine avoidance or mitigation strategies.

Alternative D crosses 9.4 miles of cropland/pasture/rangeland, 12 miles of shortgrass prairie, and 0.1 mile of shrubland. Impact on terrestrial and aquatic plant life would be identical to Alternatives A, B, E, and H.

5.7 Paleontological and Cultural Resources

Identifying areas of high site potential is usually identified through the presence of previously identified archaeological sites or historic structures. However, due to the relatively sparse amount of previous cultural resource inventories in this part of Arapahoe County, this is not a reliable method. Instead, high probability areas were identified through the analysis of surrounding areas and topographic features in surrounding areas where more thorough cultural investigations have been undertaken.

POWER determined several criteria that would make a specific landform more likely to contain an archaeological site. For this Project this includes:

1) Proximity to a permanent or seasonal water source (up to 1 mile).
2) Relatively flat or gently rolling terrain above or along a major water source.
3) Landforms that are outside areas of previous ground surface disturbance.

A high probability area may include one or all of the above criteria (see Figure 5-1). Potential impacts to cultural resources along the Alternative Routes may include direct physical disturbance from heavy equipment, construction activities, and unmanaged erosion. Impacts may also include indirect visual disturbances caused by the visual intrusion of new transmission line infrastructure in the view shed of significant cultural resource. Mitigation for these potential impacts would be primarily met by avoidance of all cultural resources by the project design and regular monitoring of construction activities near known significant cultural resources. Visual impacts may be mitigated through structure design or through consultation with the Colorado SHPO and interested parties to determine acceptable levels of visual impacts to the significant cultural resources along the Alternative Routes.

5.7.1 Arapahoe County

PSCo analyzed eight (8) end-to-end route alternatives (Alternatives A – H) for the entire Rush Creek Connect 345 kV Project. In Arapahoe County, the eight end-to-end route alternatives represent three discrete segments due to several of the end-to-end route alternatives sharing common segments in

Arapahoe County. High probability segments are described below for the Project alternatives. See **Table 5-5** for Cultural Resource Impacts by Alternative.

5.7.1.1 Alternatives A (Preferred Alternative), B, E, and H

Alternatives A, B, E, and H share common route segments in Arapahoe County. Within Arapahoe County, high probability areas in Segments 1 and 2 are located on a large relatively high up-lift above First Creek. However, a majority of these two segments are within cultivated fields making them less likely to contain undisturbed cultural resources. Within Arapahoe County, high probability areas within Segment 4 run east and stay within the rolling hills and ridges east of Bijou Creek. This segment crosses the upper reaches of Bolden Gulch and the unnamed seasonal tributaries of Muddy Creek. Near the Arapahoe county line this segment runs along the first terraces above Muddy Creek itself. Approximately 6 miles of Segment is considered to be high probability areas for cultural resources.

5.7.1.2 Alternatives C, F, and G

Alternatives C, F and G share common route segments in Arapahoe County. High probability areas within Segments 1 and 2 are located on a large relatively high up-lift above First Creek. However, a majority of these two segments are within cultivated fields making them less likely to contain undisturbed cultural resources. Segment 3 runs south across First Creek and south across the terrace slopes and flood plain of Bijou Creek. Nearly all parts of this segment in Arapahoe County are considered high probability areas.

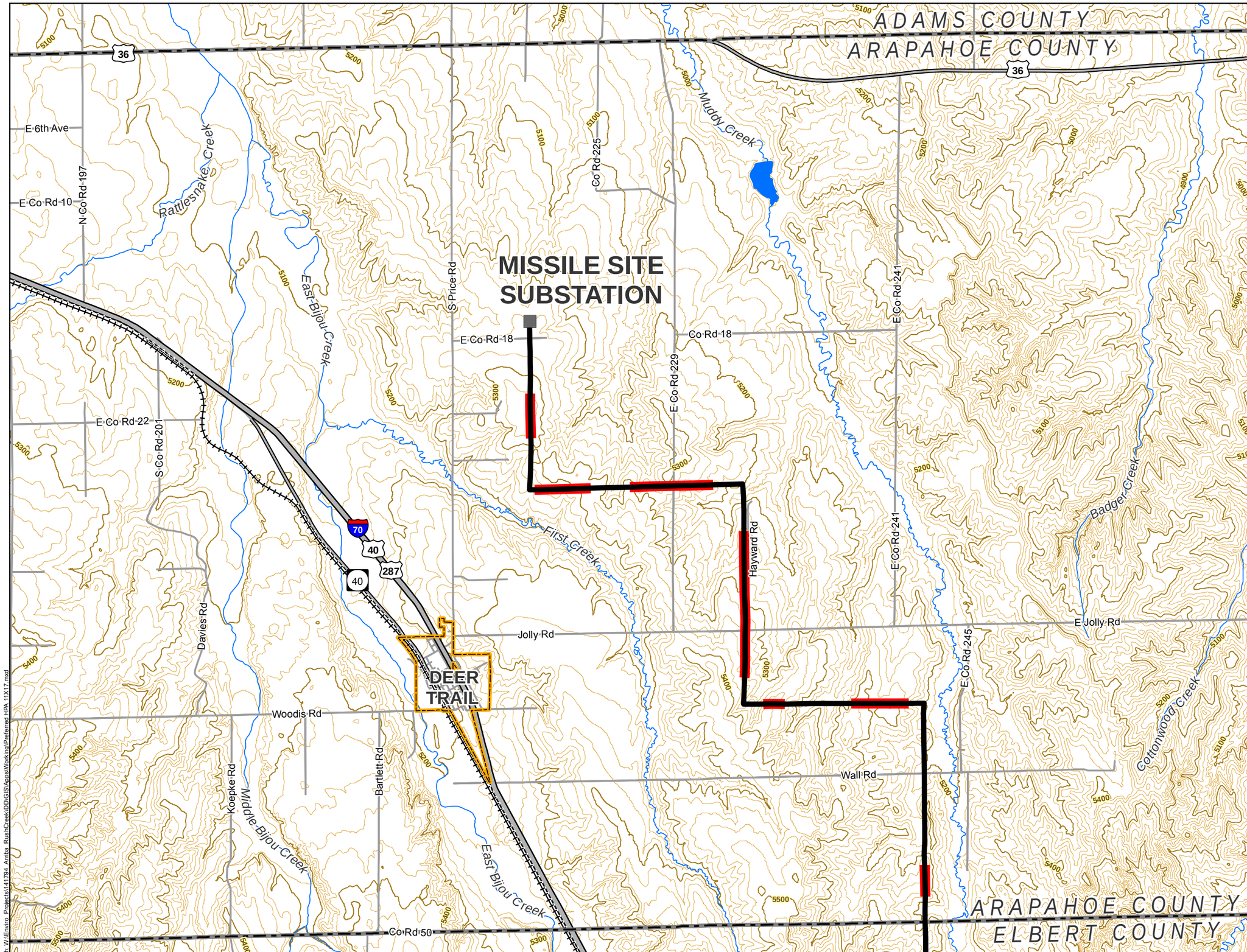

Figure 5-1
High Probability Areas for Cultural Resources

Arapahoe County

RUSH CREEK 345 kV TRANSMISSION LINE PROJECT

Project Components

- Project Substation
- Route A Centerline

Cultural Resources

- Area of Potential Site Locations

Transportation

- Interstate Highway
- US Highway
- State Highway
- Local Road
- Union Pacific Railroad

Administrative Boundaries

- Municipality
- County Boundary

Terrain

- 100 ft Contour
- 20 ft Contour

Surface Waters

- Stream
- Lake or Pond

Date: 9/22/2016

0 1 2
Miles

N

Xcel Energy
RESPONSIBLE BY NATURE

POWER ENGINEERS

Path: W:\Enviro_Projects\141794 Arriba_Rush Creek\DD\GIS\Apps\Working\Preferred HPA 11X17.mxd

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Approximately 2.5 miles of this route is cultivated. These areas may contain sites but they are more likely to be dispersed or disturbed.

5.7.1.3 Alternative D

Within Alternative D Segment 5 is a high probability area that heads east from the Missile Silo Substation across rolling hills and flat terraces above Bolden Gulch, Muddy Creek, Badger Creek, Cottonwood Creek, and Rattlesnake Creek. Only a small portion of these landforms have not been cultivated leaving approximately 3 miles of high probability areas for cultural resources.

Table 5-5 Cultural Resource Impacts by Alternative – Arapahoe County

Cultural Resource Impact	Alternative							
	A	B	C	D	E	F	G	H
Number of recorded historic or prehistoric sites crossed by ROW	0	0	1	0	0	1	1	0
Number of additional recorded historic or prehistoric sites within 1,000 feet of ROW centerline	0	0	1	0	0	1	1	0
Number of National Register listed or determined eligible sites crossed by ROW	0	0	1	0	0	1	1	0
Number of additional National Register listed or determined eligible sites within 1,000 feet of ROW centerline	0	0	1	0	0	1	1	0
Length of ROW through areas of high archaeological/historic site potential	6	6	2.5	3	6	2.5	2.5	6

5.7.2 End-to-End Route Summary

5.7.2.1 Alternative A (Preferred Route)

Alternative A is a generally low impact route that crosses the lowest number of previously recorded sites and only 43 miles of high site potential areas. This route would likely represent a lower potential impact to significant cultural resources.

5.7.2.2 Alternative B

Alternative B is similar to Alternative A in many aspects including most of its route and its potential impacts to cultural resources. Alternative B only crosses one cultural resource and 43 miles of high site potential areas. This route would likely represent a lower potential impact to significant cultural resources.

5.7.2.3 Alternative C

Alternative C covers more miles of high potential site areas, approximately 53.5, and crosses and passes within 1,000 meters of 11 previously recorded cultural resources including the NRHP listed Union Pacific Railroad Segment and the Beuck Land Company Centennial Farm. The Union Pacific Railroad Segment is not likely to be significantly impacted by visual disturbances and should be spanned to avoid any direct impacts. The Centennial Farm does contain significant historic structures that may require indirect visual impact mitigation.

5.7.2.4 Alternative D

Alternative D crosses or is within 1,000 feet of 24 previously recorded cultural resources. It does however cross only 42 miles of high site potential areas, the lowest of the alternatives. Alternative D crosses site 5LN477, an NRHP eligible prehistoric site that would require avoidance of direct impacts or monitoring during construction near the site boundary.

5.7.2.5 Alternative E

Alternative E crosses or is within 1,000 feet of seven previously recorded cultural resources none of which are eligible for the NRHP. Alternative E crosses a total of 49 miles of high site potential areas.

5.7.2.6 Alternative F

Alternative F crosses or is within 1,000 feet of 17 cultural resources including the Beuck Land Company Centennial Farm and a Union Pacific Railroad Segment. Alternative F also crosses 64.5 miles of high site potential areas the largest of the Alternatives. The Union Pacific Railroad Segment is not likely to be significantly impacted by visual disturbances and should be spanned to avoid any direct impacts. The Centennial Farm does contain significant historic structures that may require indirect visual impact mitigation.

5.7.2.7 Alternative G

Alternative G crosses or is within 1,000 feet of 12 previously recorded cultural resources including the Beuck Land Company Centennial Farm and a Union Pacific Railroad Segment. Alternative G also crosses 53.5 miles of high site potential areas. The Union Pacific Railroad Segment is not likely to be significantly impacted by visual disturbances and should be spanned to avoid any direct impacts. The Centennial Farm does contain significant historic structures that may require indirect visual impact mitigation.

5.7.2.8 Alternative H

Alternative H crosses or is within 1,000 feet of 7 previously recorded cultural resources none of which are eligible for the NRHP. Alternative G also crosses 57 miles of high site potential areas.

5.8 Air Quality and Controls

The existing air quality in the region is typical of rural agricultural regions in the western United States. There is limited data collected in similar areas; however, the data collected indicate that ambient pollutant levels are typically near or below detection limits. Areas subject to poorer air quality are those sites immediately adjacent to surface-disturbing activities such as energy, oil, and gas development projects; farm tilling; and local population centers affected by residential emissions.

5.8.1 Existing Emission Sources

In the Project Area, air quality is primarily affected by emissions from energy development and production activities. Additional sources include agricultural activities such as planting and harvesting, sand and gravel quarries, automobiles, and small to medium-sized generators. These sources typically generate

and emit carbon monoxide (CO), nitrogen oxides (NO_x), particulate matter less than 10 microns (PM_{10}), particulate matter less than 2.5 microns ($PM_{2.5}$), sulfur dioxide (SO_2), and volatile organic compounds (VOCs). With the removal of leaded gasoline in the marketplace and the absence of industries such as non-ferrous smelters and battery plants, airborne lead pollution is not an issue of concern in the area (CDPHE 2016).

5.8.2 Attainment Status

In 2008, the State of Colorado recommended that the Denver Metro/North Front Range 8-hour nonattainment area be designated as nonattainment for the 2008 revised 8-hour ozone standard. The 8-hour ozone nonattainment area consists of a nine-county area that includes Arapahoe County. Elbert and Lincoln Counties have not been designated as nonattainment (CDPHE 2009).

The air quality in the eastern area of Arapahoe County where the Project Area is located is generally considered to be very good. For all criteria pollutants except ozone, the air quality is considered to be in attainment or unclassified. An unclassified designation indicates that the status of attainment has not been verified through data collection. For the purposes of permitting new sources, unclassified areas are considered to be in attainment.

5.8.3 Applicable State Requirements

The proposed Project does not have any long-term emission sources planned. Project-related air emissions will be short-term and primarily occur during construction activities. The Project will not significantly affect air quality.

The CDPHE – Air Pollution Control Division (APCD) implements and enforces the federal Clean Air Act permitting program and air quality standards in Colorado. Under Colorado air quality regulations, land development includes all land clearing activities such as excavating or grading for residential, commercial, or industrial development. These land disturbing activities release fugitive dust which is regulated by the APCD.

Land development projects greater than or equal to 25 continuous acres and/or 6 months in duration typically require the submission of an Air Pollutant Emission Notice (APEN) and an air permit. The APEN will document the general project information such as project description, location, size, and duration. In addition, the APEN will include detailed information on the Project's Fugitive Dust Control Plan.

5.8.4 Construction Emissions

The large equipment used during construction will likely be powered with diesel fuel or gasoline. The combustion of these fuel sources include pollutants such as NO_x, CO, VOCs, particulate matter (PM), small amounts of SO_2, and trace amounts of hazardous air pollutants. It is assumed that all equipment used for the project will be maintained to comply with all emissions standards. Therefore, air quality impacts associated with construction of the Project will primarily be limited to fugitive dust.

Fugitive dust arises from land clearing, grading, excavation, and vehicle traffic on unpaved roads. The amount of fugitive dust depends on the amount of vehicular traffic, construction activities, moisture content of the soil, and wind speed. During dry periods with high winds, fugitive dust would be much more

prevalent that during wet periods with low winds. Dust suppression methods such as watering will be used in construction zones during dry periods to minimize fugitive dust impacts.

As the fugitive dust emissions and emissions from combustion engines will be temporary (limited to the construction period) and will be transient, these sources will not significantly contribute to the ozone levels in Arapahoe County.

5.8.5 Operational Emissions

During operations of the Project, the primary emissions are expected to be fugitive dust from worker and maintenance vehicles traveling on unpaved roads. In addition, there will be emissions from vehicles or maintenance equipment. No significant emissions are anticipated and, therefore, no impacts to air quality are anticipated during the operation of the Project.

5.8.6 Mitigation Measures

Mitigation measures will be implemented to minimize any potential impacts to air quality from construction activities.

Project emissions are only anticipated to arise from ground disturbing activities, equipment movement, and fuel combustion. These emissions will be temporary and localized. Mitigation measures to address construction-related impacts will consist of:

- Maintaining all fossil fuel-fired construction equipment in accordance with manufacturers' recommendations to minimize construction-related combustion emissions.
- Controlling combustion emissions through engine manufacturing requirements for both mobile sources (40 CFR Part 85) and portable equipment such as air compressors.
- Limiting the idling time of equipment to no more than five minutes, unless idling must be maintained for proper operation (e.g., drilling, hoisting, and trenching).
- Limit the speed of vehicles within construction sites and along the utility ROW during construction to reduce the amount of fugitive dust generated.
- Water trucks will be utilized as necessary to reduce fugitive dust from construction activities.

5.9 Noise, Vibration, Odors, and Nuisances

The existing noise levels in the Project Area of rural Arapahoe County are relatively low. The primary existing sources of noise in the Project Area are traffic along local county roads and some agricultural machinery. Vibration, odors, or other nuisances from the Project are not anticipated, except for minimal noise associated with equipment operation during the construction period and maintenance activities. The noise impacts will be temporary in location and duration and all applicable state and local noise regulations will be complied with. After construction, operating noise emanating from the transmission line will in compliance with Colorado PUC noise limits. The Project will not contribute to odor impacts in Arapahoe County.

The Rush Creek 345 kV Transmission Line Project will also be in compliance with Colorado PUC requirements regarding electromagnetic field (EMF) levels around the transmission line. The Colorado

PUC EMF limits are 150 milligauss at the edge of ROW, one-meter above ground. The Project's transmission line alignments have been designed to limit potential human exposure to EMF. The selection of Alternative A as the Preferred Alternative has limited potential human expose to EMF since it has limited populations around the ROW.

5.10 Socioeconomics

The following discussions describe general socioeconomic impacts that PSCo anticipates for all of the transmission route alternatives in Arapahoe County, and considers construction labor costs, monetary capital, and material and consumer resources. There are no mitigation measures applicable to socioeconomic impacts.

5.10.1 General Impacts

PSCo anticipates that most of the Project's socioeconomic impacts would provide minor, direct and indirect benefits to local and regional economies during short-term construction activities and negligible benefits during long-term O&M activities, as described below. These benefits would likely be similar for all of the transmission route alternatives because all of the alternatives would occur in and around the same communities. The alternatives' route lengths, ROW and access road requirements do not factor into socioeconomic impacts in the quantitative way they would for land use and natural and cultural resources' impacts.

5.10.1.1 Construction Activities

During the Project's construction period, the local and regional population may experience a minor increase. For the alternatives within Arapahoe County, PSCo anticipates that most of the construction workers would be long-term Denver-Aurora-Lakewood, Colorado Metropolitan Statistical Area (Denver MSA) residents and some out-of-area specialty workers. The Denver MSA includes Arapahoe County. Many of these resident workers would possess the construction skills and experience needed for the Project, while others may require on-the-job training. These resident workers would likely have established incomes, and their short-term employment on the Project would not add substantial new revenue streams to the local and regional economies. The remainder of construction workers would be expected to originate from locations outside of the Denver MSA, possibly from other parts of Colorado or from out-of-state. These workers would temporarily relocate to the Denver MSA during the construction period.

As some construction workers temporarily relocate to the Denver MSA, it is anticipated that these workers would provide direct and indirect benefits to the economies in these areas. Direct benefits would include purchasing goods, services, and short-term housing arrangements. The purchases would increase local and regional business revenues and associated state and local tax revenues. While a portion of the workers' incomes would be spent on such purchases, most of their incomes would be transferred to their spouses/families at their permanent residences to pay for housing and other cost-of-living expenses. The workers would be expected to provide indirect benefits as their demand for goods and services might prompt local and regional businesses to hire more staff and/or order more supplies. Additional staff would spend a portion of their incomes on local and regional goods, services, and housing; and ordering supplies from non-local or non-regional wholesalers would provide economic benefits to the wholesalers'

communities. In this way, construction workers' initial purchases create a ripple effect that can extend far beyond the communities near the Project.

Construction activities would also be expected to have a minor benefit on local and regional economies in reducing unemployment rates and the stock of vacant short-term housing units. The indirect benefits mentioned above might reduce unemployment rates as convenience stores and gas stations, grocery stores, restaurants, shops, and lodging establishments hire more staff to accommodate the non-resident workers' demand for goods, services, and shot-term housing. As some workers temporarily relocate to the communities near the Project, they would increase the demand for housing, including vacant single-family housing units and/or hotel/motel rooms. This increase in demand would provide a short-term benefit to local and regional real estate markets in the form of short-term rental payments and guest room fees and taxes.

Construction Labor Costs

Concerning construction labor costs, it is important to note the average wages for construction workers in Colorado, as PSCo anticipates that workers in and around the Denver MSA would compose the majority of the work force. The average wages for construction workers yields $29.83 per hour (Colorado Department of Labor and Employment 2015). Using this wage and assuming that PSCo would employ between 12 and 30 workers during the construction period. Construction workers would spend a portion of this money to purchase the consumer resources listed below.

Material and Consumer Resources

For purposes of the Project, material resources would be expected to include, but are not limited to:

- Corten (self-weathering steel) for the transmission poles. Note that self-weathering steel for the transmission poles will be sourced from suppliers outside of the Denver MSA.
- Aluminum and steel for the conductors.
- Steel for the OPGWs.
- Transformers and other electrical equipment.
- Cement for substation component foundations.
- Fill material, if not available near the work area.
- Gravel for construction yards/staging areas and roads.
- Office trailers for construction yards/staging areas.
- Gasoline and diesel fuel for the construction equipment and vehicles mentioned above.

Consumer resources are those that construction workers would require, and include, but are not limited to:

- Food, including groceries and meals at eating and drinking establishments.
- Lodging at hotels, motels, campgrounds, or for rent housing units.
- Emergency services, including police, fire, and rescue.
- Medical, dental, and other health-related services.
- Laundry services.
- Banking and postal services.
- Automotive services.
- Arts, entertainment, shopping, and retail trade services.

In contrast to the construction activities' benefits, the Project might cause short-term, minor, adverse impacts to the local and regional economies if construction contractors purchase material resources from vendors outside of the Denver MSA. Purchasing material resources from outside vendors would help fund economies elsewhere instead of circulating funds in the local and regional economies. Additionally, as these resources are purchased elsewhere, the decreased demand for local and regional materials might prompt suppliers to reduce staff hours or postpone hiring more staff. This phenomenon could prolong existing unemployment conditions or potentially increase unemployment rates. Construction contractors would choose outside vendors if local or regional vendors do not have enough materials and supplies available and/or the local or regional prices are greater than those from outside vendors.

PSCo would purchase some material resources from suppliers outside of the Denver MSA. However, PSCo would purchase many other material resources, including rock, aggregate, cement, asphalt, and fuel from local and/or regional suppliers; thereby providing direct and indirect benefits to local and/or regional economies. Additionally, construction workers' expenditures on food, fuel, lodging, and the other consumer resources listed above would provide similar direct and indirect benefits to the local and/or regional economies.

5.10.1.2 Operation and Maintenance Activities

PSCo anticipates that the Project's O&M activities would provide slight socioeconomic benefits to the local and regional economies. More specifically, the Project's permanent O&M workers would represent a small fraction of the temporary construction work force. It is anticipated that the Project would require fewer than 5 permanent, full-time O&M workers for the substation and transmission line. Many of these O&M workers would likely have resided in the Denver MSA for many years and would likely have worked in the electric power transmission industry performing the same or similar O&M tasks. It is anticipated that these workers' salaries would not substantially increase or decrease from their current levels and their housing requirements would not substantially change.

During scheduled power outages and/or emergency situations, O&M workers might purchase job-related supplies from local or regional businesses and thereby increase local or regional business revenues and associated state and local tax revenues. However, given that scheduled maintenance activities would not occur for at least 15 to 20 years after the transmission line is energized, these increases would represent negligible benefits. A few O&M workers, who did not reside in the Denver MSA prior to the Project, might permanently relocate to the area for O&M employment. The workers' impact on the local or regional economies would also be negligible. For all of these reasons, the Project's O&M activities would provide only negligible socioeconomic benefits to the local and regional economies.

5.10.2 County-Specific Impacts

Per the *Regulations for Governing Areas and Activities of State Interest in Arapahoe County*, the following discussions describe the Project's anticipated impacts on the local economy, the net effect of the Project on the local economy, and opportunities for economic diversification, including the number and types of jobs that the Project would create. Among the transmission route alternatives, it is assumed that there would be no noticeable difference in socioeconomic impacts.

5.10.2.1 Description of Impacts

Population

The Project's temporary influx of workers who relocate for construction employment would have no noticeable impact on the county's 2015 population of 631,096 residents. The majority of this population lives in the greater Aurora area with comparatively smaller populations residing in Byers, Deer Trail, and Strasburg. It is assumed that most of the workers who relocate would live in Aurora. For the remainder of these workers who choose to live in these smaller communities, their impact on these communities' populations would not likely represent a substantial change from existing conditions.

During the Project's O&M activities, there would be no noticeable impact on the county's population. Most of the O&M workers would likely be long-term county residents. Should a few workers relocate to the county for O&M employment, they would have no noticeable impact on the county's population.

Employment and Income

The Project's temporary workers who relocate for construction employment would have no noticeable impact on the county's number of employed civilian laborers. These workers would increase the county's number of workers but would not help to reduce the unemployment rate unless local businesses hire additional staff to accommodate these workers' increased demands for goods and services and the staff were previously unemployed.

Temporary construction workers would spend a portion of their incomes on local goods and services, but they would transfer most of their incomes back to their permanent residences in communities outside of the County.

During the Project's O&M activities, there would be no noticeable impact on the county's employed workers or their incomes. Most of the workers hired for the Project's O&M activities would be long-term specialty workers with established O&M careers in the electric power transmission industry. Their new salaries for the Project's O&M activities would likely be similar to their previous salaries.

Housing

Across Aurora, Byers, Deer Trail, and Strasburg, there are approximately 7,606 vacant housing units and several hotels/ motels with approximately 112 rooms to accommodate the Project's temporary construction workers. These workers' short-term housing lease payments and guest room fees and taxes would provide a temporary increase in local and regional housing revenue streams. After construction activities are completed, it is anticipated that housing conditions would return to pre-construction conditions.

Net Effect of the Project on the Local Economy

The Project would be expected to have a net positive effect on Arapahoe County's economy. More specifically, as temporary construction workers relocate to the county, their expenditures on goods, services, and housing would increase local revenue streams and associated state and local tax revenues. Should a few workers relocate to the county for permanent O&M employment, they would likely have a small but positive impact on the local economy through purchasing goods, services, and long-term housing. Family members joining these workers might also contribute to the local economy's growth in obtaining employment and increasing total household incomes in the county.

Opportunities for Economic Diversification

The Project would not be expected to diversify the local economy's existing mix of employment sectors. The addition of a new transmission line in the county would not represent a different kind of facility or require skills that are different from those used to construct existing transmission lines in the county. PSCo anticipates employing 12 - 30 workers during the Project's construction period and 6-10 workers during the Project's O&M period.

5.11 Hazards and Emergency Procedures

Hazards, such as fire and the accidental spill of hazardous materials, could occur with the construction, O&M of the Project. These hazards and procedures for reducing them are described in more detail below.

5.11.1 Fire

Fire ignition in the Project Area could occur through natural causes (i.e., lightning) and human activities. The Project could increase fire ignition through construction and O&M activities (e.g., vehicle ignition). The implementation of the following BMPs will reduce potential hazards from fire:

- PSCo and its contractors, as appropriate, will initiate discussions with local fire districts and regional fire prevention staff prior to construction to discuss emergency procedures and to provide transmission line safety training, including safety procedures for conducting fire suppression activities near a power line.
- All construction, O&M vehicles will be equipped with appropriate fire suppression tools and equipment. Fire suppression equipment will include, but not limited to, shovels, buckets, and fire extinguishers.
- Smoking and equipment parking will be restricted to designated areas and prohibited in the vicinity of flammable materials.
- PSCo and /or its contractors will fuel all highway-authorized vehicles off-site to minimize the risk of fire. Fueling of construction equipment that is transported to the site via truck and is not highway authorized will be done in accordance with regulated construction practices and federal, state, and local laws.
- PSCo and/or its contractors will notify the federal, state, and local agencies of any fires and comply with all rules and regulations administered by the federal, state, and local land management agencies concerning the use, prevention, and suppression of fires including any fire prevention orders that may be in effect at the time of the construction, operation, or maintenance activity.

5.11.2 Accidental Spills

During construction, use of trucks, heavy equipment, or stored supplies could result in accidental discharge of fuel, lubricants, and automotive fluids. Although the potential exists, any spills would be accidental, occasional, and of limited extent and would be considered minor to negligible and temporary in duration. A Spill Prevention, Containment, and Countermeasure Plan will be prepared for the proposed Project and will contain information regarding training, equipment inspections maintenance and repair, spill prevention kits, and refueling operations for construction vehicles, with an emphasis on preventing spills. Hazardous materials will not be drained onto the ground or into streams or drainage areas. All construction waste including trash and litter, garbage, other solid waste, petroleum products and other

potentially hazardous materials will be removed to a disposal facility authorized to accept such materials weekly.

5.12 Cost-Benefit Analysis

The Project will present benefits to Arapahoe County, the State of Colorado, and PSCo's ratepayers. There are also limited costs associated with the Project. Costs and benefits are summarized below.

Potential Project benefits include:

- Increased tax base for Arapahoe County;
- Landowner easement payments provide additional income for residents;
- Local spending for Project construction materials and other goods and services;
- Economic generation for the State of Colorado for Project construction materials and other goods and services;
- Long-term cost savings for PSCo ratepayers;
- County road maintenance and improvements;
- Facilitating renewable, sustainable energy for the State of Colorado; and
- Support to local community organizations and events.
    - Sponsorship of County Fair events; and
    - Support community organizations (i.e., fire, ambulance, schools, libraries, community centers, churches, 4-H, FFA, etc.).

Potential Projects impacts include:

- Visual impacts due to heights of transmission line structures (see Section 5.3 Visual Resources); and
- Minimal community and local governmental service demands, including minor impacts to emergency, fire, and safety services

6. ENGINEERING STUDIES

6.1 Floodplain Delineation Study

A floodplain delineation study will be prepared as a condition of approval. The floodplain study will be submitted to Arapahoe County under a separate cover to address issues associated with the proposed transmission line.

6.2 Grading, Erosion, and Sediment Control

A grading, erosion, and sediment control study ("Study") was prepared for the original construction of the Missile Site Substation in 2012. The 2012 Study was prepared to account for the buildout of an additional 345kV transmission and therefore covers the proposed Project. A new Grading, Erosion, and Sediment Control Study for the transmission line will be prepared, submitted, and approved prior to construction.

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EXHIBIT A
SITE PLAN

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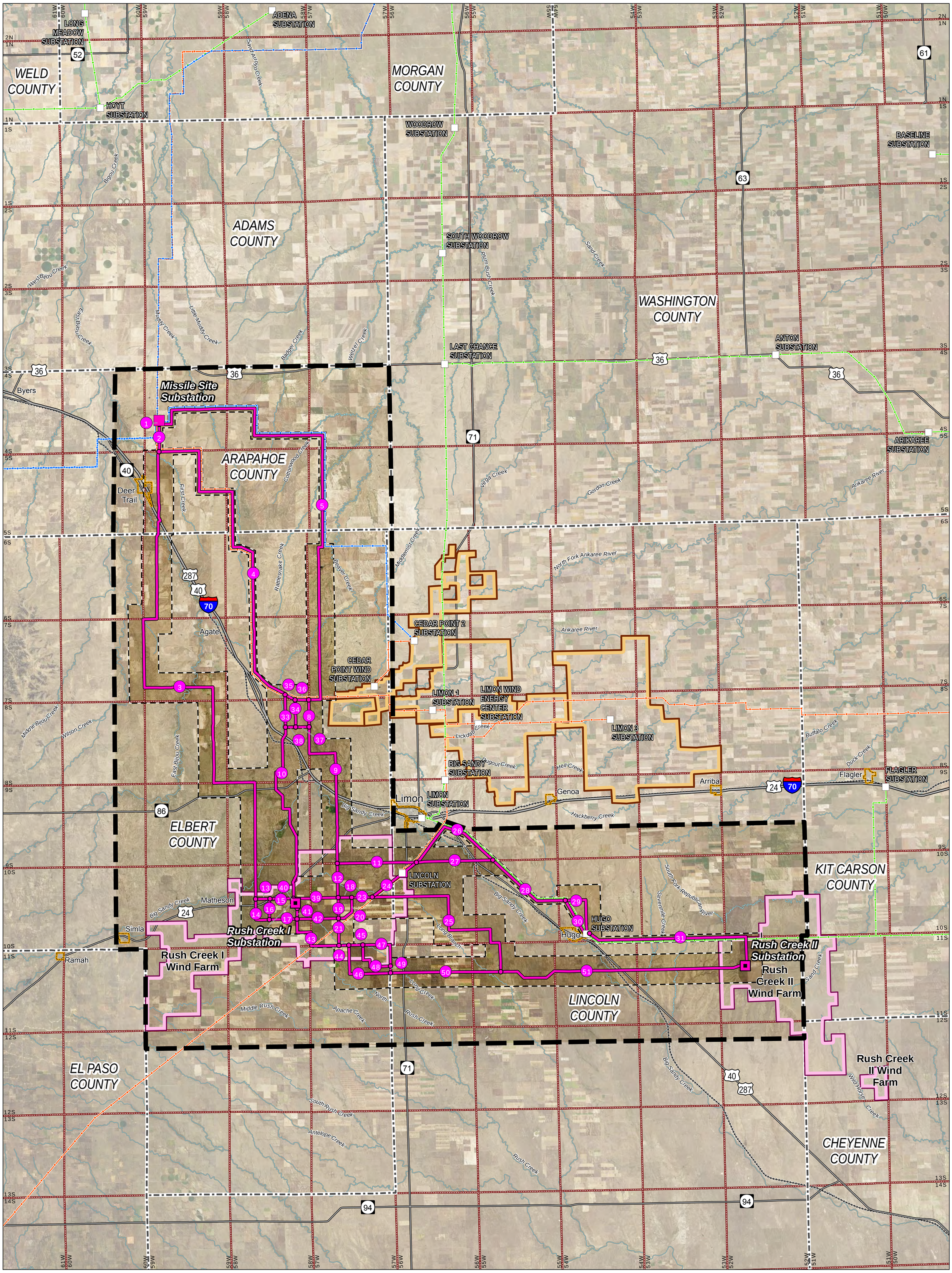


Project Components

- Existing Missile Site Substation
- Proposed Substation
- Alternative Route Segment and Node
- Alternative Route Corridor
- Study Area
- Proposed Wind Farm Boundary

Utilities

- Existing Substation
- Existing 345 kV Transmission line
- Existing 230 kV Transmission line
- Existing 69 kV or 115 kV Transmission line
- Existing Wind Farm Boundary

Administrative Boundaries

- Township and Range
- Municipality
- County Boundary

Transporation

- Interstate Highway
- US Highway
- State Highway
- Railroad

Surface Water

- Stream

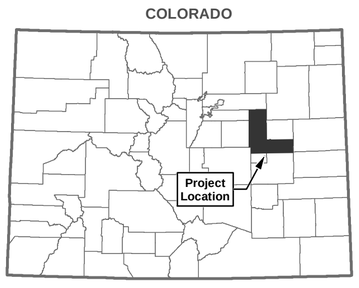
Alternative	Route Segment Composition
A	1-2-4-10-33-40-41-43-44-45-48-49-50-51
B	1-2-4-10-34-35-38-40-41-43-44-45-47-49-50-51
C	1-2-3-14-17-21-41-42-44-46-50-51
D	1-5-8-9-12-18-23-24-26-28-30-31-39-40
E	1-2-4-8-9-12-19-20-23-25-35-36-41-42-51
F	1-2-3-11-12-13-15-27-28-29-31-39-40
G	1-2-3-13-16-17-41-43-44-46-50-51
H	1-2-4-9-12-19-21-34-35-37-41-42-44-45-47-49-50-51

Some data layers including property boundaries, pipelines, railroads, and oil/gas well sites obtained from third-party sources are inaccurate to varying degrees. These data have not been corrected and should be used as a general guide to feature locations only. Digitization of initial preliminary transmission line segments was performed based on aerial interpretation of these features.

Some legend symbols are enlarged for easier identification. Some segment locations are exaggerated to better identify paralleling opportunities.

Base Map: NAIP 2015

COLORADO



Site Plan

Rush Creek 345 kV Transmission Line Project

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1 inch = 3 miles when printed at 24" by 36"

POWER ENGINEERS

Xcel Energy

Date: 10/6/2016

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EXHIBIT A-1
SITE PLAN

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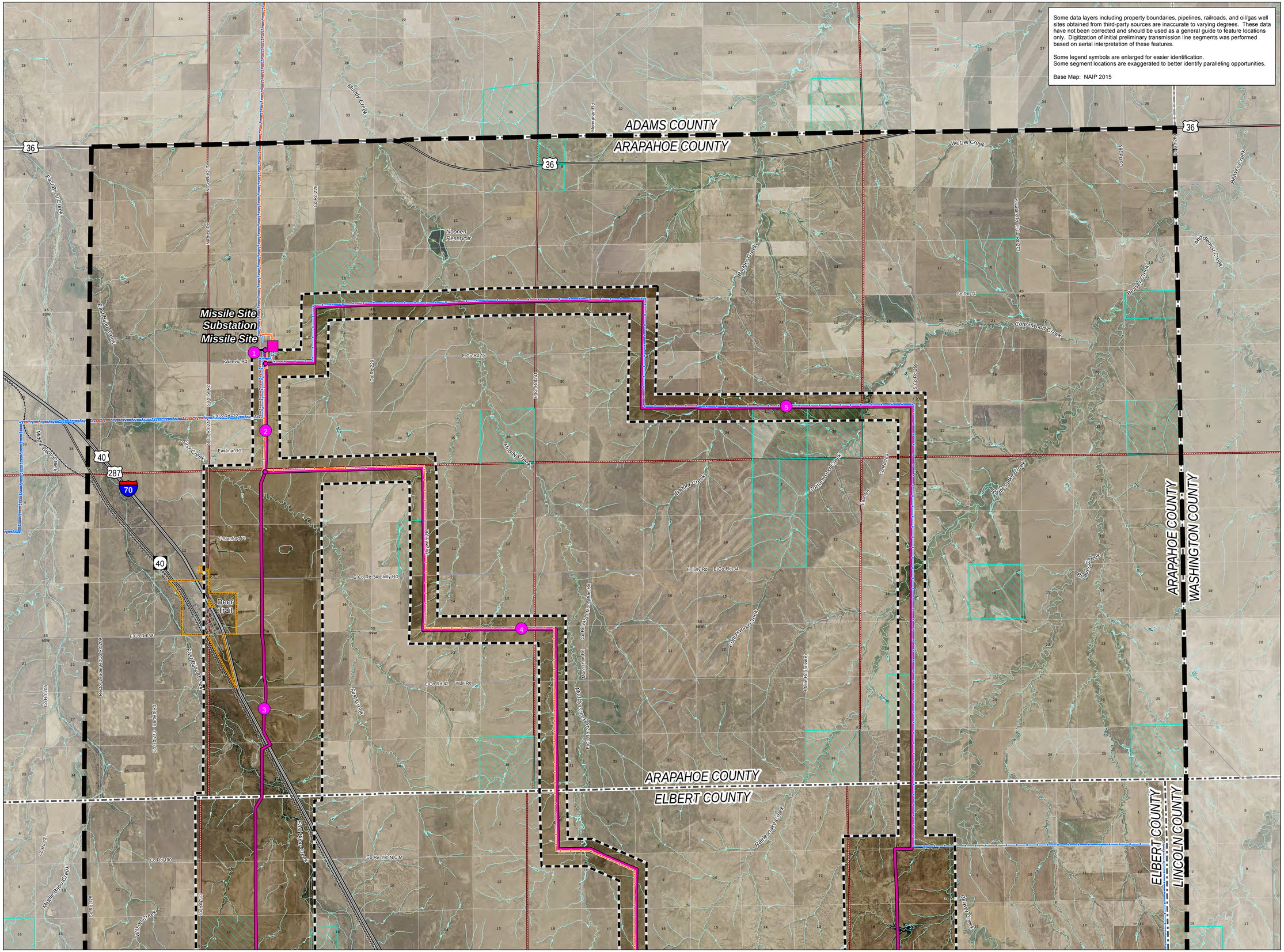

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Some legend symbols are enlarged for easier identification.
Some segment locations are exaggerated to better identify paralleling opportunities.

Base Map: NAIP 2015

Site Plan - Arapahoe County

Rush Creek 345kV Transmission Line Project
Environmental Assessment

Project Components

- Existing Missile Site Substation
- Alternative Route Segment and Node
- Alternative Route
- Study

Existing Utilities

- Existing 345kV Transmission line
- Existing 230kV Transmission line

Administrative Boundaries

- Parcel Boundary
- State Land
- Section with Number
- Township and Range
- Municipality
- County Boundary

Transporation

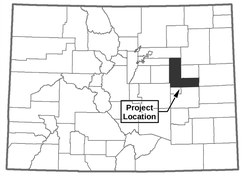
- Interstate Highway
- US Highway
- State Highway
- Local Road
- Railroad

Surface Waters

- Stream
- Pond

Alternative	Route Segment Composition
A	1-2-4-10-33-40-41-43-44-45-48-49-50-51
B	1-2-4-10-34-35-38-40-41-43-44-45-47-49-50-51
C	1-2-3-14-17-21-41-42-44-46-50-51
D	1-5-8-9-12-18-23-24-26-28-30-31-39-40
E	1-2-4-8-9-12-19-20-23-25-35-36-41-42-51
F	1-2-3-11-12-13-15-27-28-29-31-39-40
G	1-2-3-13-16-17-41-43-44-46-50-51
H	1-2-4-9-12-19-21-34-35-37-41-42-44-45-47-49-50-51

COLORADO



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Miles

1 inch = 4,000 feet
when printed at 24" by 36"

POWER ENGINEERS

Xcel Energy
RESPONSIBLE BY NATURE

Date: 8/19/2016

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EXHIBIT B
WATER RESOURCES – ARAPAHOE COUNTY MAP

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Some data layers including property boundaries, pipelines, railroads, and oil/gas well sites obtained from third-party sources are inaccurate to varying degrees. These data have not been corrected and should be used as a general guide to feature locations only. Digitization of initial preliminary transmission line segments was performed based on aerial interpretation of these features.

Some legend symbols are enlarged for easier identification.
Some segment locations are exaggerated to better identify paralleling opportunities.

Base Map: NAIP 2015

ADAMS COUNTY
ARAPAHOE COUNTY
ARAPAHOE COUNTY
WASHINGTON COUNTY
ARAPAHOE COUNTY
ELBERT COUNTY
ELBERT COUNTY
LINCOLN COUNTY

Missile Site Substation

Deer Trail

Muddy Creek
Badger Creek
Wetzel Creek
Beaver Creek
Middlemist Creek
Cottonwood Creek
Rattlesnake Creek
Noonen Reservoir
East Bijou Creek
Middle Bijou Creek
First Creek
Wilson Creek

36
40
287
70

Water Resources- Arapahoe County

Rush Creek 345kV Transmission Line Project
Environmental Assessment

Project Components

- Existing Missile Site Substation
- Alternative Route Segment
- Alternative Route Corridor
- Study Area

Existing Utilities

- Existing 345kV Transmission line
- Existing 230kV Transmission line

Administrative Boundaries

- Section with Number
- Township and Range
- Municipality
- County Boundary

Transporation

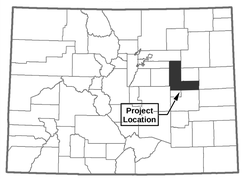
- Interstate Highway
- US Highway
- State Highway
- Local Road
- Railroad

Surface Water

- Perennial Stream
- Intermittent Stream
- Canal/Ditch/Pipeline
- Pond
- National Wetland Inventory
- Playa Lake
- Riparian Area (NWI Riverine)
- Riparian Area (NLCD Wetlands)
- Identified Arapahoe County Floodplain Crossing
- Floodplain

Alternative	Route Segment Composition
A	1-2-4-10-33-40-41-43-44-45-48-49-50-51
B	1-2-4-10-34-35-38-40-41-43-44-45-47-49-50-51
C	1-2-3-14-17-21-41-42-44-46-50-51
D	1-5-8-9-12-18-23-24-26-28-30-31-39-40
E	1-2-4-8-9-12-19-20-23-25-35-36-41-42-51
F	1-2-3-11-12-13-15-27-28-29-31-39-40
G	1-2-3-13-16-17-41-43-44-46-50-51
H	1-2-4-9-12-19-21-34-35-37-41-42-44-45-47-49-50-51

COLORADO



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Miles

1 inch = 4,000 feet
when printed at 24" by 36"

POWER ENGINEERS
Xcel Energy
RESPONSIBLE BY NATURE

Date: 7/20/2016

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EXHIBIT C
LAND USE, TRANSPORTATION, AND RECREATION – ARAPAHOE COUNTY MAP

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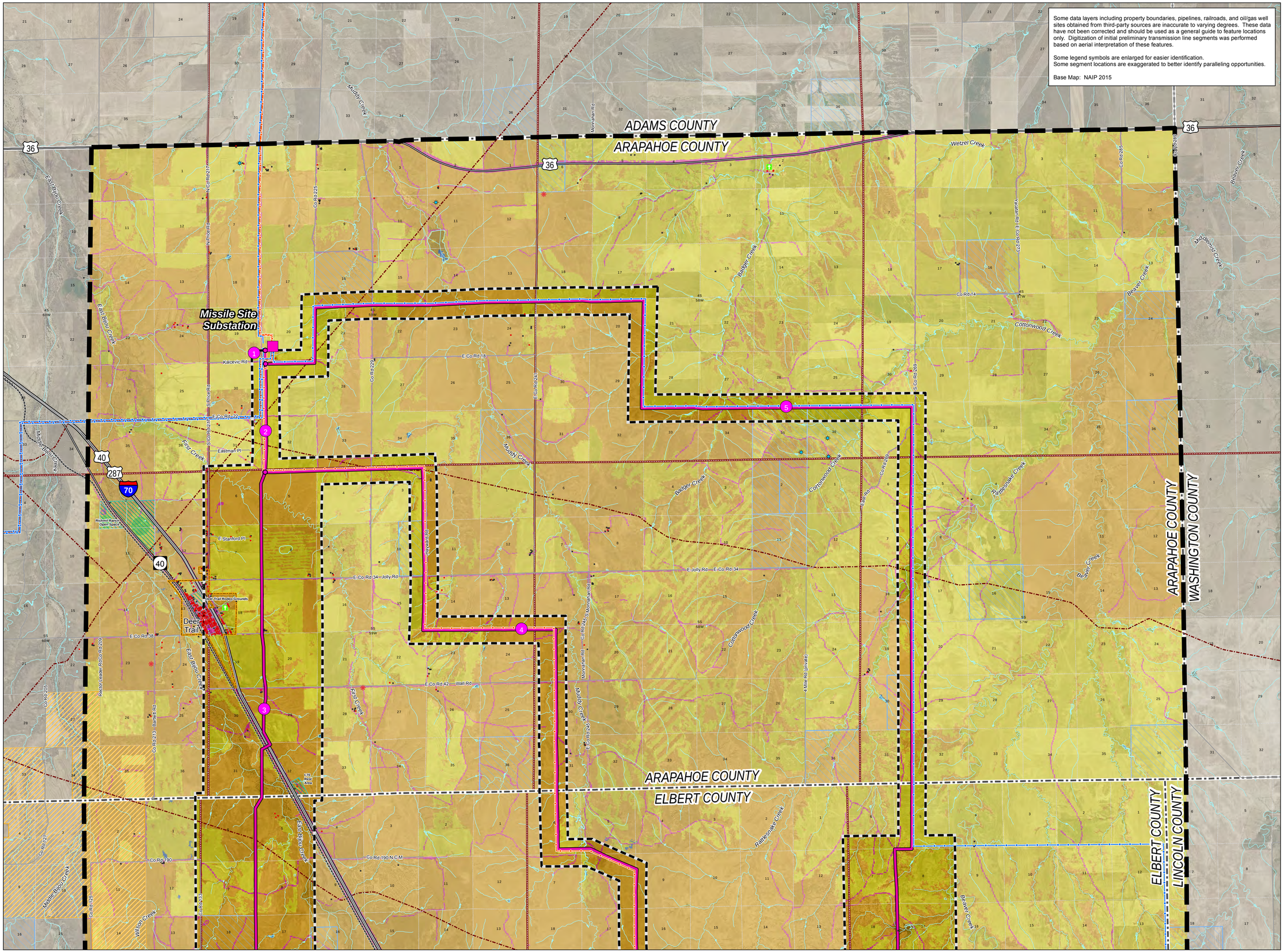


Some data layers including property boundaries, pipelines, railroads, and oil/gas well sites obtained from third-party sources are inaccurate to varying degrees. These data have not been corrected and should be used as a general guide to feature locations only. Digitization of initial preliminary transmission line segments was performed based on aerial interpretation of these features.

Some legend symbols are enlarged for easier identification.
Some segment locations are exaggerated to better identify paralleling opportunities.

Base Map: NAIP 2015

Land Use, Transportation and Recreation - Arapahoe County

Rush Creek 345kV Transmission Line Project
Environmental Assessment

Project Components

- Existing Missile Site Substation
- Alternative Route Segment and Node
- Alternative Route Corridor
- Study Area

Existing Utilities

- Existing 345kV Transmission line
- Existing 230kV Transmission line
- Pipeline

Land Use

- Residence
- Other Building
- School
- Cemetery
- Oil Well
- Communication Tower
- Center Pivot Irrigation
- Rangeland
- Cropland (Dry)
- Developed
- Open Water

Recreation

- Recreation Area

Administrative Boundaries

- Conservation Easement
- State Land
- Section with Number
- Township and Range
- Municipality
- County Boundary

Transporation

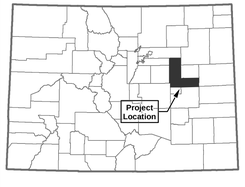
- Interstate Highway
- US Highway
- State Highway
- Local Road
- Railroad

Surface Water

- Pond
- Stream

Alternative	Route Segment Composition
A	1-2-4-10-33-40-41-43-44-45-48-49-50-51
B	1-2-4-10-34-35-38-40-41-43-44-45-47-49-50-51
C	1-2-3-14-17-21-41-42-44-46-50-51
D	1-5-8-9-12-18-23-24-26-28-30-31-39-40
E	1-2-4-8-9-12-19-20-23-25-35-36-41-42-51
F	1-2-3-11-12-13-15-27-28-29-31-39-40
G	1-2-3-13-16-17-41-43-44-46-50-51
H	1-2-4-9-12-19-21-34-35-37-41-42-44-45-47-49-50-51

COLORADO



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Miles

1 inch = 4,000 feet
when printed at 24" by 36"

POWER ENGINEERS

Xcel Energy
RESPONSIBLE BY NATURE

Date: 7/20/2016

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EXHIBIT D
ZONING, SPECIAL DISTRICTS, AND PARCELS – ARAPAHOE COUNTY MAP

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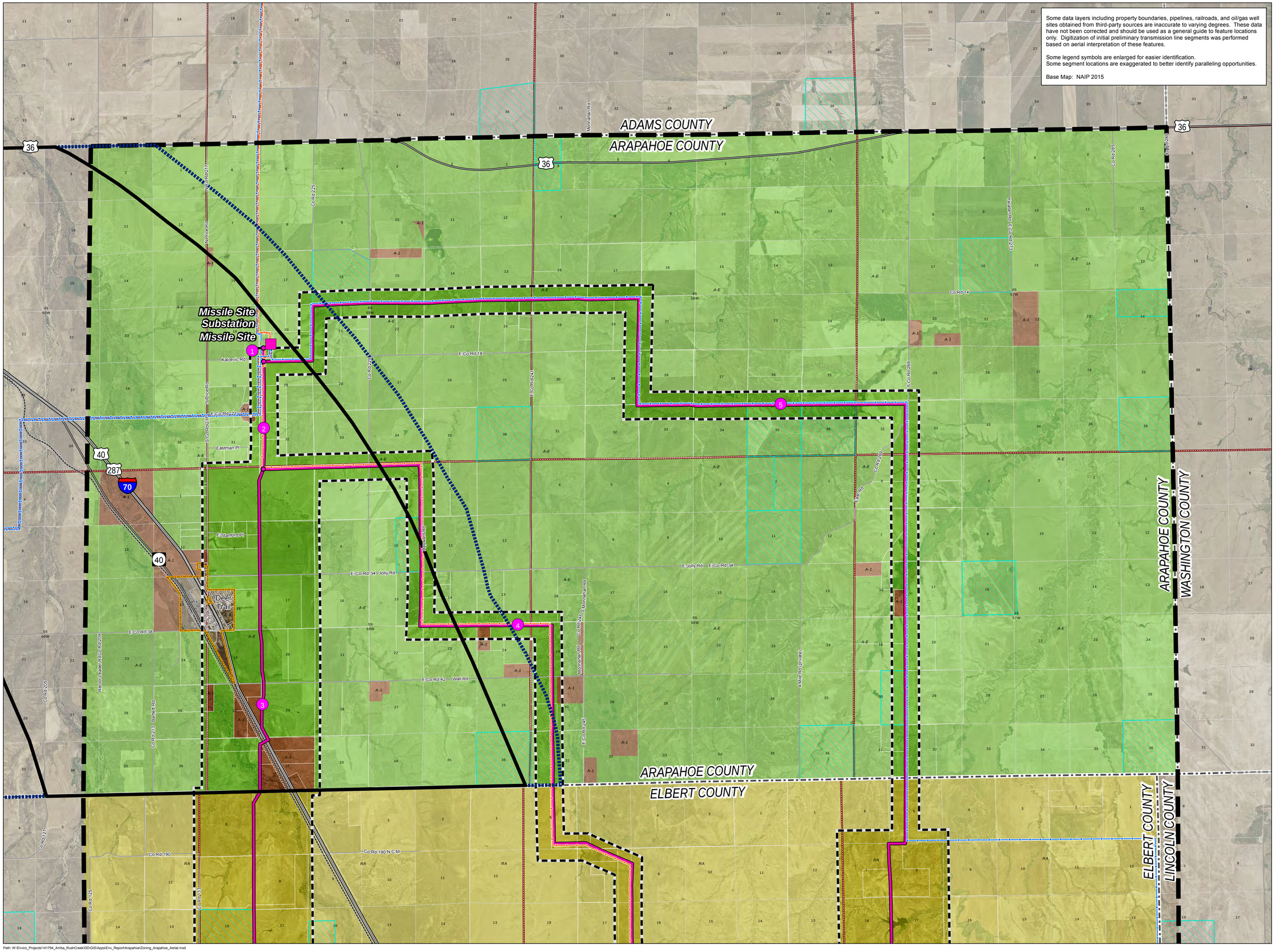


Some data layers including property boundaries, pipelines, railroads, and oil/gas well sites obtained from third-party sources are inaccurate to varying degrees. These data have not been corrected and should be used as a general guide to feature locations only. Digitization of initial preliminary transmission line segments was performed based on aerial interpretation of these features.

Some legend symbols are enlarged for easier identification.
Some segment locations are exaggerated to better identify paralleling opportunities.

Base Map: NAIP 2015

Zoning, Special Districts and Parcels - Arapahoe County

Rush Creek 345kV Transmission Line Project
Environmental Assessment

Project Components

- Existing Missile Site Substation
- Alternative Route Segment and Node
- Alternative Route Corridor
- Study Area

Existing Utilities

- Existing 345kV Transmission line
- Existing 230kV Transmission line

Zoning

- A-E Agricultural Estate (35 Acres min. Parcel Size)
- A-1 Agricultural-1 (19 Acres min. Parcel Size)
- RA Residential Agriculture

Planning Reserve

- Tier 2
- Limited USR-Tier 3

Administrative Boundaries

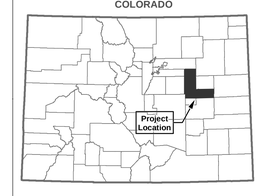
- Parcel Boundary
- State Land
- Section with Number
- Township and Range
- Municipality
- County Boundary

Transporation

- Interstate Highway
- US Highway
- State Highway
- Local Road
- Railroad

Alternative	Route Segment Composition
A	1-2-4-10-33-40-41-43-44-45-48-49-50-51
B	1-2-4-10-34-35-38-40-41-43-44-45-47-49-50-51
C	1-2-3-14-17-21-41-42-44-46-50-51
D	1-5-8-9-12-18-23-24-26-28-30-31-39-40
E	1-2-4-8-9-12-19-20-23-25-35-36-41-42-51
F	1-2-3-11-12-13-15-27-28-29-31-39-40
G	1-2-3-13-16-17-41-43-44-46-50-51
H	1-2-4-9-12-19-21-34-35-37-41-42-44-45-47-49-50-51

COLORADO



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Miles

1 inch = 4,000 feet
when printed at 24" by 36"

POWER ENGINEERS

Xcel Energy
RESPONSIBLE BY NATURE

Date: 7/20/2016

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EXHIBIT E
SCENIC AREAS AND VISUAL QUALITY – ARAPAHOE COUNTY MAP

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Some data layers including property boundaries, pipelines, railroads, and oil/gas well sites obtained from third-party sources are inaccurate to varying degrees. These data have not been corrected and should be used as a general guide to feature locations only. Digitization of initial preliminary transmission line segments was performed based on aerial interpretation of these features.

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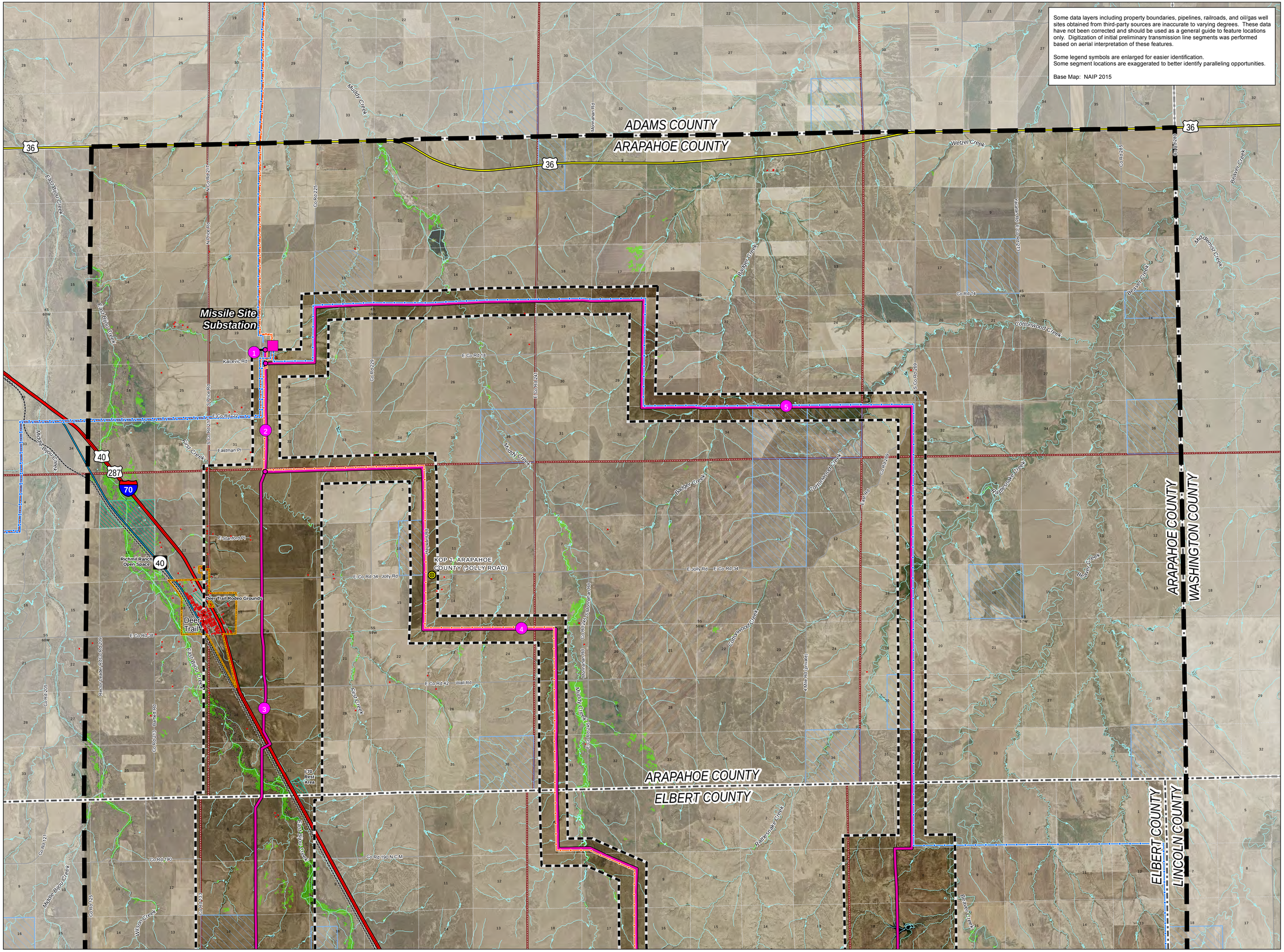
Some segment locations are exaggerated to better identify paralleling opportunities.

Base Map: NAIP 2015



Scenic Areas and Visual Resources - Arapahoe County

Rush Creek 345kV Transmission Line Project
Environmental Assessment

Project Components

- Existing Missile Site Substation
- Alternative Route Segment and Node
- Alternative Route Corridor
- Study Area

Existing Utilities

- Existing 345kV Transmission line
- Existing 230kV Transmission line

Sensitive Visual Resources

- Key Observation Point
- Interstate Highway
- US Highway
- State Highway
- Residence
- Recreation Area
- Riparian Corridor or Woodland

Administrative Boundaries

- State Land
- Section with Number
- Township and Range
- Municipality
- County Boundary

Other Transporation

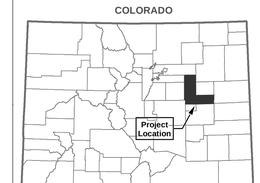
- Local Road
- Railroad

Surface Water

- Pond
- Stream

Alternative	Route Segment Composition
A	1-2-4-10-33-40-41-43-44-45-48-49-50-51
B	1-2-4-10-34-35-38-40-41-43-44-45-47-49-50-51
C	1-2-3-14-17-21-41-42-44-46-50-51
D	1-5-8-9-12-18-23-24-26-28-30-31-39-40
E	1-2-4-8-9-12-19-20-23-25-35-36-41-42-51
F	1-2-3-11-12-13-15-27-28-29-31-39-40
G	1-2-3-13-16-17-41-43-44-46-50-51
H	1-2-4-9-12-19-21-34-35-37-41-42-44-45-47-49-50-51

COLORADO



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Miles

1 inch = 4,000 feet
when printed at 24" by 36"

POWER ENGINEERS
Xcel Energy
RESPONSIBLE BY NATURE

Date: 7/20/2016

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EXHIBIT F
KEY OBSERVATION POINTS FOR ARAPAHOE COUNTY

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EXHIBIT F KOP- ARAPAHOE COUNTY

LEGEND:

- KEY OBSERVATION POINT
- EXISTING TRANSMISSION LINE
- PROPOSED TRANSMISSION LINE

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EXHIBIT G
SOIL QUALITIES – ARAPAHOE COUNTY

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Some data layers including property boundaries, pipelines, railroads, and oil/gas well sites obtained from third-party sources are inaccurate to varying degrees. These data have not been corrected and should be used as a general guide to feature locations only. Digitization of initial preliminary transmission line segments was performed based on aerial interpretation of these features.

Some legend symbols are enlarged for easier identification.
Some segment locations are exaggerated to better identify paralleling opportunities.

Base Map: NAIP 2015

ADAMS COUNTY
ARAPAHOE COUNTY
ARAPAHOE COUNTY
ELBERT COUNTY
ARAPAHOE COUNTY
WASHINGTON COUNTY
ELBERT COUNTY
LINCOLN COUNTY

Missile Site Substation

Deer Trail

Soil Qualities - Arapahoe County

Rush Creek 345kV Transmission Line Project
Environmental Assessment

Project Components

- Existing Missile Site Substation
- Alternative Route Segment
- Alternative Route Corridor
- Study Area

Existing Utilities

- Existing 345kV Transmission line
- Existing 230kV Transmission line

Soils and Terrain

- Prime Farmland if Irrigated
- Prime Farmland if Irrigated with Other Conditions
- Farmland of Statewide Importance
- Less than 15% Slope
- 15% to 30% Slope
- 30% Slope and Over

Administrative Boundaries

- Section and Number
- Township and Range
- Municipality
- County Boundary

Transporation

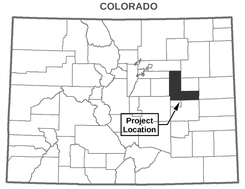
- Interstate Highway
- US Highway
- State Highway
- Local Road
- Railroad

Surface Water

- Pond
- Stream

Alternative	Route Segment Composition
A	1-2-4-10-33-40-41-43-44-45-48-49-50-51
B	1-2-4-10-34-35-38-40-41-43-44-45-47-49-50-51
C	1-2-3-14-17-21-41-42-44-46-50-51
D	1-5-8-9-12-18-23-24-26-28-30-31-39-40
E	1-2-4-8-9-12-19-20-23-25-35-36-41-42-51
F	1-2-3-11-12-13-15-27-28-29-31-39-40
G	1-2-3-13-16-17-41-43-44-46-50-51
H	1-2-4-9-12-19-21-34-35-37-41-42-44-45-47-49-50-51

COLORADO



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Miles

1 inch = 4,000 feet
when printed at 24" by 36"

POWER ENGINEERS
Xcel Energy
RESPONSIBLE BY NATURE

Date: 7/20/2016

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EXHIBIT H
TERRESTRIAL AND AQUATIC ANIMAL AND PLANT HABITAT – ARAPAHOE COUNTY

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Some segment locations are exaggerated to better identify paralleling opportunities.

Base Map: NAIP 2015

ADAMS COUNTY
ARAPAHOE COUNTY
ELBERT COUNTY
LINCOLN COUNTY
WASHINGTON COUNTY

Missile Site Substation

Deer Trail

Andropogon gerardii - Sorghastrum nutans Western Great Plains Herbaceous Vegetation

Bouteloua gracilis - Buchloe dactyloides Herbaceous Vegetation

Sporobolus airoides Southern Plains Herbaceous Vegetation

Buteo regalis

Terrestrial and Aquatic Animal and Plant Habitat - Arapahoe County

Rush Creek 345kV Transmission Line Project
Environmental Assessment

Project Components

- Existing Missile Site Substation
- Alternative Route Segment and Node
- Alternative Route Corridor
- Study Area

Existing Utilities

- Existing 345kV Transmission line
- Existing 230kV Transmission line

Habitat Resources

- CNHP Threatened or Endangered Species Occurrence

Vegetation

- Mixed Woodland
- Shortgrass Prairie
- Eastern Plains Shrubland
- Cropland
- Barren Land

Administrative Boundaries

- Section with Number
- Township and Range
- Municipality
- County Boundary

Transporation

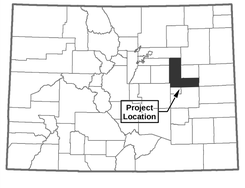
- Interstate Highway
- US Highway
- State Highway
- Local Road
- Railroad

Surface Water

- Pond
- Stream
- Open Water
- Wetland

Alternative	Route Segment Composition
A	1-2-4-10-33-40-41-43-44-45-48-49-50-51
B	1-2-4-10-34-35-38-40-41-43-44-45-47-49-50-51
C	1-2-3-14-17-21-41-42-44-46-50-51
D	1-5-8-9-12-18-23-24-26-28-30-31-39-40
E	1-2-4-8-9-12-19-20-23-25-35-36-41-42-51
F	1-2-3-11-12-13-15-27-28-29-31-39-40
G	1-2-3-13-16-17-41-43-44-46-50-51
H	1-2-4-9-12-19-21-34-35-37-41-42-44-45-47-49-50-51

COLORADO



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Miles

1 inch = 4,000 feet
when printed at 24" by 36"

POWER ENGINEERS
Xcel Energy
RESPONSIBLE BY NATURE

Date: 7/20/2016

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EXHIBIT I
ARAPAHOE COUNTY
UP RAILROAD AND SEEN/UNSEEN ANALYSIS

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Viewshed analysis was performed using ESRI Spatial Analyst. It was performed on an area within 5 miles of the preferred route in Arapahoe County. Transmission line height was set to 105 feet and landscape height of 6 feet.

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Some segment locations are exaggerated to better identify paralleling opportunities.

Base Map: Hillshade NED10m

ADAMS COUNTY
ARAPAHOE COUNTY
ARAPAHOE COUNTY
ELBERT COUNTY
ARAPAHOE COUNTY
WASHINGTON COUNTY
ELBERT COUNTY
LINCOLN COUNTY

Missile Site Substation

Deer Trail

Nobnen Reservoir

Muddy Creek
Wetzel Creek
East Bijou Creek
Middle Bijou Creek
Kalcevic Rd
E Co Rd 18
E Co Rd 22
Eastman Pl
First Creek
Badger Creek
Cottonwood Creek
Rattlesnake Creek
Beaver Creek
Co Rd 14
E Stanford Pl
E Co Rd 34 Jolly Rd
E Jolly Rd E Co Rd 34
E Co Rd 38
E Co Rd 42 Wall Rd
Co Rd 190 N C M
Co Rd 190
Wilson Creek
Middle Bijou Creek
Morrisonian Rd
Hayward Rd
Co Rd 245 S Morrisonian Rd
E Co Rd 245
Co Rd 225
Co Rd 229
Co Rd 241
Co Rd 269
Co Rd 285
Co Rd 273
Co Rd 121
Co Rd 125
Co Rd 213 Bennett Rd
Co Rd 33
Co Rd 217
Co Rd 221
Co Rd 205
Co Rd 209
Co Rd 249
Co Rd 253
Co Rd 269
Co Rd 289
Co Rd 289
Middlemist
Rancho Leader Rd Co Rd 209
4 Mile Rd (private)
Vecator Rd E Co Rd 273
Co Rd 36
Co Rd 40
Co Rd 287
I 70

Arapahoe County - UP Railroad and Seen/Unseen Analysis

Rush Creek 345kV Transmission Line Project
Environmental Assessment

Project Components

- Existing Missile Site Substation
- Preferred Route in Arapahoe County

Terrain and Seen/Unseen Analysis

- Extent of Analysis
- Terrain From Which Proposed Transmission Line Would Not Be Seen Within Five Miles
- Terrain From Which Proposed Transmission Line Would Be Seen Within Five Miles
- 100 ft Contour
- 20 ft Contour

Existing Utilities

- Existing 345kV Transmission line
- Existing 230kV Transmission line

Administrative Boundaries

- State Land
- Section with Number
- Township and Range
- Municipality
- County Boundary

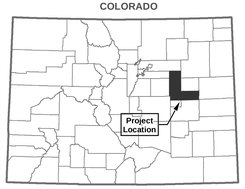
Transporation

- Interstate Highway
- US Highway
- State Highway
- Local Road
- Railroad

Surface Waters

- Stream
- Pond

COLORADO



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Miles

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when printed at 24" by 36"

POWER ENGINEERS
Xcel Energy
RESPONSIBLE BY NATURE

Date: 9/23/2016

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APPENDIX A
ARAPAHOE COUNTY ROW LEASE NAME AND PARCEL

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The following list details the land owners of the parcels along Alternative A in Arapahoe County.

Kalcevic Land Company
4730 Calhoun Byers Road
Byers, CO 80103-8527

APN 198900000020
NORTH HALF (N ½) OF SECTION TWENTY-NINE (29), TOWNSHIP FOUR (4) SOUTH, RANGE FIFTY-NINE (59) WEST

APN 198900000019
SOUTHWEST QUARTER (NW ¼) OF SECTION TWENTY-NINE (29), TOWNSHIP FOUR (4) SOUTH, RANGE FIFTY-NINE (59) WEST

APN 198900000016
NORTHWEST QUARTER (NW ¼) OF SECTION THIRTY-TWO (32), TOWNSHIP FOUR (4) SOUTH, RANGE FIFTY-NINE (59) WEST

APN 198900000015
SOUTHWEST QUARTER (SW ¼) OF SECTION THIRTY-TWO (32), TOWNSHIP FOUR (4) SOUTH, RANGE FIFTY-NINE (59) WEST

OF THE 6TH P.M., ARAPAHOE COUNTY, COLORADO

John N. Price and Pamela S. Price
1289 South County Road 217
Deer Trail, CO 80105-8919

APN 205900000040
ALL OF SECTION FIVE (5), TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-NINE (59) WEST

OF THE 6TH P.M., ARAPAHOE COUNTY, COLORADO

Eldringhoff Family Limited Partnership
84625 E. County Road 34
Deer Trail, CO 80105-8919

APN 2059-00-0-00-105
NORTH HALF OF SECTION THREE (3),
TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-NINE (59) WEST

APN 2059-00-0-00-106
SOUTH HALF OF SECTION THREE (3),
TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-NINE (59) WEST

APN 2059-00-0-00-107
ALL OF SECTION FOUR (4),
TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-NINE (59) WEST

OF THE 6TH P.M., ARAPAHOE COUNTY, COLORADO

Colorado State Land Board
Attn: David Rodenberg, ROW Manager
1800 Sherman Street, Suite 300
Denver, CO 80203

APN 205900000142
ALL OF SECTION TEN (10),
TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-NINE (59) WEST

OF THE 6TH P.M., ARAPAHOE COUNTY, COLORADO

David and Janelle Turecek
81065 E. County Road 34
Deer Trail, CO 80105-8919

APN 2059-00-0-00-072
SOUTHWEST QUARTER OF SECTION FOURTEEN (14),
TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-NINE (59) WEST

APN 2059-00-0-00-060
EAST HALF OF SECTION FIFTEEN (15),
TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-NINE (59) WEST

OF THE 6TH P.M., ARAPAHOE COUNTY, COLORADO

Keven and Sandra Turecek
81065 E. County Road 34
Deer Trail, CO 80105-8919

APN 2059-00-0-00-057
NORTHEAST QUARTER OF SECTION TWENTY-TWO (22),
TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-NINE (59) WEST

APN 2059-00-0-00-073
ALL OF SECTION TWENTY-THREE (23),
TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-NINE (59) WEST

APN 2059-00-0-00-087
WEST HALF NORTHWEST QUARTER OF SECTION TWENTY-FOUR (24),
TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-NINE (59) WEST

OF THE 6TH P.M., ARAPAHOE COUNTY, COLORADO

Joe M. and Glenda Kay Lindsay
6210 S. County Road 245
Deer Trail, CO 80105-8919

APN 2059-00-0-00-113
NORTH HALF OF THE NORTHEAST QUARTER AND EAST HALF OF THE NORTHWEST QUARTER OF SECTION TWENTY-FOUR (24), TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-NINE (59) WEST

APN 2057-00-0-00-110
ALL OF SECTION NINETEEN (19), TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-EIGHT (58) WEST

OF THE 6TH P.M., ARAPAHOE COUNTY, COLORADO

John and Helen Monnahan & Arlene Monnahan
1166 First Avenue
Deer Trail, CO 80105-8919

APN 2057-00-0-00-093
EAST HALF AND NORTHWEST QUARTER OF SECTION THIRTY (30), TOWNSHIP FIVE (5) SOUTH, RANGE FIFTY-NINE (58) WEST

OF THE 6TH P.M., ARAPAHOE COUNTY, COLORADO

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APPENDIX B
ARAPAHOE COUNTY PARCEL TOWNSHIP-RANGE-SECTION

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The follow parcels are included in the transmission line right of way for Alternative A in Arapahoe County.

Township	Range	Section	APN
4	59	29	198900000020
4	59	29	198900000019
4	59	32	198900000016
4	59	32	198900000015
5	59	5	205900000040
5	59	3	205900000105
5	59	3	205900000106
5	59	4	205900000107
5	59	10	205900000142
5	59	14	205900000072
5	59	15	205900000060
5	59	22	205900000057
5	59	23	205900000057
5	59	24	205900000087
5	59	24	205900000113
5	58	19	205700000110
5	58	30	205700000093

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APPENDIX C
DRAFT ARAPAHOE COUNTY ROAD USE AGREEMENT

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Arapahoe County Road Use Agreement

THIS AGREEMENT ("Agreement")

made in duplicate originals this ____ day of _____, 2016 (the "Effective Date")

BETWEEN:

ARAPAHOE COUNTY, COLORADO

6924 South Lima Street

Centennial, Colorado 80112

-AND-

Rush Creek 345 kV Transmission Line Project

PUBLIC SERVICE COMPANY OF COLORADO

1800 Larimer Street, 4th Floor

Denver, Colorado 80202

(the "Company")

DRAFT

1. **DEFINITION OF TERMS USED IN THIS AGREEMENT**

"Appurtenance" means:
A sidewalk, ditch, or any type of wall, fence, guardrail, curb, pavement marking, traffic control device, illumination device, mailbox or barrier adjacent to or in, along or on a road, or any construction, obstruction, erection or any situation, arrangement or disposition of any earth, rock, tree or other material or thing adjacent to or in, along or on a road that is not on the traveled portion of the road.

"Business Days" means:
Monday to Friday, during daylight hours, excluding Federal holidays.

"Access Roads" means:
Those Roads identified in the map submitted as the Roads to be used by the Company to move / haul equipment and materials and access / maintain structures.

"Road" means:
A road under-direction, control and management of the County, including:

I. a developed road on which improvements such as grading or surfacing have been made for the purpose of public access and includes any Appurtenances, and includes a bridge forming part of a public road and any structure incidental to a public road; and / or
II. an undeveloped surveyed road allowance or road plan.

"Pre-Inspection" means:
An inspection of Access Roads to be completed prior to the haul or rig move commencing.

"Post Inspection" means:
An inspection of Access Roads to be completed after the haul or rig move out has been completed.

"**Transmission Line Facility**" means:

I. overhead electrical transmission and communications lines;
II. transmission line structures;
III. electric transformers;
IV. electric substation improvements at the Missile Site Substation;
V. other necessary interconnection facilities;
VI. construction and maintenance access roads; and / or
VII. temporary construction material and assembly yard(s)

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2. PURPOSE OF AGREEMENT

The purpose of this Agreement is to define the terms and conditions under which the parties to this Agreement agree:

a) That in the event there is damage from the use of Acess Roads for the hauling or moving equipment or materials, those parties responsible for such damage are held accountable;
b) As to how dust control will be maintained;
c) To establish routing for the movement of vehicles and equipment, including all surface servicing equipment.

This Agreement is intended to engage both the County and the Company in an effort to avoid damage to Roads and Appurtenances and to minimize interruptions to the traveling public. The parties acknowledge that this Agreement is entered into in order to address these matters and to protect the Roads and Appurtenances from damage.

3. TERM

a) This Agreement shall commence on the Effective Date and shall continue until terminated by either party in accordance with this Section 3.
b) The Company may terminate this Agreement at any time by giving sixty (60) days prior written notice of such termination to the County.
c) If the Company has not commenced construction of Transmission Line Facilities within two (2) miles of any Road by the fifth (5th) anniversary of the Effective Date, the County may terminate this Agreement upon sixty (60) days prior written notice to the Company; provided, however, that such termination shall only be effective if, at the time the County's written termination notice is delivered, the Company has not commenced construction of transmission line activties within two (2) miles of any Road.
d) Notwithstanding the termination of this Agreement, the provisions respecting liability and indemnification, to the extent liabilities may have accrued prior to the termination, and provisions respecting settlement of accounts, shall remain in full force in accordance with their terms.

4. ROAD USE; RESTRICTIONS

The Company is hereby authorized to operate and move its commercial vehicles on all such Access Roads and Roads, so long as such use is in accordance with this Agreement.

Attached hereto as Exhibit A (to be developed) is a list of the restrictions on the Company's use of the Access Roads. The Company shall use commercially reasonable efforts to comply with the restrictions listed on Exhibit A (to be

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developed).

5. RESTRICTIONS AND DEVIATIONS FROM ROAD RESTRICTIONS

a) Use of the Access Roads by the Company shall only occur once the Company has submitted an Access Road map, and a written acknowledgement by the County has been received by the Company prior to the commencement of construction.

b) If, following the Pre-Inspection, the County, acting reasonably, determines that it is necessary to impose restrictions on the Company, the County shall provide the Company with a notice in writing. The County shall set out the specifics of the restrictions imposed on the Company and the details of any deviations from road restrictions that the County is prepared to grant and the conditions under which such deviations will be granted, including any requirements for the Company to post security.

c) It is understood that any deviations from road restrictions granted by the County shall comply with County regulations.

6. SECURITY

a) The County may require that the Company provide financial assurance for repairs that are required by paragraph 8(c) below, in an amount to be specified by the County.

b) If the County requires that the Company post security, the Company shall not haul equipment or materials on the Roads forming the Access Route until:

   i. It has delivered to the County a certified letter of credit or similar financial instrument; and

   ii. A Pre-Inspection pursuant to 7(a)(i) has been completed.

7. INSPECTIONS

7.1 – Pre & Post Construction Inspections

The Company and the County shall agree as to the condition of the Access Roads both within fifteen (15) days prior to and within fifteen (15) days following completion of construction of the Transmission Line Facilities. Video recordings and photographs of the current conditions of the Access Route Roads will be undertaken by the Company (or a third party hired by the Company), at the Company's expense and provided to the County for its review and retention (i) prior to the start of any construction activities by the Company, and (ii) following the Company's completion of construction of the transmission line activities. The County shall have the right, if so desired, (i) to observe these recordings/photographs as they are being taken and (ii) to require the

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Company to undertake certain types of recordings and photographs or reasonable additional inspections if the County reasonably believes the recordings/photographs are inadequate representations of the impacted roads current cditions.

7.2 – Intermediate or Emergency Inspections

a) The County or the Company may, at any reasonable time and at reasonable intervals during the term of the Agreement, request that an inspection of the Roads be carried out.
b) Inspections requested under paragraph 7.2 (a) shall be carried out within two (2) business days of receipt of a request for such inspection, and in the presence of official designees of both the County and the Company; provided, however, that any inspections required for potential damage that may pose a safety risk to the motoring public shall be carried out within one (1) business day of the request for the same.
c) The County and the Company shall both acknowledge the results of all inspections by having the inspection document(s) signed by their official designees unless such party or its designee disagrees with the results of such inspection, in which case such party or designee shall submit to the other party notice of such disagreement along with support and reasoning relating to such disagreement. The parties shall negotiate in good faith to come to agreement on the proper results of such inspection.
d) The cost of such reasonable inspections shall be paid by the Company to the County as required by County policy.

8. <u>OTHER TERMS AND CONDITIONS</u>

The following terms and conditions shall apply at all times during the term of this Agreement:

a) Restriction on Use
The County reserves the right to reasonably determine the hours during which vehicles and equipment may be moved on the Roads covered by this Agreement, provided that vehicles and equipment may be moved on the Roads during Business Days, provided further that the County may temporarily suspend approvals under this Agreement if, in the opinion of the County, acting reasonably, the prevailing weather conditions make such use hazardous to the motoring public, or emergencies warrant such suspension.

b) Maintenance
If required by the County, the Company shall provide, at its sole expense, all equipment, materials and labor required to maintain the road surface

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of the Access Route Roads in substantially the same condition it was immediately prior to the use such Roads, but taking into account the average wear and tear and deterioration from non-Company use during such period. Maintenance related only to average wear and tear and deterioration of such Roads shall be completed by the County at its sole cost and expense.

c) Damages

i. The Company shall be liable at all times for the repair, to the reasonable satisfaction of the County, of any damage to the Roads caused by the Company's use. Any repairs undertaken shall restore the road surface to substantially the same condition it was in immediately prior to the use of the Road, but taking into account the average wear and tear and deterioration from non-Company use during such period. The Company shall, providing that the weather and weather-related conditions permit, complete any necessary repairs or repairs which pose a risk to the motoring public within five (5) business days of being notified by the County of the need for such repairs. Any non-necessary repairs or repairs which do not pose a risk to the motoring public may be postponed by the Company until the end of the term of this Agreement.

ii. In the event the Company is prevented by the weather or weather-related conditions from completing the repairs required by the County, pursuant to that specified in 8(c)(i) above, that are required within ten (10) business days, the County, acting reasonably, may specify a further period of time within which the Company must complete such repairs.

d) Costs

In the event that the Company fails to complete the repairs required by the County, pursuant to paragraph 8(c)(i) or (ii) above, the County may draw upon security to effect the repairs in accordance with the provisions of the surety bond. In the event that the security is not sufficient to cover the cost of repairs, or if no security was posted, the Company shall be liable to the County for all reasonable and competitively bid costs (including reasonable attorney fees and costs) incurred by the County in repairing the affected Roads to substantially the same condition they were in immediately prior to the use by the Company and recovering the costs of such repairs. The Company shall have a right to receive details of all expenses incurred by the County.

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e) Emergencies

i. The County may, in emergency situations, and acting reasonably, and without giving any notice to the Company as required elsewhere in this Agreement, take immediate and all action necessary to complete repairs to the Roads that the County deems necessary for public safety.

ii. The Company may, in emergency situations, and acting reasonably, and without giving any notice to the County as required elsewhere in this Agreement, take immediate and all action necessary to move vehicles and equipment on the Roads that the Company deems necessary for public safety or to preserve the environment.

f) Notification

The County and the Company shall provide notification to each other of any action taken under 8(c), (d), (e) and (f) above as soon as is reasonably practicable and also include notice to the County of any significant road damage caused by the Company at the time it occurs, with significant damage including anything that may pose a risk to the motoring public.

g) Indemnity

The Company shall indemnify the County against all actions, proceedings, claims, demands and costs suffered by the County to the extent that they are directly or indirectly attributable to damage caused by the Company, its employees, agents, contractors or subcontractors to the Roads, but such indemnity shall not apply to the intentional acts or negligence of the County, its employees, agents, contractors or subcontractors. Each party's liability to the other party shall be limited to direct damages and shall exclude other liability, including, without limitation, liability for special, indirect, punitive or consequential damages in contract, tort, warranty, strict liability or otherwise.

The County shall indemnify the Company against all actions, proceedings, claims, demands and costs suffered by the Company to the extent authorized by the law of the State of Colorado, that they are directly or indirectly attributable to actions or inactions caused by the County, its employees, agents, contractors or subcontractors to the Roads, but such indemnity shall not apply to the intentional acts or negligence of the Company, its employees, agents, contractors or subcontractors. Each party's liability to the other party shall be limited to direct damages and shall exclude other liability, including, without

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limitation, liability for special, indirect, punitive or consequential damages in contract, tort, warranty, strict liability or otherwise.

h) Force Majeure
No party shall be deemed to be in default with respect to non-performance if due to strikes, lockouts, fire, storm, Acts of God or terrorists, or any other cause (weather similar or dissimilar to those enumerated) beyond its control; but lack of finances shall in no event be deemed to be cause beyond a party's control.

i) Dust Control
The Company shall provide fugitive dust control utilizing the application of water on the Access Roads during the time that the Company is using the same.

9. <u>NOTICES</u>

All notices required to be given under the terms of this Agreement shall be in writing and may be mailed or electronically transmitted, addressed to the parties as follows:

County:
Arapahoe County
6924 South Lima Street
Centennial, Colorado 80112

Attention:_____
Telephone: _____
E-Mail:_____

Company:
Public Service Company of Colorado
1800 Larimer Street , 4th Floor
Denver, Colorado 80202

Attention: Erin A. Degutis, RLA, AICP
Senior Agent, Siting and Land Rights
Telephone: 303.571.7735
Email:Erin.A.Degutis@xcelenergy.com

Attention: Nadia El Mallakh
Assistant General Counsel
Telephone: 303.294.2970
Email: Nadia.I.El.Mallakh@xcelenergy.com

Either party may, from time to time, change its address for service by giving written notice to the other party. Any notice shall be deemed to have been given and received: if delivered personally, on the day delivered; if sent by registered mail, on the 4th business day following the day it was posted; and if electronically transmitted, at the start of the next regular business day. In the case of postal

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disruptions, or an anticipated postal disruption, all notices to be given under this Agreement shall be electronically transmitted or delivered by hand (including a reputable overnight courier).

10. ASSIGNMENT

Except as otherwise provided herein, this Agreement shall not be assigned by either party hereto without the prior written consent of the other party, which consent shall not unreasonably be withheld. Notwithstanding the foregoing, the Company shall be permitted without prior written consent of the County to (a) assign this Agreement to an Affiliate; (b) assign this Agreement to a public utility company; and (c) collaterally assign this Agreement to a financing party of the Company or an Affiliate. "Affiliate" shall mean and refer to any person or entity controlling, controlled by, or under common control with Company.

11. WAIVERS

a) Failure by either party, at any time, to require strict performance by the other party of any provision of this Agreement will in no way affect the first party's rights hereunder to enforce such provision; nor will any waiver by either party of any breach be held to be a waiver of any succeeding breach or waiver of any other provision;

b) No waiver of any breach of a covenant or provision of this Agreement shall take effect or be binding upon a party unless it is in writing.

12. SUCCESSORS AND ASSIGNS

The Agreement shall insure to the benefit of, and be binding upon the County and the Company and their respective successors and permitted assigns.

13. TIME IS OF THE ESSENCE

Time shall be of the essence of this Agreement.

14. SEVERABILITY

If any provision of this Agreement shall be held invalid, illegal or unenforceable in any respect by a court of competent jurisdiction, such invalidity, illegality or unenforceability shall not affect any other provision hereof.

[signatures on following page]

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IN WITNESS WHEREOF the parties hereto have executed and delivered this Agreement as of the date and year first above written.

ARAPAHOE COUNTY

By: _____

Name: _____

Title: _____

PUBLIC SERVICE COMPANY OF COLORADO

By:_____

Name:_____

Title:_____

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EXHIBIT A

Road Restrictions
(to be developed based upon Project access roads)

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APPENDIX D
AGENCY CORRESPONDENCE

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Degutis, Erin A

Subject: FW: Rush Creek Wind & Transmission Project Public Open House Meetings / Project Information

From: Vana-Miller,Sandy [mailto:sandy_vana-miller@fws.gov]
Sent: Friday, May 20, 2016 4:05PM
To: Degutis,Erin A
Cc: Lupo, John D; Lindt, Eldon
Subject: Re: Rush Creek Wind & Transmission Project: Public Open House Meetings / Project Information

---

XCEL ENERGY SECURITY NOTICE: This email originated from an external sender. Exercise caution before clicking on any links or attachments and consider whether you know the sender. For more information please visit the Phishing page on XpressNET.

Thank you Erin; I'll forward this infmmation to our secretary for her to log in and provide to my acting supervisor. I still think a doodle poll might work well to get CPW folks and me together for that combined meeting.

I'm looking forward to discussing the project, Sandy

Sandy L. Vana-Miller
Fish and Wildlife Biologist/Platte River Program
USFWS, ES, Colorado Field Office
P.O. Box 25486, DFC (MS 65412)
Denver, Colorado 80225-0486
303-236-4748, fax 303-236-4005

On Fri, May 20,2016 at 2:07PM, Degutis, Erin A <Erin.A.Degutis@xcelenergy.com> wrote:

Good Afternoon Sandy.

I received the letter from the USFWS late yesterday afternoon. Thank you! I placed a call to Brett Ackerman (CPW}, but have not heard back from him. I'd like to go ahead and schedule a meeting with you 2-3 weeks out so we can meet with you and your colleagues and receive the Service's input on the Project.

Per our conversation, here is the information regarding the public open house meetings:

Arapahoe County	Elbert County	Lincoln County
Thursday, June 2nd / 5 PM – ?PM	Wednesday, May 25th / 5 PM–7 PM	Thursday, May 26th / 5 PM - 7:00 PM
Deer Trail School Cafeteria	Big Sandy Schools cafeteria	Lincoln Co. Fairgrounds- Event Building
350 Second Avenue	1809 CR 125	33747 County Road 2W
Deer Trail, Colorado 80105	Simla, Colorado 80835	Hugo, Colorado 80821

I will be at each meeting with my Xcel Energy colleagues, Dave Dean (POWER Engineers) will be present with his colleagues, and Invenergy will be present as well.

I attached project information for your review and use: FAQ's, a general map of the proposed project in context to Xcel's other PPA wind farms, and information on Our Energy Future.

Yesterday, my Xcel colleagues, our attorney, Dave Dean / POWER Engineers (Xcel's consultant) met with Arapahoe County regarding the transmission line project segments from the Arapahoe-Elbert County line to the Missile Site Substation. Mr. Sherman Feher indicated that the County coordinates with Travis Harris of the Colorado Parks & Wildlife Department on 1041 projects within the County, so I will reach out to him and make initial contact.

I look forward to working with you and the US Fish and Wildlife Service on this important and exciting project.

Kindest regards,

Erin A. Degutis, RLA, AICP, LEED AP
Xcel Energy 1 **Responsible By Nature**
Senior Agent, Siting and Land Rights
1800 Larimer Street, 4th Floor, Denver, CO 80202
P: 303.571.7735 C: 303.676.7496 F: 303.294.2088
E: Erin.A.Degutis@xcelenergy.com

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POWER ENGINEERS, INC.
3900 S WADSWORTH BLVD
SUITE 700
LAKEWOOD, CO 80235 USA

PHONE 303-716-8900
FAX 303-716-8980

May 27, 2016

Hedland House Museum
617 3rd Ave
Hugo, CO 80821

Subject: Rush Creek Connect 345kV Project–Arapahoe, Elbert, and Lincoln Counties, CO
POWER Engineers, Inc. Project No. 141794

Dear Sir or Madam:

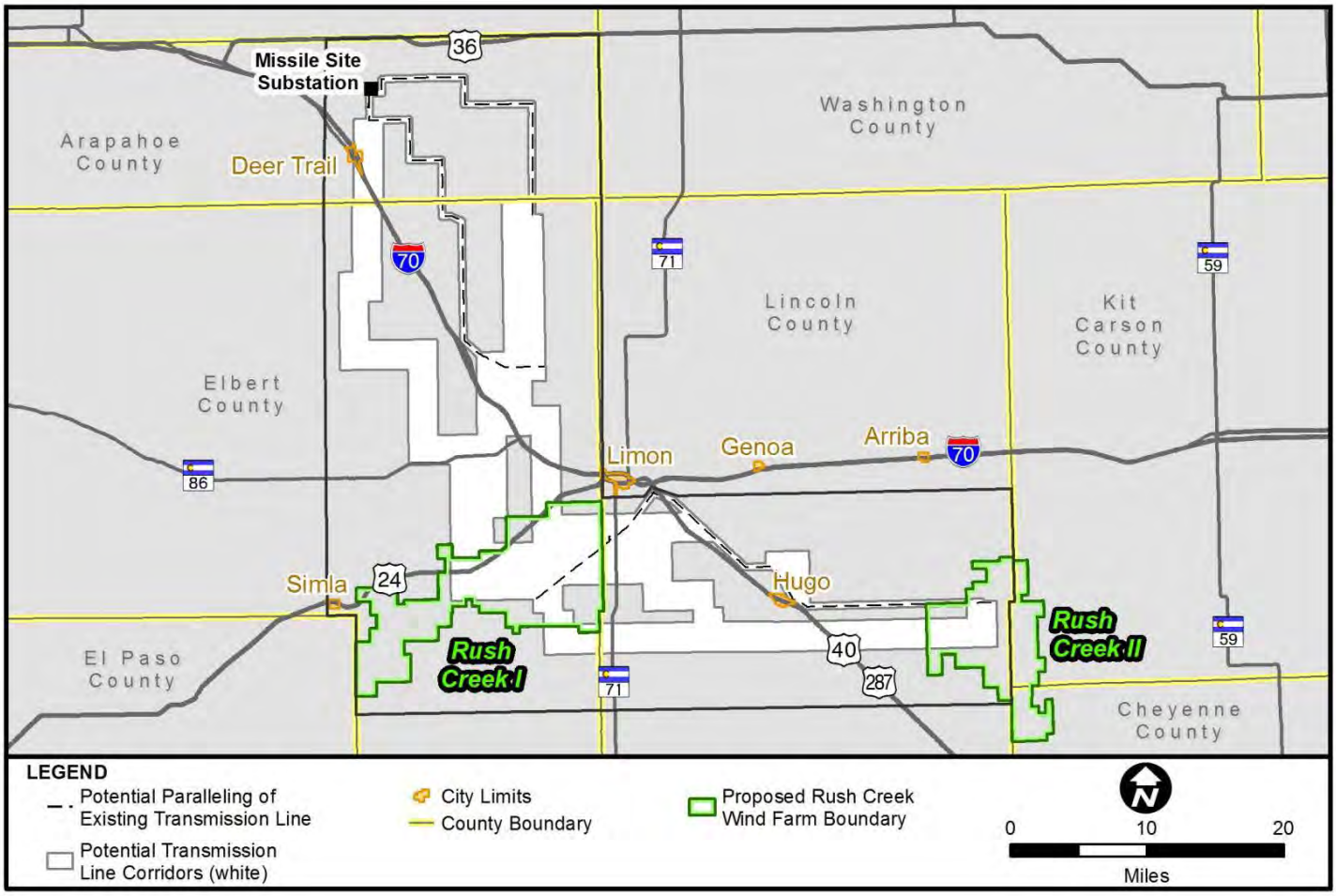
Xcel Energy Inc. is proposing to build, own and operate 600 megawatts (MW) of new wind generation, an approximately 90-mile 345 kilovolt (kV) transmission line and two new substations in eastern Colorado. The proposed 345 kV transmission line will connect the wind farm to Xcel Energy's existing Missile Site Substation in Arapahoe County. The wind farm will cover 95,000 acres in Elbert, Lincoln, Kit Carson and Cheyenne Counties and is being permitted as a separate project. The new transmission line will have a 150-foot wide right-of-way. The proposed transmission line routing area includes Lincoln, Elbert and Arapahoe Counties. Information will be provided and public input sought on potential route alternatives at public meetings that will be held on the following dates:

- May 25, 2016 from 5 pm to 7 pm at the Big Sandy School Cafeteria in Simla, CO
- May 26, 2016 from 5 pm to 7 pm at the Lincoln County Fairgrounds Event Building in Hugo, CO.
- June 2, 2016 from 5 pm to 7 pm at the Deer Trail School Cafeteria in Deer Trail, CO.
- Two additional meetings will be set up the beginning of June in Cheyenne and Kit Carson Counties.

The location of the study area, existing substations and transmission lines are shown on the map below.

POWER Engineers, Inc. (POWER) is preparing an Environmental Assessment (EA) and Routing Study for Xcel to support their County Land Use Applications for the proposed transmission line. POWER is gathering data on the existing environment and identifying environmental and land use constraints within the transmission line study area that will be used in the creation of an environmental and land use constraints map. POWER will identify potential alternative route segments that consider these environmental and land use constraints.

May 27, 2016



We are requesting that your office provide information concerning environmental and land use constraints or other issues of interest to your office within the transmission line study area. Your input will be an important consideration in the delineation and evaluation of alternative transmission line routes and in the assessment of potential impacts of those transmission line routes. In addition, please provide information regarding any permits, easements or other approvals by your office that could affect this project, or if you are aware of any major proposed development or construction in the study area. Upon approval of a final route for the proposed project, Xcel will identify and obtain necessary permits, if required, from your office. I will reach out to you via telephone to set up an in-person meeting with you and your staff in early June. I would like to have your comments back by June 25th, 2016. Comments and questions about the project can be left voice message toll-free at: 1-844-688-4282, or email us at RushCreekConnect@powereng.com. Additional information about the project is located at: http://www.transmission.xcelenergy.com/Projects/Colorado/Rush-Creek-Connect.

May 27, 2016

Thank you for your assistance with this proposed electric transmission line project. Please contact me by phone at (303) 716-8917, (208) 608-3191 or by e-mail at dave.dean@powereng.com if you have any questions or require additional information.

Sincerely,

Dave Dean
Project Manager

c: Erin Degutis (Xcel Energy)
Josh McNutt M.A, RPA (POWER)

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POWER ENGINEERS, INC.
3900 S WADSWORTH BLVD
SUITE 700
LAKEWOOD, CO 80235 USA

PHONE 303-716-8900
FAX 303-716-8980

May 27, 2016

Holly Norton, Ph.D
State Archaeologist-Deputy State Historic Preservation Officer
History Colorado
History Colorado Center
1200 Broadway
Denver, CO 80203

Subject: Rush Creek Connect 345kV Project–Arapahoe, Elbert, and Lincoln Counties, CO
POWER Engineers, Inc. Project No. 141794

Dear Dr. Norton:

Xcel Energy Inc. is proposing to build, own and operate 600 megawatts (MW) of new wind generation, an approximately 90-mile 345 kilovolt (kV) transmission line and two new substations in eastern Colorado. The proposed 345 kV transmission line will connect the wind farm to Xcel Energy's existing Missile Site Substation in Arapahoe County. The wind farm will cover 95,000 acres in Elbert, Lincoln, Kit Carson and Cheyenne Counties and is being permitted as a separate project. The new transmission line will have a 150-foot wide right-of-way. The proposed transmission line routing area includes Lincoln, Elbert and Arapahoe Counties. Information will be provided and public input sought on potential route alternatives at public meetings that will be held on the following dates:

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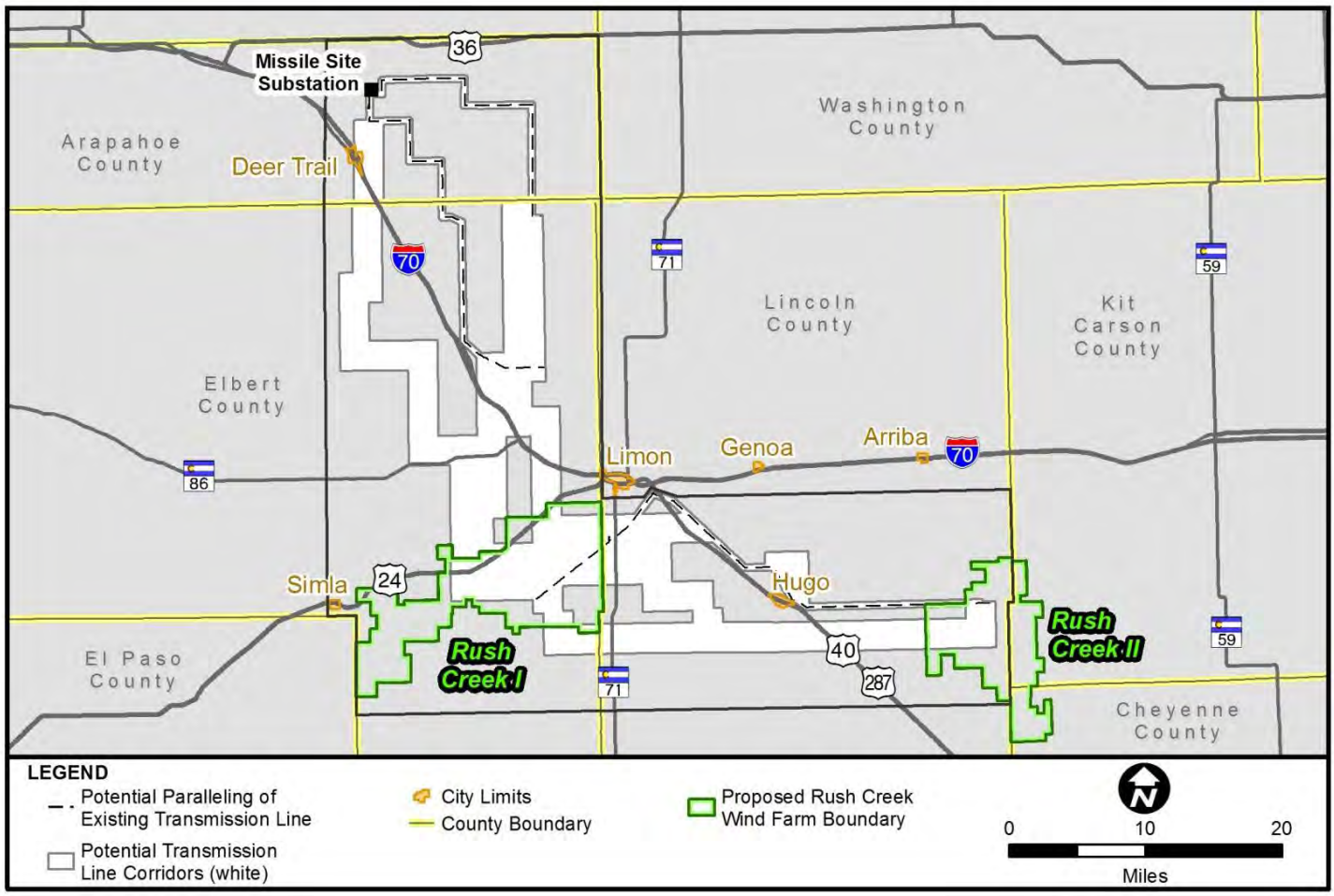
- Two additional meetings will be set up the beginning of June in Cheyenne and Kit Carson Counties.

The location of the study area, existing substations and transmission lines are shown on the map below.

POWER Engineers, Inc. (POWER) is preparing an Environmental Assessment (EA) and Routing Study for Xcel to support their County Land Use Applications for the proposed transmission line. POWER is gathering data on the existing environment and identifying environmental and land use constraints within the transmission line study area that will be used in the creation of an environmental and land use constraints map. POWER will identify potential alternative route segments that consider these environmental and land use constraints.

May 27, 2016



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May 27, 2016

Thank you for your assistance with this proposed electric transmission line project. Please contact me by phone at (303) 716-8917, (208) 608-3191 or by e-mail at dave.dean@powereng.com if you have any questions or require additional information.

Sincerely,

Dave Dean
Project Manager

c: Erin Degutis (Xcel Energy)
Josh McNutt M.A, RPA (POWER)

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POWER ENGINEERS, INC.
3900 S WADSWORTH BLVD
SUITE 700
LAKEWOOD, CO 80235 USA

PHONE 303-716-8900
FAX 303-716-8980

May 27, 2016

Limon Heritage Museum and Railroad Park Complex
899 First Street
Limon, CO 80828

Subject: Rush Creek Connect 345kV Project–Arapahoe, Elbert, and Lincoln Counties, CO
POWER Engineers, Inc. Project No. 141794

Dear Sir or Madam:

Xcel Energy Inc. is proposing to build, own and operate 600 megawatts (MW) of new wind generation, an approximately 90-mile 345 kilovolt (kV) transmission line and two new substations in eastern Colorado. The proposed 345 kV transmission line will connect the wind farm to Xcel Energy's existing Missile Site Substation in Arapahoe County. The wind farm will cover 95,000 acres in Elbert, Lincoln, Kit Carson and Cheyenne Counties and is being permitted as a separate project. The new transmission line will have a 150-foot wide right-of-way. The proposed transmission line routing area includes Lincoln, Elbert and Arapahoe Counties. Information will be provided and public input sought on potential route alternatives at public meetings that will be held on the following dates:

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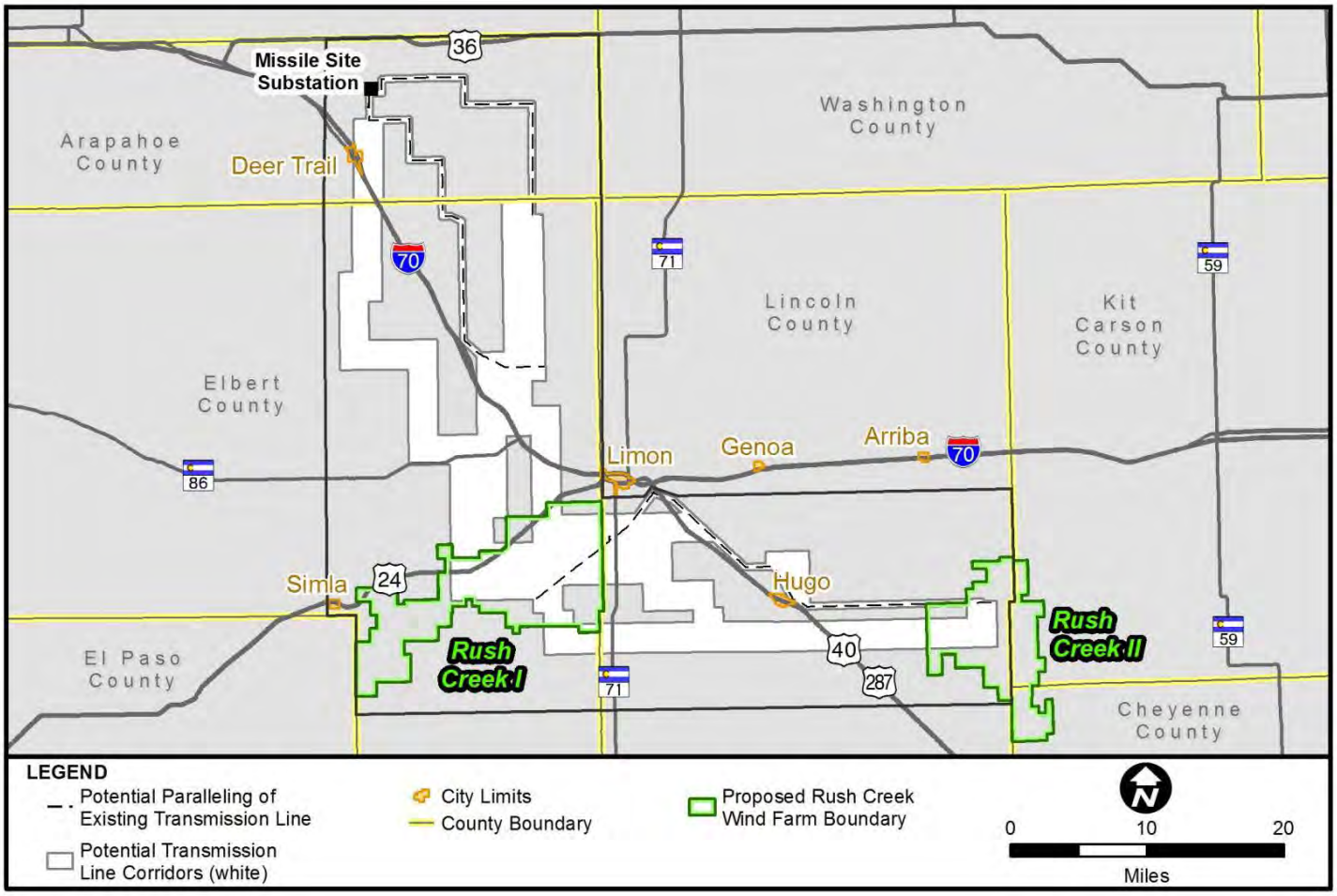
May 27, 2016



We are requesting that your office provide information concerning environmental and land use constraints or other issues of interest to your office within the transmission line study area. Your input will be an important consideration in the delineation and evaluation of alternative transmission line routes and in the assessment of potential impacts of those transmission line routes. In addition, please provide information regarding any permits, easements or other approvals by your office that could affect this project, or if you are aware of any major proposed development or construction in the study area. Upon approval of a final route for the proposed project, Xcel will identify and obtain necessary permits, if required, from your office. I will reach out to you via telephone to set up an in-person meeting with you and your staff in early June. I would like to have your comments back by June 25th, 2016. Comments and questions about the project can be left voice message toll-free at: 1-844-688-4282, or email us at RushCreekConnect@powereng.com. Additional information about the project is located at: http://www.transmission.xcelenergy.com/Projects/Colorado/Rush-Creek-Connect.

May 27, 2016

Thank you for your assistance with this proposed electric transmission line project. Please contact me by phone at (303) 716-8917, (208) 608-3191 or by e-mail at dave.dean@powereng.com if you have any questions or require additional information.

Sincerely,

Dave Dean
Project Manager

c: Erin Degutis (Xcel Energy)
Josh McNutt M.A, RPA (POWER)

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HISTORY

June 23, 2016

Dave Dean Project
Manager Power
Engineers, Inc.
3900 S. Wadsworth Blvd, Suite 700
Lakewood, Colorado 80235

Re: Rush Creek Connect 345kV Project- Arapahoe, Elbert, and Lincoln Counties, Colorado; Power Engineers, Inc. Project No. 141794 (HC #70374)

Dear Mr. Dean:

We received your correspondence dated May 27,2016 on June 6, 2016 initiating consultation with our office for the above referenced project.

As your letter provides only general information regarding the proposed development our response should be considered preliminary. If this project requires federal authorization, funding, or assistance it may be considered an undertaking subject to compliance with Section 106 of the National Historic Preservation Act and its implementing regulations 36 CFR Part 800. Ths act requires that the federal agency with jurisdiction over an undertaking take legal and fmancial responsibility for Section 106 compliance. Such responsibility includes identifying historic properties (i.e. cultural resources whidi are eligible for or listed in the National Register of Historic Places) that are located within the area of potential effects, detem-llning whether the undertaking will have an effect upon such properties, and seeking ways to avoid, minin-llze or n-lltigate any adverse effects to these properties. 111e Advisory Council on Historic Preservation, State Historic Preservation Office, Native American tribes, representatives of local governments, and applicants for Federal permits, licenses or other approval are entitled to consultative roles in tllis process. Unless we have been notified in advance, Section 106 correspondence should come directly from an appropriate point of contact at the lead federal agency. If federal involvement is not required, compliance with Colorado's State Register Act for state lands and Colorado's unmarked burial law may apply.

Regardless of whether or not there is federal or state involvement, we recommend that you complete a file search of our statewide cultural resources database for the project footprint and its viewshed to lin-tit the potential for future delays and to inform your current studies. You may find the following pages on our website useful as they provide information regarding file search requests as well as general information on eview and compliance issues: .hllp:l/ www.historycolomdo.org/archHeolog/ifik-scarch-cUcsliotlS and hrtp://vvw. historye Jlora,h 1.o-g/nrchaeolog:ists/rev i w-cotnpli:mce.

Thank you for the opportunity to comment If we may be of further assistance, please contact Mark Tobias, Section 106 Compliance Manager, at (303) 866-4674 or mark.tobiasCI2sl;11c.co.us.

h f!A

Stove T AlA
State Historic Preservation Officer
ST/mt

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COMMUNICATION RECORD

Route to: 12354114

File: DATE: June 28, 2016

XCEL ENERGY EMPLOYEE: ERIN A. DEGUTIS, RLA, AICP TITLE: Sr. Agent, Siting and Land Rights

PERSON CONTACTED & TITLE: Alex Kostra, Project Manager

COMPANY: US Army Corps of Engineers – Denver Regulatory Office

ADDRESS: 9307 SOUT WADSWORTH BOULEVARD, LITTLETON, CO

TELEPHONE: 303.979.4120, EXT. 3847

NATURE OF CONTACT: ☐ THEY CALLED ☒ WE CALLED ☐ PERSONAL VISIT

SUMMARY OF CONVERSATION:

Briefly discussed the Rush Creek Wind Project: 600 MW of wind turbines, approximately 90 miles of 345 kV transmission lines, and two substations across a five county area in Eastern Colorado. Described the project area topography, vegetation, and surface water resources. Detailed the permitting schedule and timeline. Identified the governmental coordination at the local and state level.

Discussed that Xcel would span wetlands and waterways with the transmission line and avoid wetlands and waterways with the siting of the two substations. The Missile Site Substation a

Requested a pre-application meeting with the Corps to review and discuss the Project. Mr. Kostra stated that the meeting would not be necessary because he thought the Project would be relatively simple to review and permit based upon my description.

Mr. Kostra stated that the Project may need a Nationwide 14 for wetland crossings, possible a 12/39. The review of the permit application by the Corps may take approximately 45 calendar days upon receipt.

FOLLOW-UP ACTION: None at this time.

FOLLOW-UP RECOMMENDATIONS: Coordinate with Environmental Services on permitting aspects of access roads for transmission lines and wind turbines.

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POWER ENGINEERS, INC.
3900 South Wadsworth
SUITE 700
Lakewood, CO 80235 USA

PHONE 303-716-8900
FAX 303-716-8980

July 1, 2016

Steve Turner, ALA
State Historic Preservation Officer
History Colorado
History Colorado Center
1200 Broadway
Denver, CO 80203

Re: Rush Creek Connect 345kV Project–Arapahoe, Elbert, and Lincoln Counties, CO
POWER Engineers, Inc. Project No. 141794

Dear Mr. Turner:

Thank you for your office's June 23, 2016 response to our prior correspondence to the above referenced project.

The Rush Creek Wind Project, 600 megawatts (MW) of new wind generation, 90-miles of new 345 kilovolt (kV) transmission line and two new substations proposed for construction by Public Service Company-Colorado (PSCo), a subsidiary of Xcel Energy Inc., does not currently have a federal nexus that would make the project subject to compliance with Section 106 of the National Historic Preservation Act and its implementing regulations 36 CFR Part 800. There are no federal lands being impacted by the project and the project is funded by Xcel Energy and does not utilize federal funds.

The proposed 345 kV transmission line will connect the proposed wind farm to Xcel Energy's existing Missile Site Substation in Arapahoe County. The proposed transmission line route is a 150-foot wide right of way and crosses Arapahoe, Elbert, and Lincoln Counties. The proposed transmission line route and the existing substations and transmission lines are shown on the enclosed map.

The project intends to cross State-managed land, and we are preparing 1041, Special Use Review, and Use by Special Review County Land Use Applications which require your participation in the approval process by the three involved counties. We are looking to submit these applications in July 2016.

In support of these documents, POWER Engineers, Inc. (POWER) is seeking consultation with your office in identifying areas of high site potential along the proposed transmission line route, and identification of any cultural or known paleontological resources of significant concern along the proposed transmission line route. We requested a formal file search for the larger study area presented in our previous letter and used the results in identifying the proposed transmission line route. Your assistance would be greatly appreciated in this undertaking. Please let me know if your office would benefit from an in-person meeting and I would be happy to work with you to set that up.

July 1, 2016

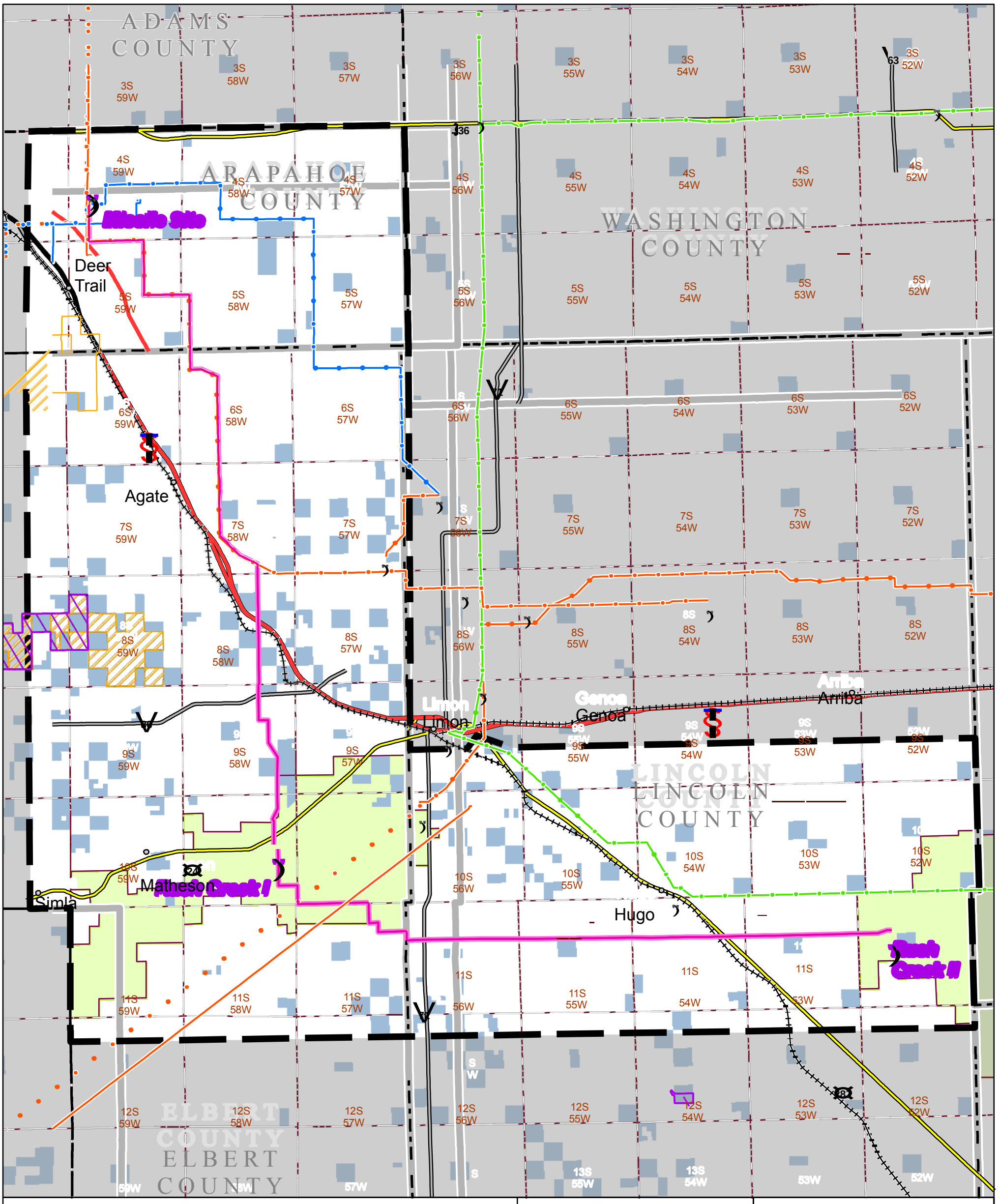
Thank you for your assistance with this proposed electric transmission line project. Please contact me by phone at (303) 716-8904, (303) 829-4061 or by e-mail at josh.mcnutt@powereng.com if you have any questions or require additional information.

Sincerely,

Josh McNutt M.A, RPA
Project Cultural Resource Lead

Enclosure:
Proposed Transmission Line Route Map and Shapefile

Cc: John Lupo; Xcel Energy
Susan Innis; Xcel Energy
Erin Degutis; RLA, AICP, Xcel Energy
Dave Dean; POWER Engineers



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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Mountain-Prairie Region

IN REPLY REFER TO:
FWS/R6/ES

MAILING ADDRESS:
P.O. BOX 25486, DFC
Denver, Colorado 80225-0486

STREET LOCATION:
134 Union Boulevard
Lakewood, Colorado 80228-1807

Ms. Erin Degutis
Senior Agent, Siting and Land Rights
Xcel Energy
1800 Larimer Street
Denver, CO 80202

Dear Ms. Degutis,

The U.S. Fish and Wildlife Service's (Service) Mountain-Prairie Region (Region 6) is contacting wind energy developers and operators to assist them in complying with federal wildlife laws. We recognize the importance of wind energy to the Nation's economy and energy independence, and also the importance of ensuring the development and operation of wind energy infrastructure is done in an environmentally responsible manner. Although wind energy does not have the carbon footprint of fossil fuels, it can have unique impacts to wildlife and their habitats. We encourage you to coordinate with the Service early in the planning process so we can provide technical assistance in evaluating and minimizing the impacts to America's wildlife and habitat resources. The optimal time to seek guidance from the Service is prior to making decisions on siting. This allows the greatest flexibility to adapt plans and avoid adverse impacts on federally protected wildlife and their habitats. If your project is past the planning phase and wildlife mortality is occurring, it is still important for you to seek guidance from the Service on how to avoid or minimize impacts to wildlife. However, solutions to avoid wildlife mortality become increasingly difficult after infrastructure is in place and operating.

The Service administers natural resource protection laws pertinent to wind energy production and electrical transmission. These laws include the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et seq.), the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d), the Endangered Species Act (ESA) (16 U.S.C. 1531 et seq.), as amended, and the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57). In addition, the Service also regularly reviews documents prepared by other Federal agencies that are required by the National Environmental Policy Act (42 U.S.C. 4321 et seq.).

Migratory Birds and Eagles

The MBTA prohibits the taking, killing, possession, and transportation, (among other actions) of migratory birds, their eggs, parts, and nests, except when specifically permitted by regulation. Currently, the list of migratory birds protected under the MBTA includes more than 1,000 species (50 CFR 10.13). The take of migratory birds at wind energy facilities is an ongoing Service concern, particularly the take of *Birds of Conservation Concern* (USFWS 2008), species that may become candidates for listing under the ESA. We encourage you to work closely with Service biologists to identify take avoidance measures and mortality

monitoring protocols and to implement those measures during construction and operation of your facilities.

The BGEPA affords eagles additional protections beyond those provided by the MBTA, in particular, by making it unlawful to "molest or disturb" eagles or destroy their nests. Unlike the MBTA, the take of eagles may be permitted when the taking is: 1) associated with, but not the purpose of the activity, and cannot practicably be avoided, and 2) where the take is compatible with the preservation of eagle populations, which means it must be consistent with the goal of stable or increasing breeding populations. Information concerning eagle take permits can be acquired from the Service Field Office contacts found at the end of this letter.

Threatened and Endangered Species

Under the ESA, it is unlawful for any person to "take" any federally listed threatened or endangered wildlife species. Consequently, it is a violation of Federal law to take listed species *or their habitat* without appropriate permits even ifthe take is accidental (e.g., mortality as a result of collision with a wind turbine blade or distribution line). Take of federally listed species incidental to a lawful activity may be exempted through formal consultation under section 7(a)(2) of the ESA whenever a Federal agency, Federal funding, or a Federal permit is involved. Otherwise, a person or organization may seek an incidental take permit under section IO(a)(l)(B) of the ESA upon completion of a satisfactory habitat conservation plan (HCP) for a listed species. There is no mechanism for exempting or authorizing incidental take after-the-fact. For more information regarding formal consultation and HCPs, please see the Endangered Species Consultation Handbook, http://www.fws.gov/endangered/esa-library/index.html#consultations and the Service's HCP website, http://www.fws.gov/Endangered/esa-library/index.html#hcp

Conservation Guidance

Land-Based Wind Energy Guidelines

In July 2013, the Service finalized the Land-Based Wind Energy Guidelines (WEG). The WEG were developed in coordination with wind energy companies, non-governmental organizations, and state agencies and tribes with the purpose of informing and guiding the development, construction, operation, and decommissioning of wind energy facilities in the United States. The WEG can be found on our website at http://www.fws.gov/ecological-services/es-library/pdfs/WEG_final.pdf.

Bird and Bat Conservation Strategy

The Service recommends companies prepare written records of their plans and actions to avoid, minimize and compensate for potential adverse impacts to birds and bats from wind energy projects through the development and implementation of a Bird and Bat Conservation Strategy (BBCS). A BBCS describes a company's adherence to the WEG and includes relevant details about actions a company is taking to address wildlife conservation concerns. Companies are encouraged to work closely with Service biologists to identify available protective measures when developing project plans and/or BBCSs, and to implement those measures prior to and during project construction and operation. Our Field Office staff can provide technical assistance to developers and operators in navigating through the WEG and BBCS processes.

Eagle Conservation Plan Guidance

The Service has developed Eagle Conservation Plan Guidance (ECPG) that provides information for avoiding the take of bald and golden eagles in the course of siting, constructing, and operating wind energy facilities. The ECPG supplements the WEG and also calls for wind energy developers to take a tiered approach to siting new projects. Both documents call for preliminary landscape-level assessments to evaluate potential wildlife interactions and coordination with the Service to accomplish appropriate site-specific surveys and risk assessments prior to construction. The ECPG also provides a possible pathway to wind energy companies and operators for obtaining programmatic eagle take permits in accordance with the BGEPA and the Eagle Permit Rule (74 FR 46836; September 11, 2009). The ECPG may be accessed online at: (http://www.fws.gov/ecological-services/es-library/pdfs/Eagle_Conservation_Guidance-Module%201.pdf). More information about eagle take permits can be provided from Service Field Office Offices or the Region 6 Migratory Bird Management Office.

Legal Requirements and Responsibilities

The federal laws listed above all contain prohibitions on taking, including killing, injuring and in some cases disturbing, federally protected species without exemption or authorization from the Service. The guidance referenced above describes ways to comply with those laws. The Service's Office of Law Enforcement (OLE) carries out its mission not only by investigations and prosecution but also by fostering valuable working relationships with individuals, companies, and industries that have taken prudent and effective steps to avoid take of federally protected species. The OLE will focus its investigative efforts on those that take federally protected species without identifYing and implementing all reasonable, prudent and effective measures to avoid that take. We expect companies to secure prior authorization from the Service as described above for any take of eagles or threatened or endangered species that is reasonably expected to occur.

Service Contacts

Please accept our offer of technical assistance and coordinate with your local field office early in your project planning process to ensure you avoid unnecessary impacts on wildlife and have realistic expectations about the permitting process for your project. Our local field offices have site-specific expertise about species that may be affected, sensitive or rare habitats in the project area, and can provide advice on sampling and monitoring protocols. Our Field Office contacts are:

Colorado: Sandy Vana-Miller, Denver; 303-236-4748; Sandy_Vana-miller@fws.gov
Kansas: Dan Mulhern, Manhattan; 785-539-3474, ext. 109; Dan_Mulhem@fws.gov
Montana: Brent Esmoil, Helena; 406-449-5225, ext. 215; Brent_Esmoil@fws.gov
Nebraska: Eliza Hines, Grand Island; 308-382-6468, ext. 204; Eliza_Hines@fws.gov
North Dakota: Kevin Shelley, Bismarck; 701-355-8512; Kevin_Shelley@fws.gov
South Dakota: Natalie Gates, Pierre; 605-224-8693; Natalie_Gates@fws.gov
Utah: Stephanie Graham, Salt Lake City; 801-975-3330, ext. 155; Stephanie_Graham@fws.gov
Wyoming: Tyler Abbott, Cheyenne; 307-772-2374, ext. 231; Tyler_Abbott@fws.gov

In addition, personnel in our Regional Office are available to facilitate coordination and provide technical assistance. For information regarding migratory birds please contact Brian Smith, Division of Migratory Bird Management, via email at brian_w_smith@fws.gov or via phone at 303-236-4403. For general assistance, please contact Maria Boroja, Regional Energy Coordinator, via email at maria_boroja@fws.gov or via phone at 303-236-4518. Thank you for taking the opportunity to work with the Service to fulfill our Nation's expectation of producing wind energy in an environmentally responsible manner.

Sincerely,

Regional Director

From:	Russell Johnson
To:	Degutis, Erin A
Subject:	RE: Rush Creek Transmission Line Project: Weed/Noxious Plant Consultation
Date:	Friday, September 09, 2016 2:22:17 PM

XCEL ENERGY SECURITY NOTICE: This email originated from an external sender. Exercise caution before clicking on any links or attachments and consider whether you know the sender. For more information please visit the Phishing page on XpressNET.

Hi Erin,

I've had a chance to look over the location and there is not much out there noxious weed wise. As long as PSCo has a standard revegetation plan and basic noxious weed management plan, you should be fine from my end.

Regards,

Russell Johnson
Arapahoe County Weed Control Specialist
6924 S. Lima St.
Centennial, CO 80112
Phone: 720-874-6713
Fax: 303-874-6611

From: Degutis, Erin A [mailto:Erin.A.Degutis@xcelenergy.com]
Sent: Wednesday, August 31, 2016 4:16 PM
To: Russell Johnson <RJohnson@arapahoegov.com>
Subject: Rush Creek Transmission Line Project: Weed/Noxious Plant Consultation

Good Afternoon Russ.

Thank you for returning my call today and leaving me a voicemail about noxious weed control in Arapahoe County. I'd be glad to tell you about the Project and the context in which it was suggested that Public Service Company of Colorado (PSCo) consult with you.

PSCo is proposing to construct, operate, and maintain wind energy generation facilities and transmission line, known as the Rush Creek Wind Project, in Arapahoe (transmission line only), Cheyenne, Elbert, Kit Carson, and Lincoln Counties. PSCo submitted a 1041 Permit Application to construction, operate, and maintain approximately 13.5 miles of 345 kilovolt (kV) transmission line in the eastern area of Arapahoe County (the "Project"). As part of the company's comprehensive Colorado strategy for our energy future, PSCo has requested approval from the Colorado Public Utilities Commission (PUC) to construct, own and operate 600 MW of new wind generation and 90 new miles of transmission in eastern Colorado. This wind generation proposal was filed in May 2016 (PUC filing #16A-0117E), at the same time PSCo filed its Electric Resource Plan to acquire a gigawatt (1,000 megawatts) of new renewable energy resources. This wind generation project will enable PSCo to realize Our Energy Future goals with a focus on our customers, the economy and the environment.

The portion of the overall project located in Arapahoe County will consist of approximately 13.5 miles of 345 kV transmission line which will provide an interconnection between the wind generation facilities and the interconnection to the existing power grid at the Missile Site Substation. During the construction period, temporary staging areas will be required to house construction materials and equipment, and will serve as an assembly area. Staging areas will be approximately 20 acres in size and will be spaced at intervals of approximately 10-15 miles apart along the transmission line route. PSCo anticipates one temporary staging area will be located in Arapahoe County at a site to be determined. The Project Area within Arapahoe County covered by the 1041 Permit Application is approximately 300 acres. PSCo is actively negotiating with the landowners in the potential easement area. It is PSCo's intention to have all easements (or leasing options) in Arapahoe County secured prior to the Arapahoe Board of County Commissioners meeting this fall.

Attached are two FAQ sheets provided to the County and distributed at the public open house meetings in late May and early June. More information about the planned transaction can be found at http://www.transmission.xcelenergy.com/Projects/Colorado/Rush-Creek-Connect.

PSCo received comments on the 1041 Application from Mr. Sherman Feher on August 11th, which requested PSCO provide clarification or additional information on a number of topics/issues. Comment #29 is as follows:

29. Section 4.6.2.3, page 69: Suggest you meet with [the] County's Weed Control person to develop a plan to deal with noxious weeds along the proposed route.

Most of the Preferred Route consists of rangeland and shortgrass prairie. There are few areas under cultivation or pasture. After the construction period is complete for each spread of the transmission line, PSCo consults with individual landowners and restores the vegetation to the pre-construction type/condition. If area of pasture is crosses, then a certified seed mix of appropriate species is used. PSCo has a general weed control specification that is used in our construction specification package; however, we will work with local agencies if there is a specification they would like for us to incorporate in a project. Upon consultation with the County and State websites, seventeen species on the State's Noxious Plant List are present in Arapahoe County including diffuse knapweed, Dalmatian & hybrid toadflax, Eurasian watermilfoil, common teasel, Russian olive, and leafy spurge.

Please let me know if your Department has recommendations on BMPs to prevent the spread of noxious weeds or types/kinds of seed mixes for restoration.

Please let me know if I can provide additional information or assistance.

Kindest regards,

Erin A. Degutis, RLA, AICP, LEED AP
Xcel Energy | Responsible By Nature
Senior Agent, Siting and Land Rights
1800 Larimer Street, 4th Floor, Denver, CO 80202
P: 303.571.7735 C: 303.676.7496 F: 303.294.2088
E: Erin.A.Degutis@xcelenergy.com

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APPENDIX E
CHARACTERISTIC PHOTOS OF ARAPAHOE COUNTY'S LANDSCAPE

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FIGURE F-1 EXISTING 230 KVTRANSMISSION LINE STRUCTURES

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FIGURE F-2 ARAPAHOE COUNTY VISUAL CHARACTER PHOTO

FIGURE F-3 ARAPAHOE COUNTY VISUAL CHARACTER PHOTO

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APPENDIX F
VISUAL SIMULATION

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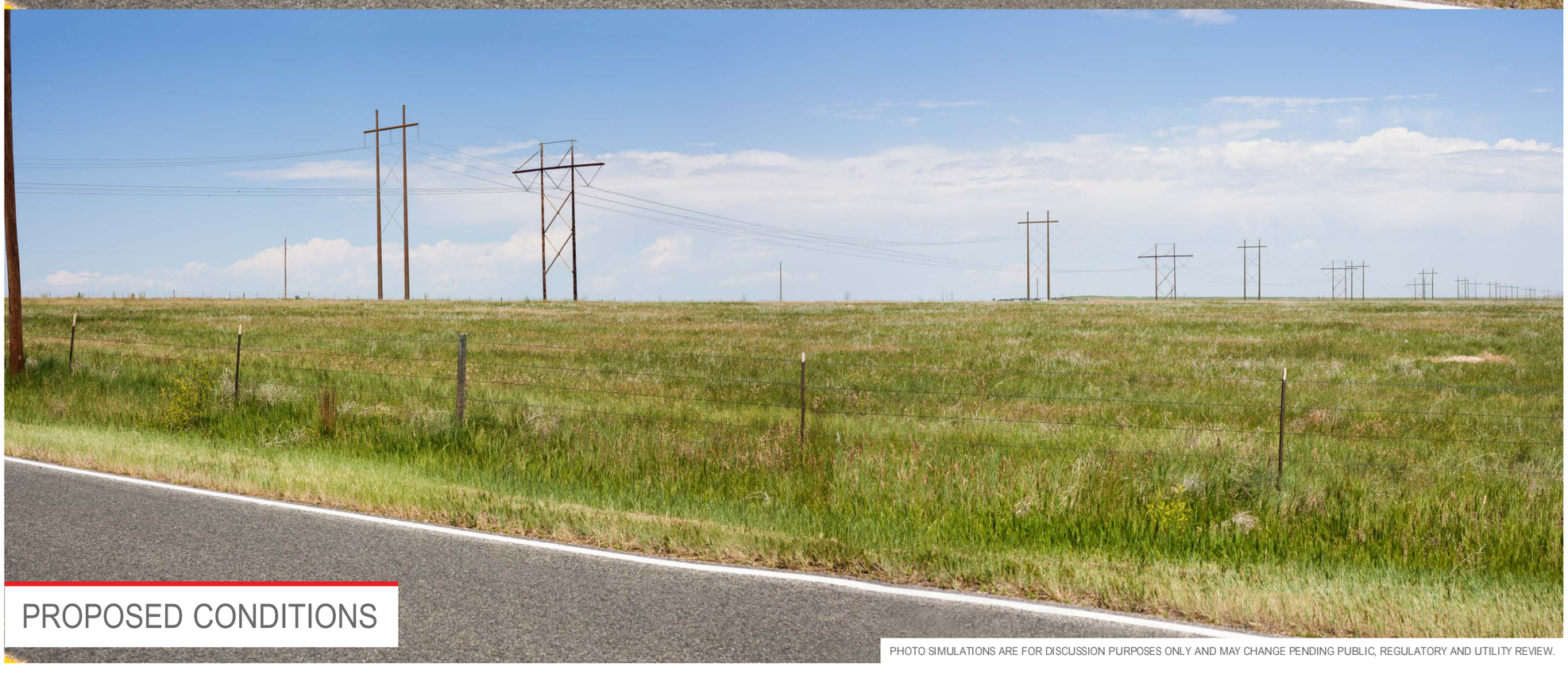
PHOTO SIMULATION 1
KEY OBSERVATION POINT

ARAPAHOE COUNTY (JOLLY ROAD)

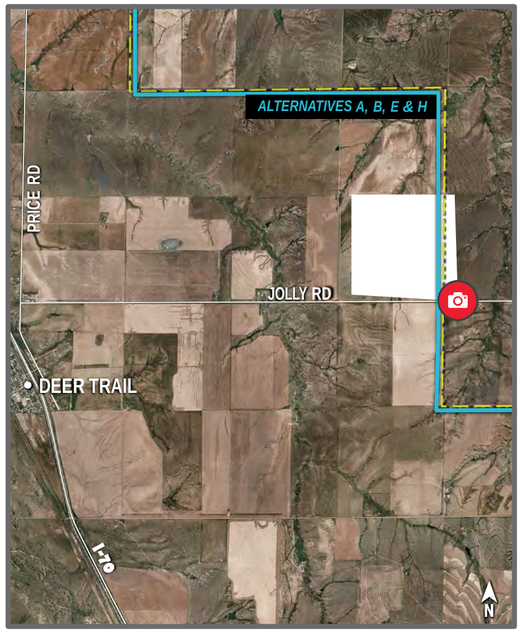
DATE:	07/05/2016
TIME:	12:22 PM
LOOKING:	NORTHWEST

EXISTING CONDITIONS



PROPOSED CONDITIONS

PHOTO SIMULATIONS ARE FOR DISCUSSION PURPOSES ONLY AND MAY CHANGE PENDING PUBLIC, REGULATORY AND UTILITY REVIEW.



LEGEND:

- KEY OBSERVATION POINT
- EXISTING TRANSMISSION LINE
- PROPOSED TRANSMISSION LINE

RUSH CREEK
345KV TRANSMISSION LINE PROJECT

Xcel Energy | POWER ENGINEERS

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APPENDIX G
PSCO FINANCIAL SUMMARY

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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

*** * ***

IN THE MATTER OF A MISCELLANEOUS	**)**	
DOCKET OPENED AS A REPOSITORY FOR	**)**	
ENERGY COMPANIES' ROUTINE CORPORATE	**)**	**PROCEEDING NO. 06M-525EG**
INFORMATION USUALLY INCLUDED IN	**)**	
APPLICATIONS FILED WITH THE COMMISSION	**)**	

PUBLIC SERVICE COMPANY OF COLORADO'S
NOTICE OF FILING CORPORATE INFORMATION

Colorado PUC E-Filings System

Public Service Company of Colorado ("Public Service" or the "Company"), gives notice that it is today filing its corporate information to be incorporated by reference in all applications filed with the Commission pursuant to Rule 3002(c) of the Rules Regulating Electric Utilities, 4 Colorado Code of Regulations (C.C.R.) 723-3-3002(c) and Rule 4002(c) of the Rules Regulating Gas Utilities and Pipeline Operators, 4 C.C.R. 723-4-4002(c). This updated information is the most recent as of June 13, 2016 and replaces information filed by the Company on March 26, 2015.

Information being filed in this proceeding today is as follows:

1. An updated list of Directors and Officers of Public Service Company of Colorado.
2. An updated list of affiliated companies that conduct business with the Company.
3. The most recent (December 31, 2015) audited balance sheet, income statement, statement of retained earnings, statement of capitalization and statement of cash flows for Public Service Company of Colorado.

DATED this 13th day of June 2016.

Respectfully submitted,

By: */s/ Carla Scarsella*

Carla Scarsella, #47396
Assistant General Counsel
Xcel Energy Services Inc.
1800 Larimer, Suite 1100
Denver, Colorado 80202
Phone: 303-294-2556
Fax: 303-294-2988
Email: carla.scarsella@xcelenergy.com

ATTORNEY FOR
PUBLIC SERVICE COMPANY OF COLORADO

Public Service Company of Colorado
(First Tier Subsidiary through Xcel Energy Inc.)
1800 Larimer Street
Denver, Colorado 80202

Corporate Secretary's Office Contact
612-215-4603 or 612-215-5391

Public Service Company of Colorado (Company No. 3) was incorporated in Colorado on September 3, 1924. (Also qualified to do business in Montana on 8/3/00 and Alberta, Canada on 3/13/03.)
Tax ID No. 84-0296600. DUNS #00-691-5953 (Denver). Statement of Trade Name Colorado (Xcel Energy) filed 4/14/08, no expiration.

Registered Agent:
Colorado - Corporation Service Company, 1560 Broadway, Suite 2090, Denver, CO 80202.
Montana - Corporation Service Company, P.O. Box 1691, 26 West Sixth Street, Helena, MT 59624

Business Purpose: Public utility.

Authorized Capital Stock: 10,000,000 shares of Preferred Stock with par value of $.01 per share; 100 shares of Common Stock, par value $.01 per share. 100 shares of Common Stock are issued and outstanding and held by Xcel Energy Inc.

Directors	**Effective Date**
David L. Eves	11/15/09
Ben Fowke	03/08/05
Robert Frenzel	05/03/16
Marvin E. McDaniel, Jr.	01/01/15

Officers		**Effective Date**
Chairman, Chief Executive Officer	Ben Fowke	08/24/11, 01/01/15
President	David L. Eves	11/15/09
Executive Vice President, Chief Financial Officer	Robert Frenzel	05/03/16
Executive Vice President	Kent T. Larson	01/01/15
Executive Vice President	Marvin E. McDaniel, Jr.	01/01/15
Executive Vice President, General Counsel	Scott M. Wilensky	01/01/15, 09/21/11

Public Service Company of Colorado
(First Tier Subsidiary through Xcel Energy Inc.)
1800 Larimer Street
Denver, Colorado 80202

Officers		**Effective Date**
Senior Vice President, Corporate Secretary	Judy M. Poferl	01/01/15, 05/23/13
Senior Vice President, Controller	Jeffrey S. Savage	01/01/15, 09/21/11
Senior Vice President, Treasurer	Brian J. Van Abel	07/27/15
Assistant Secretary	Patricia K. Drury	12/16/13
Assistant Secretary	Tara M. Heine	01/16/08
Assistant Secretary	Wendy B. Mahling	09/13/13
Assistant Treasurer	Paul A. Johnson	03/05/08
Assistant Treasurer	Mary P. Schell	11/17/00

AFFILIATES OF PUBLIC SERVICE COMPANY OF COLORADO
1800 Larimer Street
Denver, CO 80202
As of 6/13/2016

Name of Company	Organization	State of Organization	Ownership	Purpose of Business
1480 Welton, Inc. 1800 Larimer Street Denver, CO 80202	Corporation	Colorado	Authorized Capital Stock - $1,000,000 consisting of 10,000 shares of $100 par value Common Stock. 4,049 shares outstanding are issued to Public Service Company of Colorado.	Holds Real Estate
Beeman Irrigating Ditch and Milling Company 1800 Larimer Street Denver, CO 80202	Corporation	Colorado	51% PSCo	Ownership of majority shares in the Beeman Irrigating Ditch and Milling Company with appurtenant water rights.
Chippewa and Flambeau Improvement Company 1414 W. Hamilton Avenue Eau Claire, WI 54701	Corporation	Wisconsin	78.63% NSP-W	Operates hydro reservoirs
Clearwater Investments, Inc. 1414 W. Hamilton Avenue Eau Claire, WI 54701	Corporation	Wisconsin	Authorized Capital – 9,000 shares of $1.00 par value common stock. 100 shares issued to Northern States Power Company, a Wisconsin corporation.	Owns interests in affordable housing projects in Wisconsin which qualify for low income housing tax credits.
Consolidated Extension Canal Company 1800 Larimer Street, Denver, CO 80202	Corporation	Colorado	53.54% PSCo	Formed to build, construct, maintain and operate an irrigating ditch in Bent County; to acquire right of way on and over right of way, ditch and head gate of the Las Animas Consolidated Canal Company; to acquire right of way over, in and to the right of way, ditch and head gate of The Highland Irrigation District; to construct reservoirs for storage of water to purchase, rent, own, hold and sell and convey land, water rights and stocks in other companies.
East Boulder Ditch Company 1800 Larimer Street Denver, CO 80202	Corporation	Colorado	88.9% PSCo	Ownership of the East Boulder Ditch with appurtenant water rights
e prime Inc. 1800 Larimer Street Denver, CO 80202	Corporation	Colorado	Authorized Capital Stock: 20,000,000 shares of $5 par value capital stock. 3,807,719 shares issued and outstanding and held by Xcel Energy Markets Holdings Inc.	Unregulated commodity marketing affiliate

AFFILIATES OF PUBLIC SERVICE COMPANY OF COLORADO
1800 Larimer Street
Denver, CO 80202
As of 6/13/2016

Name of Company	Organization	State of Organization	Ownership	Purpose of Business
Eloigne Company ("Eloigne") 414 Nicollet Mall Minneapolis MN 55401	Corporation	Minnesota	Authorized Capital – 1,000 shares of no par value common stock. 820 shares issued to Xcel Energy Ventures Inc.	Owns interests in affordable housing projects in Wisconsin which qualify for low income housing tax credits.
Enterprise Irrigating Ditch Company 1800 Larimer Street Denver, CO 80202	Corporation	Colorado	Authorized Capital Stock: consisting of 44.165 shares of Capital Stock. Public Service Company owns 11.9500 shares (27.2%).	Public Service Company uses its water at Valmont Plant in Boulder County.
Fisher Ditch Company 1800 Larimer Street Denver, CO 80202	Corporation	Colorado	25.41% PSCo	Ownership of the Fisher Ditch with appurtenant water rights in Clear Creek. Public Services Company uses its water at Cherokee Plant.
Gardeners Mutual Ditch Company 4653 Table Mountain Drive Golden, CO 80403	Corporation	Colorado	100% PSCo	For use at Cherokee Station.
Green and Clear Lakes Company 1800 Larimer Street Denver, CO 80202	Corporation	New York	100% PSCo	Water storage for Cabin Creek Hydroelectric facility.
Hillcrest Ditch and Reservoir Company 1800 Larimer Street, Denver, CO 80202	Corporation	Colorado	77.78% PSCo	The Company owns four miles of ditch and canal; it also owns Hillcrest Reservoir, with ditches and water rights appurtenant thereto. Principal business engaged in, and principal realty holdings, are in Boulder County. Cooling water for generating facilities.
Las Animas Consolidated Canal Company 1800 Larimer Street, Denver, CO 80202	Corporation	Colorado	76.57% PSCo	The Company owns and operates the holdings of the Las Animas Consolidated Canal Company, consisting of the Riverside Canal and the Jones Canal, head gates, waste gates, lateral gates and dam. Its purpose is to acquire additional water rights by purchase, if so desired, and to acquire rights-of-way, and to do all things necessary to maintain and operate said ditches.
NCE Communications, Inc. 414 Nicollet Mall Minneapolis, MN 55401	Corporation	Colorado	100% Xcel Communications Group Inc.	Owns and maintains fiber-optic telecommunications network in Denver area serving commercial users.
Northern States Power Company ("NSPM") 414 Nicollet Mall Minneapolis, MN 55401	Corporation	Minnesota	Authorized Capital – 5,000,000 shares of $0.01 par value common stock. 1,000,000 shares issued to Xcel Energy Inc.	Electric and gas utility

AFFILIATES OF PUBLIC SERVICE COMPANY OF COLORADO
1800 Larimer Street
Denver, CO 80202
As of 6/13/2016

Name of Company	Organization	State of Organization	Ownership	Purpose of Business
Northern States Power Company ("NSPW") 1414 W. Hamilton Avenue Eau Claire, WI 54701	Corporation	Wisconsin	Authorized Capital - 1,000,000 shares of $100.00 par value common stock. 933,000 shares issued to Xcel Energy Inc.	Electric and gas utility
NSP Lands, Inc. 1414 W. Hamilton Avenue Eau Claire, WI 54701	Corporation	Wisconsin	Authorized Capital: 9,000 shares of $1.00 par value common stock. 100 shares issued to Northern States Power Company, a Wisconsin corporation.	Holds non-utility real estate in Wisconsin
NSP Nuclear Corporation ("NSP Nuclear") 414 Nicollet Mall Minneapolis MN 55401	Corporation	Minnesota	Authorized Capital:10,000 shares of $0.01 par value common stock. 40 shares issued to Northern States Power Company (Minnesota).	Holds NSP interest in Nuclear Management Company, LLC; awaiting dissolution
Nuclear Management Company, LLC 414 Nicollet Mall Minneapolis MN 55401	Ltd. Liability Company	Wisconsin	100% NSP Nuclear Corp.	Provides services to owners and operators of nuclear generating plants (2014). Former holder of NSPM nuclear licenses. Licenses have been transferred to NSPM. Currently awaiting Nuclear Regulatory Commission authorization to dissolve (2015).
P.S.R. Investments, Inc. 1800 Larimer Street Denver, CO 80202	Corporation	Colorado	Twenty Five Million (25,000,000) shares of common stock, par value $1.00. 363,190 shares are issued and outstanding and held by Public Service Company of Colorado.	Holds certain life insurance policies (acquired prior to 1986)
Public Service Company of Colorado 1800 Larimer Street Denver, Colorado 80202	Corporation	Colorado	Authorized Capital Stock: 10,000,000 shares of Preferred Stock with par value of $.01 per share; 100 shares of Common Stock, par value $.01 per share. 100 shares of Common Stock are issued and outstanding and held by Xcel Energy Inc.	Public utility
Private Fuel Storage L.L.C. 414 Nicollet Mall Minneapolis MN 55401	Ltd. Liability Company	Delaware	32.8% NSP (interest)	Develop private temporary spent nuclear fuel storage facility

AFFILIATES OF PUBLIC SERVICE COMPANY OF COLORADO
1800 Larimer Street
Denver, CO 80202
As of 6/13/2016

Name of Company	Organization	State of Organization	Ownership	Purpose of Business
Quixx Carolina, Inc. 414 Nicollet Mall Minneapolis MN 55401	Corporation	Texas	100% Quixx Corp	Energy related projects
Quixx Corporation 414 Nicollet Mall Minneapolis MN 55401	Corporation	Texas	Authorized Capital: 100,000 shares of $1 par value common stock. 51,000 shares issued to Xcel Energy Wholesale Group Inc.	Energy related projects
Quixx Linden, L.P. 301 Pleasant Street Linden, NJ 07036	Ltd. Partnership	Delaware	0.5% Quixxlin 43.18% Quixx Corp	Owns natural gas-fired cogeneration facility
Quixxlin Corporation 414 Nicollet Mall Minneapolis, MN 55401	Corporation	Delaware	100% Quixx Corp	Energy related projects
Reddy Kilowatt Corporation 414 Nicollet Mall Minneapolis MN 55401	Corporation	Montana	Authorized Capital: 60,000 shares of $10.00 par value common stock. 13,435 shares issued to Xcel Energy Retail Holdings Inc.	Energy sales and marketing services
Safe Haven Homes, LLC 414 Nicollet Mall Minneapolis MN 55401	Ltd. Liability Company	Delaware	100% Eloigne Co	Affordable housing projects
Seren Innovations, Inc. 414 Nicollet Mall, Minneapolis, MN 55401	Corporation	Minnesota	76% Xcel Energy Communications Group Inc.	Communications
Shoe Factory Holdings, LLC 1414 West Hamilton Avenue Eau Claire, Wisconsin 54701	Ltd. Liability Company	Wisconsin	98.99% Clearwater Investments, Inc.	Affordable Housing Projects
Southwestern Public Service Company 600 Tyler, Amarillo, TX 79101	Corporation	New Mexico	Authorized Capital - 10,000,000 shares of Preferred Stock with par value of $1 per share; 200 shares of Common Stock with par value of $1 per share. 100 shares of Common Stock are issued and outstanding and held by Xcel Energy Inc.	Electric utility
United Power and Land Co. (UP&L) 414 Nicollet Mall Minneapolis MN 55401	Corporation	Minnesota	Authorized Capital: 140,200 shares of $100.00 par value common stock. 40,200 shares issued to Northern States Power Company (Minnesota).	Holds non-utility real estate
United Water Company 1800 Larimer Street Denver, CO 80202	Corporation	Colorado	82% PSCo	Cherokee Plant water source

AFFILIATES OF PUBLIC SERVICE COMPANY OF COLORADO
1800 Larimer Street
Denver, CO 80202
As of 6/13/2016

Name of Company	Organization	State of Organization	Ownership	Purpose of Business
WestGas InterState, Inc. 1800 Larimer Street Denver, CO 80202	Corporation	Colorado	Authorized Capital: 2,000,000 shares of $10 par value common stock of which 60,000 shares are issued and outstanding and held by Xcel Energy Inc.	Natural gas transmission company
Woodsedge Eau Claire LP 1414 West Hamilton Ave. Eau Claire, Wisconsin 54701	Ltd. Liability Company	Minnesota	99.99% Clearwater Investments	Low Income Housing Project
WYCO Development LLC 1800 Larimer Street Denver, CO 80202	Ltd. Liability Company	Colorado	50% Xcel Energy WYCO Inc.	Develop and own natural gas transportation and storage facilities
Xcel Energy Inc. 414 Nicollet Mall, Minneapolis, Minnesota 55401	Corporation	Minnesota	1,007,000,000 shares, consisting of 1,000,000,000 shares of Common Stock of par value $2.50 and 7,000,000 shares of Preferred Stock of par value $100.00.	Holding Company
Xcel Energy Foundation 414 Nicollet Mall Minneapolis MN 55401	Corporation	Minnesota	100% Xcel Energy Inc.	Minnesota Nonprofit Corporation
Xcel Energy Communications Group Inc. (“Xcel Communications”) 414 Nicollet Mall Minneapolis, MN 55401	Corporation	Minnesota	5,000,000 shares of $0.01 par value common stock. 100 shares issued to Xcel Energy Inc.	Holding company for subsidiaries providing broadband telecommunication and related services
Xcel Energy International Inc. (“Xcel International”) 414 Nicollet Mall Minneapolis MN 55401	Corporation	Delaware	1,000 shares of Common Stock, par value $.01. 100 shares issued and outstanding and held by Xcel Energy Inc.	Holding company for international subsidiaries
Xcel Energy Markets Holdings Inc. (“Xcel Markets”) 1800 Larimer Street Denver, CO 80202	Corporation	Minnesota	5,000,000 shares of $0.01 par value common stock. 100 shares issued to Xcel Energy Inc.	Holding company for energy marketing services subsidiaries
Xcel Energy Retail Holdings Inc. (“Xcel Retail”) 1800 Larimer Street Denver, CO 80202	Corporation	Minnesota	5,000,000 shares of $0.01 par value common stock. 100 shares issued to Xcel Energy Inc.	Holding Company for subsidiaries providing services to retail customers
Xcel Energy Performance Contracting Inc. 1800 Larimer Street Denver, CO 80202	Corporation	Minnesota	5,000 shares of no par value common stock. 1,065 shares issued to Xcel Energy Retail Holdings Inc	Sales and marketing of natural gas.
Xcel Energy Southwest Transmission Company, LLC 414 Nicollet Mall Minneapolis, MN 55401	Limited Liability Company	Delaware	Xcel Energy Transmission Holding Company, LLC holds a 100% ownership interest and is the sole Member of the LLC	Energy Transmission Services

AFFILIATES OF PUBLIC SERVICE COMPANY OF COLORADO
1800 Larimer Street
Denver, CO 80202
As of 6/13/2016

Name of Company	Organization	State of Organization	Ownership	Purpose of Business
Xcel Energy Transmission Development Company, LLC 414 Nicollet Mall Minneapolis, MN 55401	Limited Liability Company	Delaware	Xcel Energy Transmission Holding Company, LLC holds a 100% ownership interest and is the sole Member of the LLC	Energy Transmission Services
Xcel Energy Transmission Holding Company, LLC 414 Nicollet Mall Minneapolis, MN 55401	Limited Liability Company	Delaware	Xcel Energy Inc. holds a 100% ownership interest and is the sole Member of the LLC	Energy Transmission Services
Xcel Energy Ventures Inc. 414 Nicollet Mall Minneapolis, MN 55401	Corporation	Minnesota	5,000,000 shares of $0.01 par value common stock. 100 shares issued to Xcel Energy Inc	Intermediate holding company for subsidiaries to develop and manage new business ventures
Xcel Energy West Transmission Company, LLC 414 Nicollet Mall Minneapolis, MN 55401	Limited Liability Company	Delaware	Xcel Energy Transmission Holding Company, LLC holds a 100% ownership interest and is the sole member of the LLC	Energy Transmission Services
Xcel Energy Services Inc. 414 Nicollet Mall Minneapolis MN 55401	Corporation	Delaware	100% Xcel Energy Inc.	Service company
Xcel Energy Ventures Inc. ("Xcel Ventures") 414 Nicollet Mall Minneapolis MN 55401	Corporation	Minnesota	5,000,000 shares of $0.01 par value common stock. 100 shares issued to Xcel Energy Inc.	Intermediate holding company for subsidiaries to develop and manage new business ventures
Xcel Energy Wholesale Group Inc. ("Xcel Wholesale") 414 Nicollet Mall Minneapolis MN 55401holesale")	Corporation	Minnesota	5,000,000 shares of $0.01 par value common stock. 1,000,000 shares issued to Xcel Energy Inc	Intermediate holding company for subsidiaries providing wholesale energy
Xcel Energy WYCO Inc. 1800 Larimer Street Denver, CO 80202	Corporation	Colorado	1,000 shares of $.01 par value common stock. 100 shares (at $10 per share) issued to Xcel Energy Inc	Holds 50% WYCO Dev.
Young Gas Storage Company, Ltd. 1225 17th Street Denver, Colorado 80202	Ltd. Partnership	Colorado	Owned by Xcel Energy Markets Holdings Inc. (47.5%); CIG Gas Storage Company (47.5%) as general partners, and the City of Colorado Springs (5%) as limited partner.	Operates underground gas storage facility

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholder of
Public Service Company of Colorado

We have audited the accompanying consolidated balance sheets and statements of capitalization of Public Service Company of Colorado and subsidiaries (the "Company") as of December 31, 2015 and 2014, and the related consolidated statements of income, comprehensive income, cash flows, and common stockholder's equity for each of the three years in the period ended December 31, 2015. Our audits also included the financial statement schedule listed in the Index at Item 15. These financial statements and financial statement schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on the financial statements and financial statement schedule based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such consolidated financial statements present fairly, in all material respects, the financial position of Public Service Company of Colorado and subsidiaries as of December 31, 2015 and 2014, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2015, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, such financial statement schedule, when considered in relation to the basic consolidated financial statements taken as a whole, presents fairly in all material respects the information set forth therein.

/s/ DELOITTE & TOUCHE LLP
Minneapolis, Minnesota
February 22, 2016

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PUBLIC SERVICE CO. OF COLORADO AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF INCOME
(amounts in thousands)

	Year Ended Dec. 31		
	2015	2014	2013
Operating revenues			
Electric	$ 3,115,257	$ 3,125,937	$ 3,081,171
Natural gas	1,006,666	1,215,324	1,080,703
Steam and other	41,590	41,888	40,754
Total operating revenues	4,163,513	4,383,149	4,202,628
Operating expenses			
Electric fuel and purchased power	1,246,666	1,405,498	1,335,818
Cost of natural gas sold and transported	501,824	725,754	621,120
Cost of sales — steam and other	17,788	16,831	17,039
Operating and maintenance expenses	761,901	751,786	762,322
Demand side management program expenses	128,681	139,780	139,337
Depreciation and amortization	411,667	379,202	360,417
Taxes (other than income taxes)	195,285	161,928	137,816
Total operating expenses	3,263,812	3,580,779	3,373,869
Operating income	899,701	802,370	828,759
Other income, net	2,964	4,265	3,136
Allowance for funds used during construction — equity	14,485	46,784	33,173
Interest charges and financing costs			
Interest charges — includes other financing costs of $6,285, $6,340, and $6,866, respectively	177,430	171,881	173,602
Allowance for funds used during construction — debt	(5,522)	(17,241)	(12,657)
Total interest charges and financing costs	171,908	154,640	160,945
Income before income taxes	745,242	698,779	704,123
Income taxes	278,440	243,591	250,740
Net income	$ 466,802	$ 455,188	$ 453,383

See Notes to Consolidated Financial Statements

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PUBLIC SERVICE CO. OF COLORADO AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(amounts in thousands)

	Year Ended Dec. 31		
	2015	2014	2013
Net income	$ 466,802	$ 455,188	$ 453,383
Other comprehensive income (loss)			
Derivative instruments:			
Net fair value (decrease) increase, net of tax of $(20), $(43) and $5, respectively	(30)	(72)	9
Reclassification of losses (gains) to net income, net of tax of $39, $(287) and $(294), respectively	72	(468)	(476)
Other comprehensive income (loss)	42	(540)	(467)
Comprehensive income	$ 466,844	$ 454,648	$ 452,916

See Notes to Consolidated Financial Statements

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PUBLIC SERVICE CO. OF COLORADO AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(amounts in thousands)

	Year Ended Dec. 31		
	2015	2014	2013
Operating activities			
Net income	$ 466,802	$ 455,188	$ 453,383
Adjustments to reconcile net income to cash provided by operating activities:			
Depreciation and amortization	416,427	383,992	365,713
Demand side management program amortization	3,509	4,331	4,802
Deferred income taxes	277,896	227,823	316,253
Amortization of investment tax credits	(2,807)	(2,941)	(2,935)
Allowance for equity funds used during construction	(14,485)	(46,784)	(33,173)
Provision for bad debts	13,052	17,005	16,784
Net realized and unrealized hedging and derivative transactions	2,414	(2,578)	(3,571)
Other	2,500	—	—
Changes in operating assets and liabilities:			
Accounts receivable	8,872	(42,921)	5,089
Accrued unbilled revenues	17,837	(23,132)	14,707
Inventories	33,417	(972)	(14,857)
Prepayments and other	10,483	(81,715)	(7,210)
Accounts payable	(40,982)	(22,789)	59,361
Net regulatory assets and liabilities	78,055	130,499	108,400
Other current liabilities	19,654	5,284	16,561
Pension and other employee benefit obligations	(23,449)	(38,905)	(48,886)
Change in other noncurrent assets	4,086	5,537	3,862
Change in other noncurrent liabilities	(35,334)	(19,130)	17,191
Net cash provided by operating activities	1,237,947	947,792	1,271,474
Investing activities			
Utility capital/construction expenditures	(995,597)	(1,114,338)	(1,066,700)
Allowance for equity funds used during construction	14,485	46,784	33,173
Investments in utility money pool arrangement	(196,300)	(603,000)	(1,495,000)
Repayments from utility money pool arrangement	212,300	659,000	1,423,000
Net cash used in investing activities	(965,112)	(1,011,554)	(1,105,527)
Financing activities			
(Repayments of) proceeds from short-term borrowings, net	(368,000)	382,000	(154,000)
Borrowings under utility money pool arrangement	165,000	333,000	14,000
Repayments under utility money pool arrangement	(165,000)	(333,000)	(14,000)
Proceeds from issuance of long-term debt	246,751	295,598	492,313
Repayments of long-term debt	—	(275,000)	(250,000)
Capital contributions from parent	175,210	81,498	25,621
Dividends paid to parent	(330,846)	(433,788)	(263,942)
Net cash (used in) provided by financing activities	(276,885)	50,308	(150,008)

Net change in cash and cash equivalents	(4,050)	(13,454)	15,939
Cash and cash equivalents at beginning of period	7,635	21,089	5,150
Cash and cash equivalents at end of period	$ 3,585	$ 7,635	$ 21,089
Supplemental disclosure of cash flow information:			
Cash paid for interest (net of amounts capitalized)	$ (165,546)	$ (150,011)	$ (155,457)
Cash received (paid) for income taxes, net	13,822	(91,810)	34,946
Supplemental disclosure of non-cash investing transactions:			
Property, plant and equipment additions in accounts payable	$ 106,912	$ 139,616	$ 142,103

See Notes to Consolidated Financial Statements

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PUBLIC SERVICE CO. OF COLORADO AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(amounts in thousands, except share and per share data)

	Dec. 31	
	2015	2014
Assets		
Current assets		
Cash and cash equivalents	$ 3,585	$ 7,635
Accounts receivable, net	300,882	322,885
Accounts receivable from affiliates	4,909	50,842
Investments in utility money pool arrangement	—	16,000
Accrued unbilled revenues	276,212	294,049
Inventories	205,562	238,979
Regulatory assets	92,072	120,120
Deferred income taxes	62,662	64,587
Derivative instruments	1,945	1,731
Prepaid taxes	81,162	90,365
Prepayments and other	22,698	23,979
Total current assets	1,051,689	1,231,172
Property, plant and equipment, net	12,172,211	11,626,956
Other assets		
Regulatory assets	906,275	903,973
Derivative instruments	3,478	5,176
Other	44,819	48,506
Total other assets	954,572	957,655
Total assets	$ 14,178,472	$ 13,815,783
Liabilities and Equity		
Current liabilities		
Current portion of long-term debt	$ 8,103	$ 8,178
Short-term debt	14,000	382,000
Accounts payable	352,701	425,133
Accounts payable to affiliates	76,643	46,736
Regulatory liabilities	152,823	134,459
Taxes accrued	166,660	159,470
Accrued interest	49,698	48,409
Dividends payable to parent	83,374	83,652
Derivative instruments	8,881	5,774
Other	78,910	72,002
Total current liabilities	991,793	1,365,813
Deferred credits and other liabilities		
Deferred income taxes	2,720,860	2,437,641
Deferred investment tax credits	33,466	36,273

Regulatory liabilities	471,421	464,421
Asset retirement obligations	240,508	225,296
Derivative instruments	13,020	18,257
Customer advances	198,526	229,990
Pension and employee benefit obligations	200,774	202,031
Other	63,864	68,171
Total deferred credits and other liabilities	3,942,439	3,682,080
Commitments and contingencies		
Capitalization		
Long-term debt	4,124,088	3,882,051
Common stock — 100 shares authorized of $0.01 par value; 100 shares outstanding at Dec. 31, 2015 and 2014, respectively	—	—
Additional paid in capital	3,620,824	3,522,788
Retained earnings	1,523,164	1,386,929
Accumulated other comprehensive loss	(23,836)	(23,878)
Total common stockholder's equity	5,120,152	4,885,839
Total liabilities and equity	$ 14,178,472	$ 13,815,783

See Notes to Consolidated Financial Statements

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PUBLIC SERVICE CO. OF COLORADO AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMMON STOCKHOLDER'S EQUITY
(amounts in thousands, except share and per share data)

	Common Stock Issued					
	Shares	Par Value	Additional Paid In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Common Stockholder's Equity
Balance at Dec. 31, 2012	100	$ —	$3,415,669	$ 1,192,937	$ (22,871)	$ 4,585,735
Net income				453,383		453,383
Other comprehensive loss					(467)	(467)
Common dividends declared to parent				(262,273)		(262,273)
Contribution of capital by parent			25,621			25,621
Balance at Dec. 31, 2013	100	$ —	$3,441,290	$ 1,384,047	$ (23,338)	$ 4,801,999
Net income				455,188		455,188
Other comprehensive loss					(540)	(540)
Common dividends declared to parent				(452,306)		(452,306)
Contribution of capital by parent			81,498			81,498
Balance at Dec. 31, 2014	100	$ —	$3,522,788	$ 1,386,929	$ (23,878)	$ 4,885,839
Net income				466,802		466,802
Other comprehensive income					42	42
Common dividends declared to parent				(330,567)		(330,567)
Contribution of capital by parent			98,036			98,036
Balance at Dec. 31, 2015	100	$ —	$3,620,824	$ 1,523,164	$ (23,836)	$ 5,120,152

See Notes to Consolidated Financial Statements

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PUBLIC SERVICE CO. OF COLORADO AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CAPITALIZATION
(amounts in thousands, except share and per share data)

	Dec. 31	
	2015	2014
Long-Term Debt		
First Mortgage Bonds, Series due:		
Sept. 1, 2017, 4.375% [(a)]	129,500	129,500
Aug. 1, 2018, 5.8%	300,000	300,000
June 1, 2019, 5.125%	400,000	400,000
Nov. 15, 2020, 3.2%	400,000	400,000
Sept. 15, 2022, 2.25%	300,000	300,000
March 15, 2023, 2.5%	250,000	250,000
May 15, 2025, 2.9%	250,000	—
Sept. 1, 2037, 6.25%	350,000	350,000
Aug. 1, 2038, 6.5%	300,000	300,000
Aug. 15, 2041, 4.75%	250,000	250,000
Sept. 15, 2042, 3.6%	500,000	500,000
March 15, 2043, 3.95%	250,000	250,000
March 15, 2044, 4.3%	300,000	300,000
Capital lease obligations, through 2060, 11.2% — 14.3%	164,031	172,209
Unamortized discount	(11,340)	(11,480)
Total	4,132,191	3,890,229
Less current maturities	8,103	8,178
Total long-term debt	$ 4,124,088	$ 3,882,051
Common Stockholder's Equity		
Common Stock — 100 shares authorized of $0.01 par value; 100 shares outstanding at Dec. 31, 2015 and 2014, respectively.	$ —	$ —
Additional paid-in capital	3,620,824	3,522,788
Retained earnings	1,523,164	1,386,929
Accumulated other comprehensive loss	(23,836)	(23,878)
Total common stockholder's equity	$ 5,120,152	$ 4,885,839

[(a)] Pollution control financing.

See Notes to Consolidated Financial Statements

APPENDIX H
UNION PACIFIC RAILROAD SEEN/UNSEEN ANALYSIS AND SITE PHOTOS

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FIGURE I-1 UNION PACIFIC RAILROAD LOOKING NORTH FROM PHOTO LOCATION 1.

FIGURE I-2 UNION PACIFIC RAILROAD LOOKING EAST FROM PHOTO LOCATION 1.

FIGURE I-3 UNION PACIFIC RAILROAD LOOKING WEST FROM PHOTO LOCATION 2.

FIGURE I-4 UNION PACIFIC RAILROAD LOOKING SOUTH FROM PHOTO LOCATION 2.

APPENDIX I
ARAPAHOE COUNTY REDLINE REVIEW DOCUMENTS

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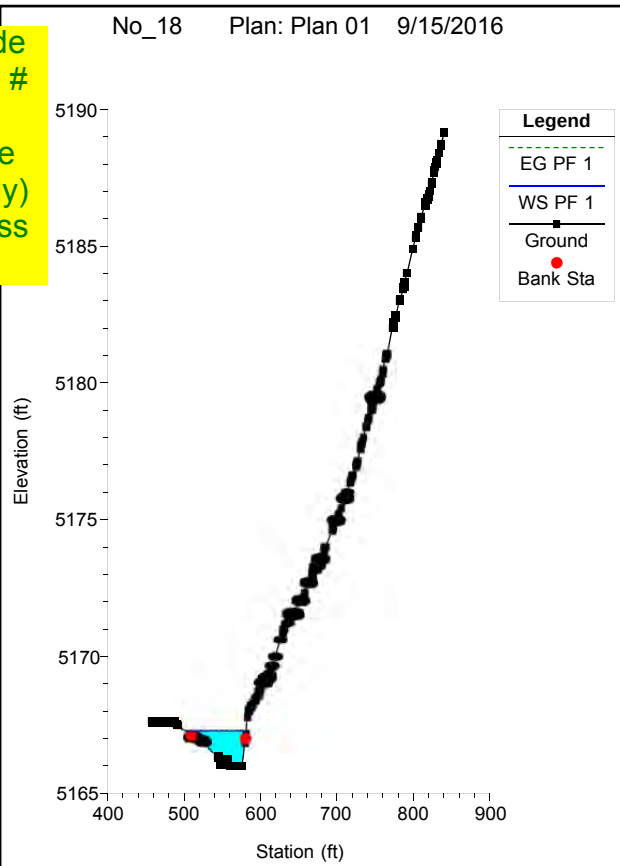
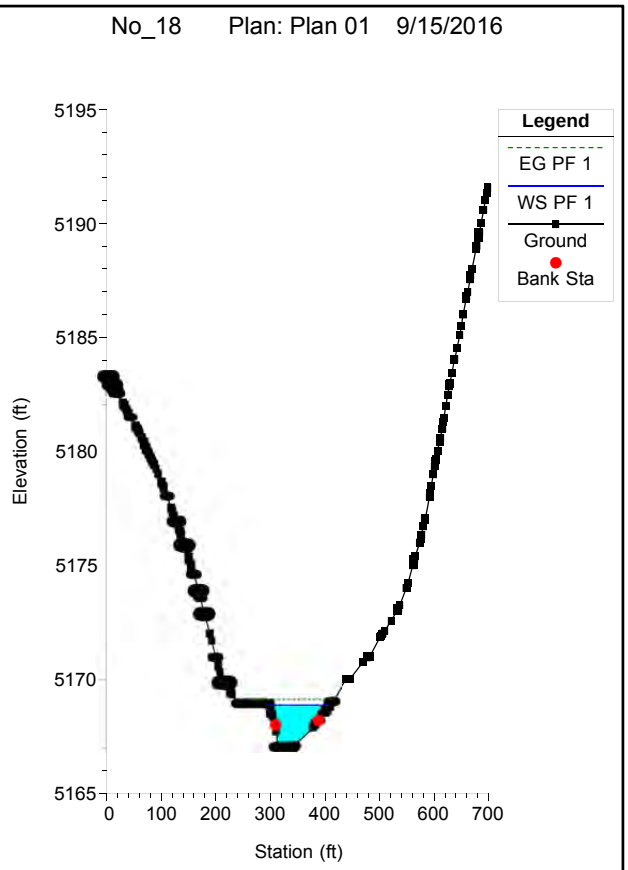
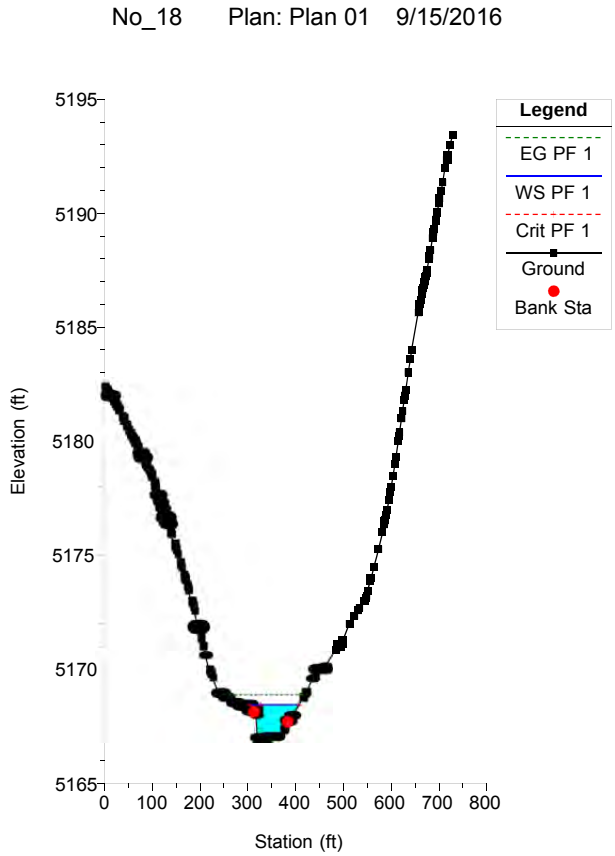
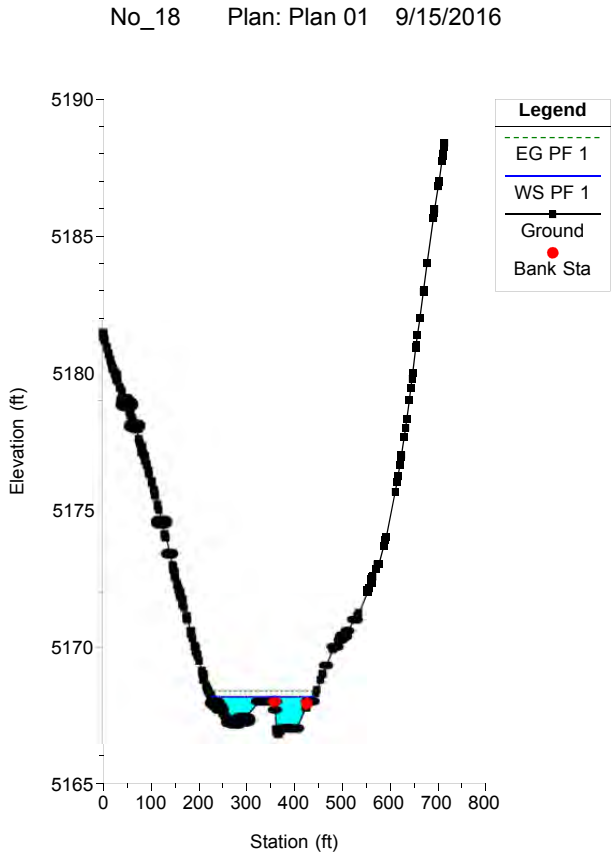
ARAPAHOE COUNTY ENGINEERING REDLINES
Engineer / Date: SPL 10/18/2016

Please include River Station # as shown in Table 2 (page 3 of the study) for each cross section,









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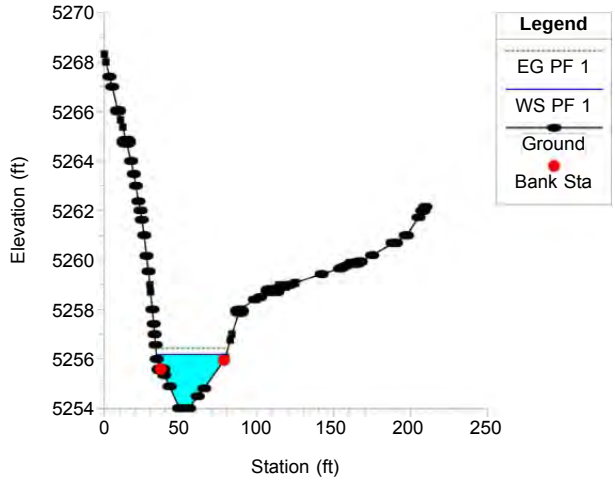

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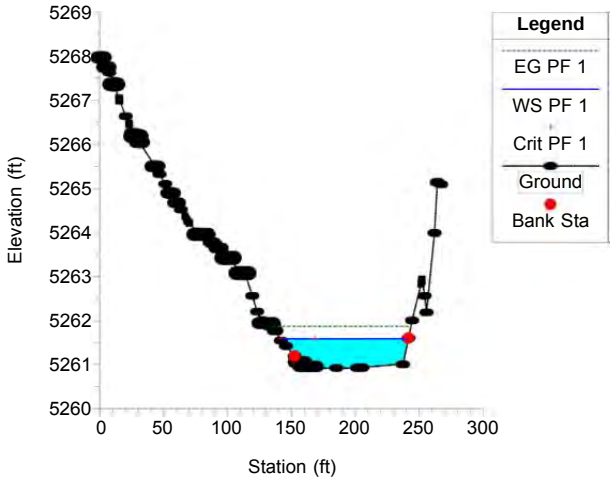

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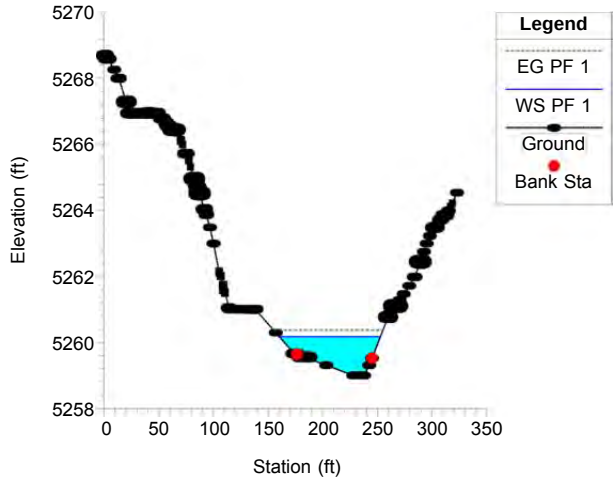

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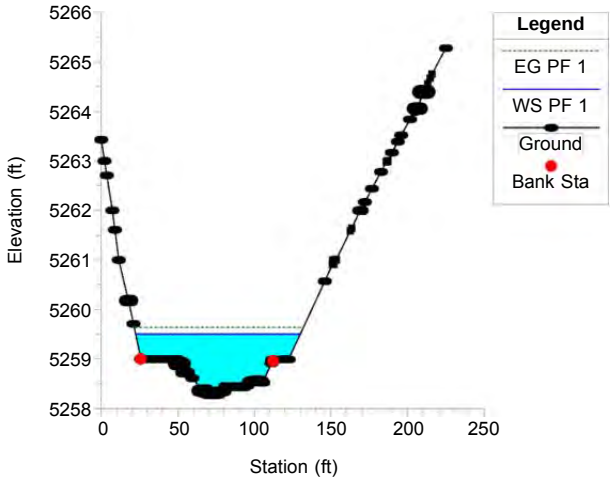

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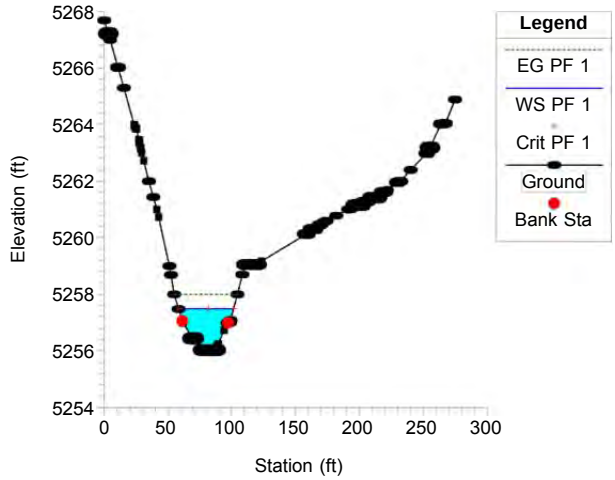

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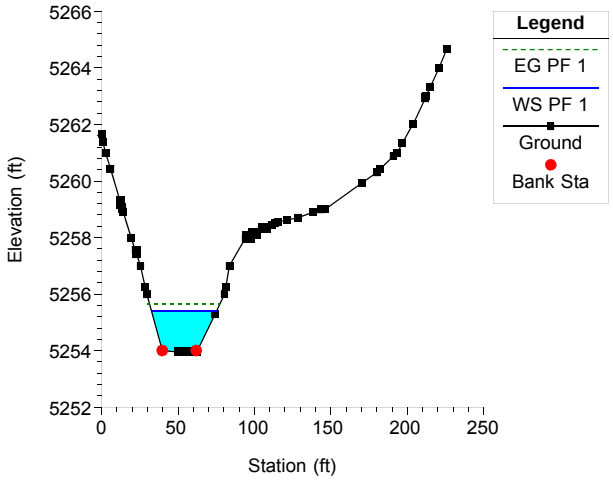

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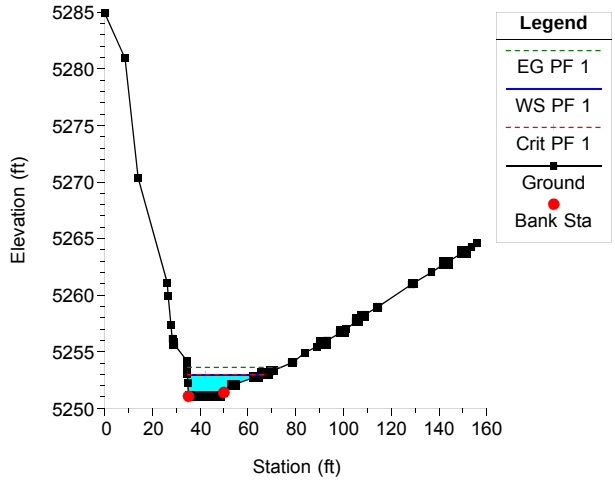

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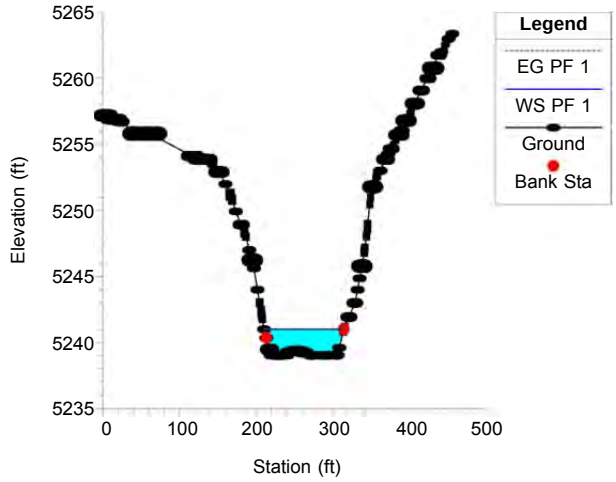

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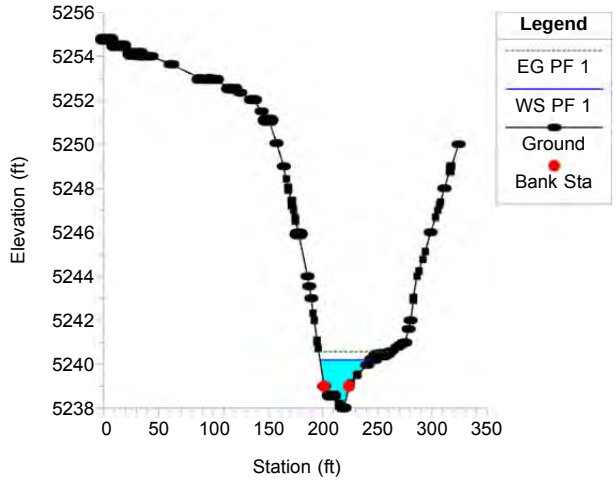

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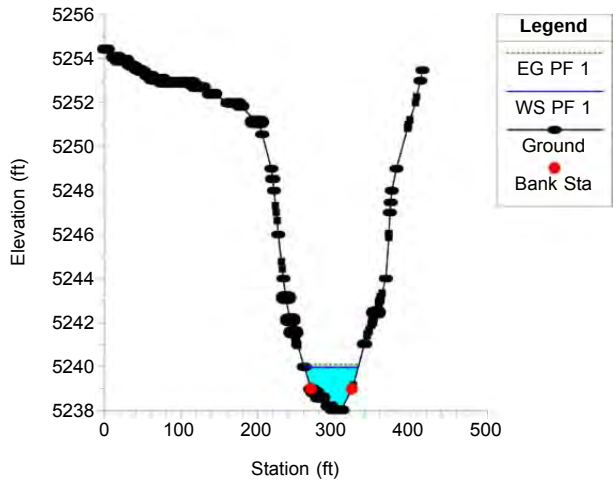

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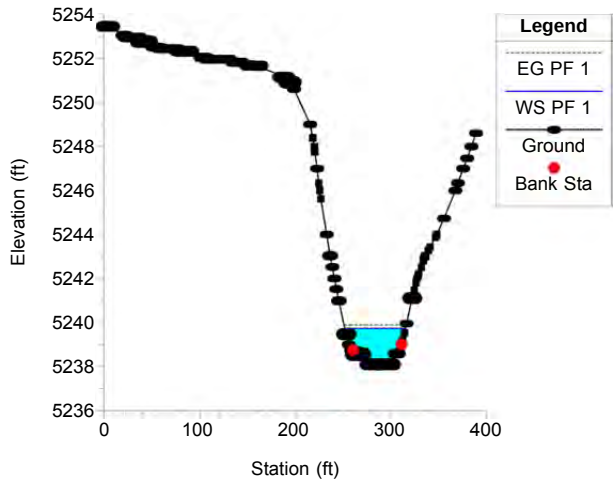

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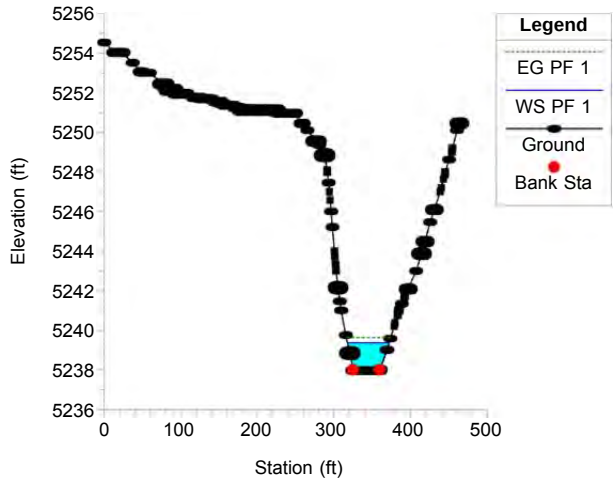

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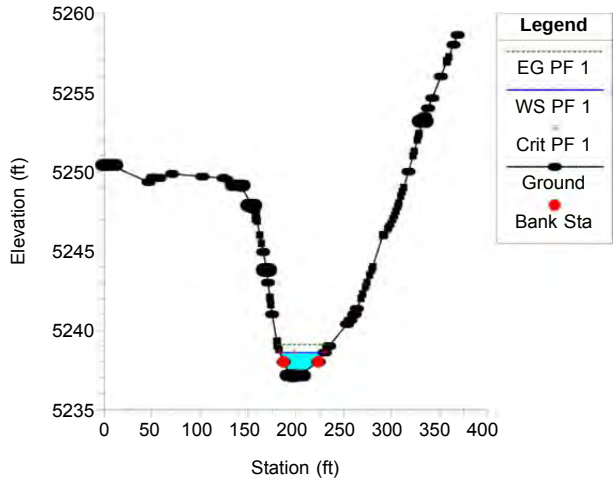

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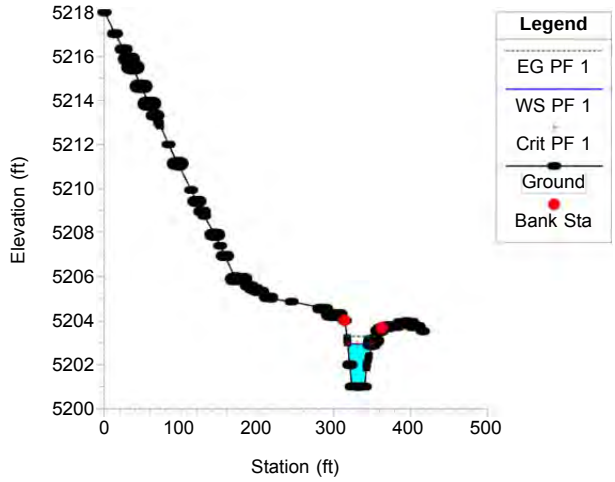

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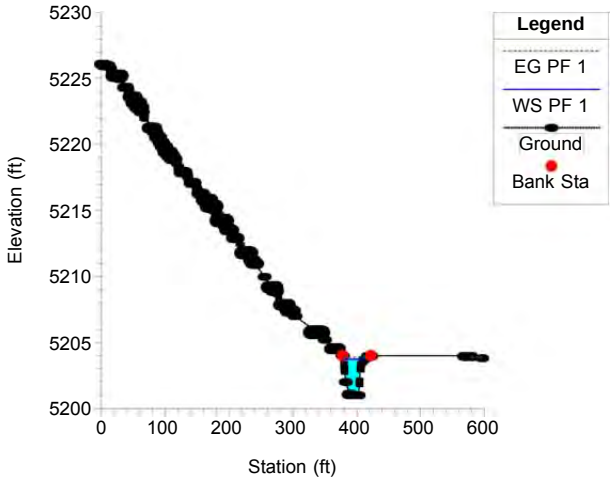

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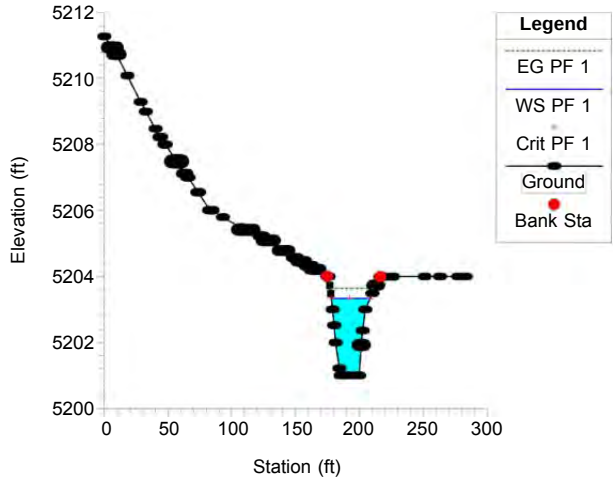

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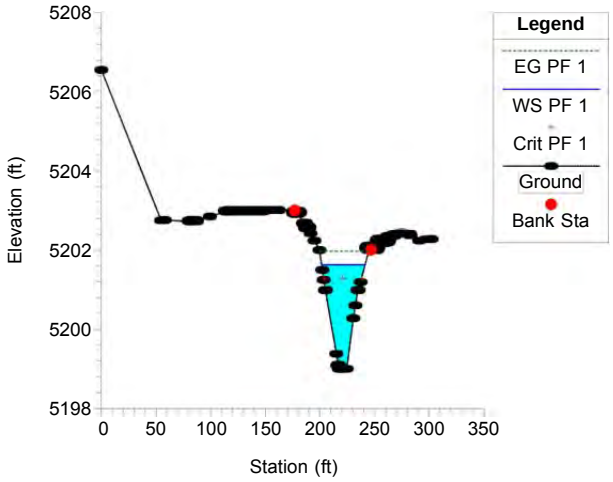

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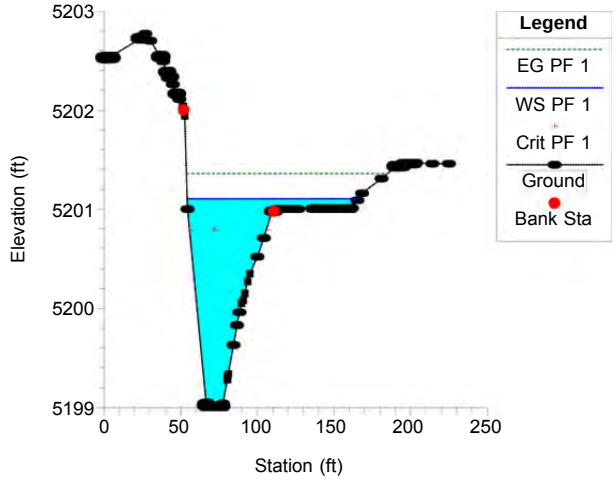

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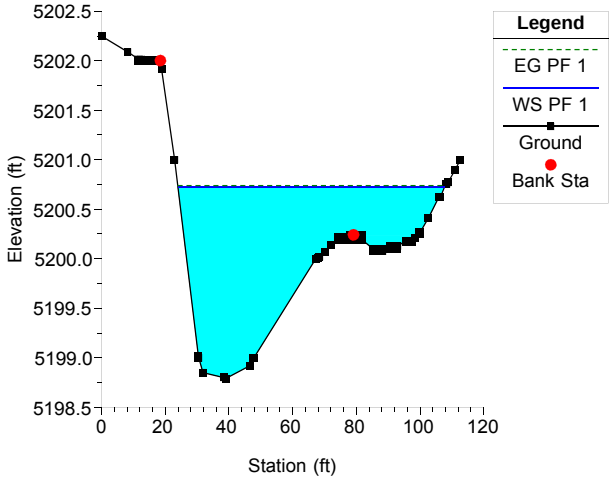

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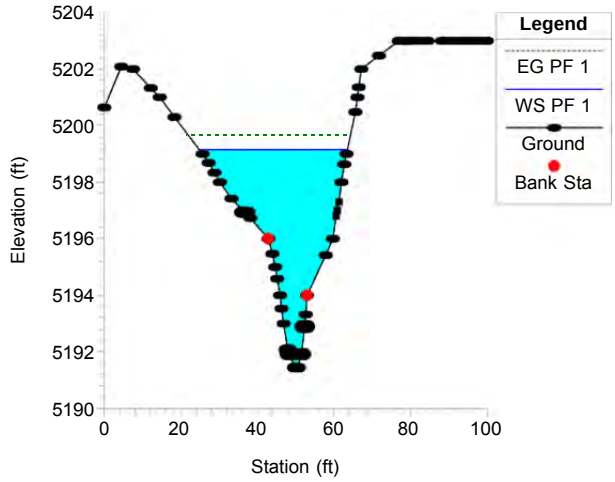

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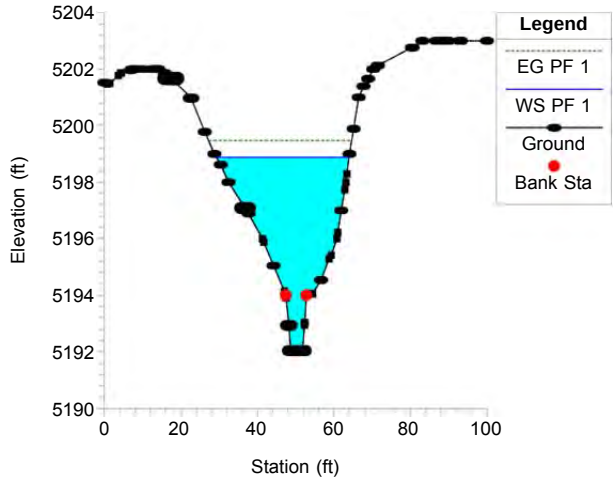

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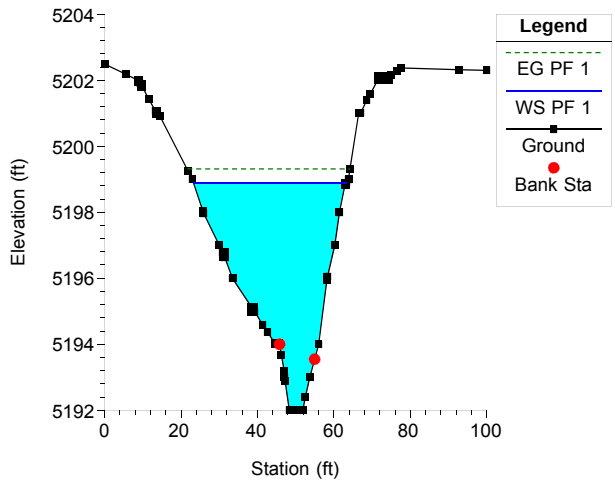

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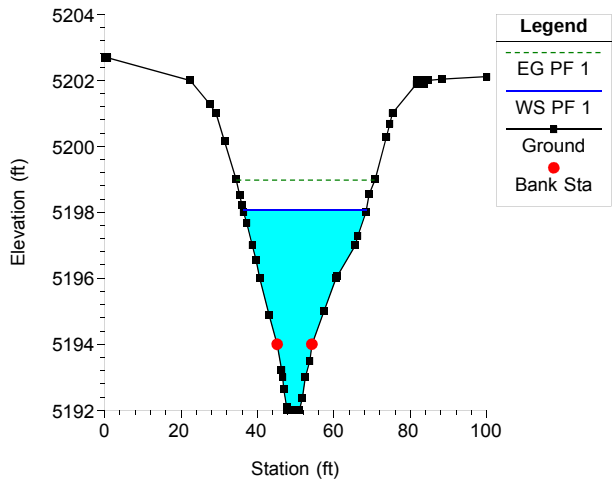

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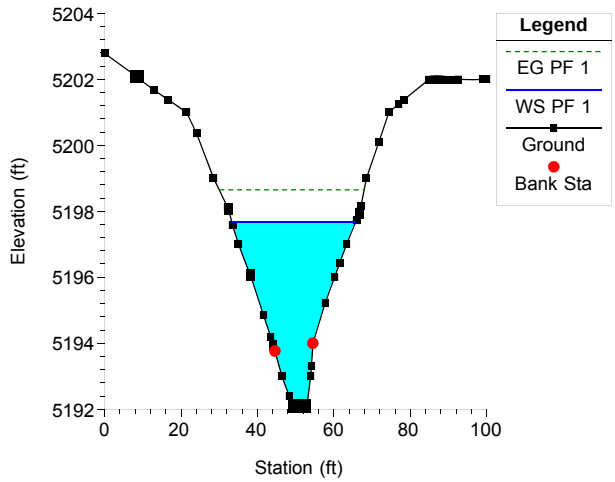

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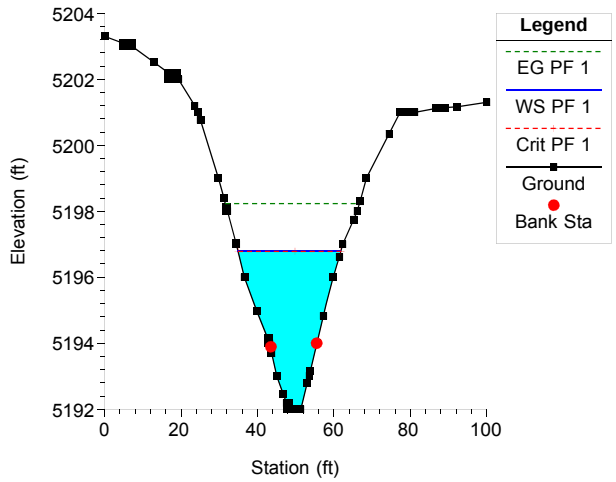

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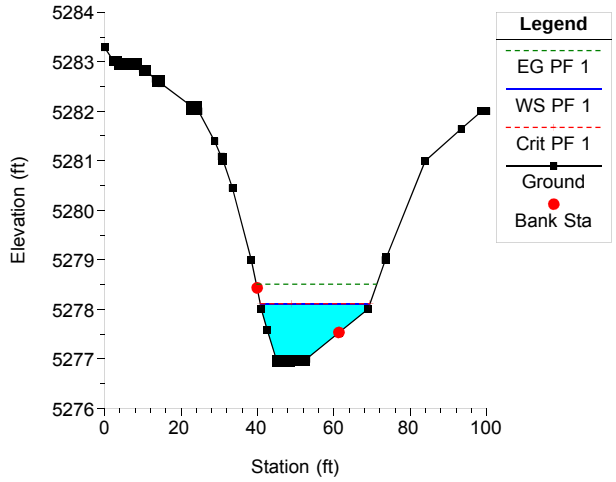

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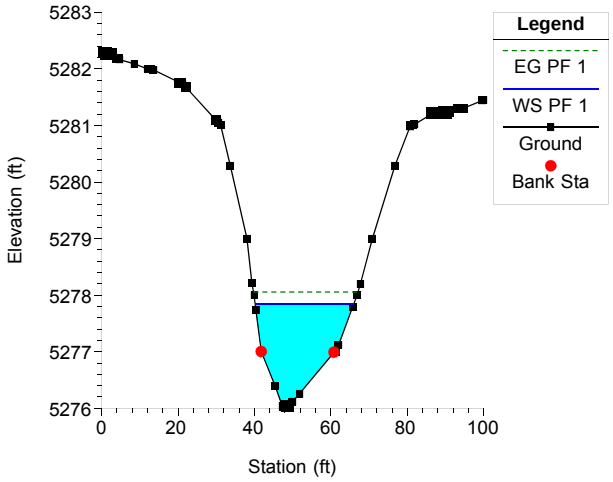

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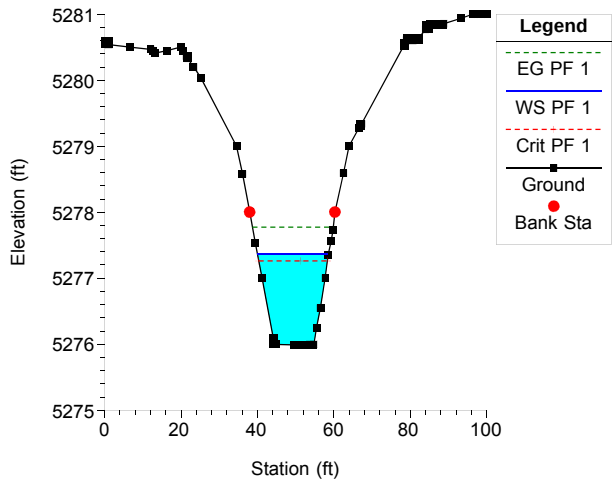

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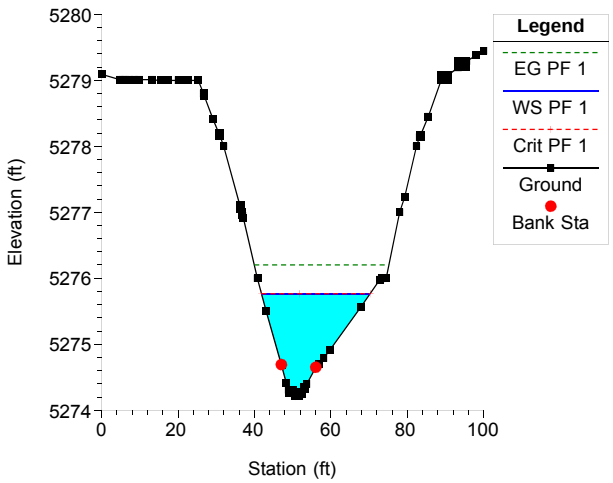

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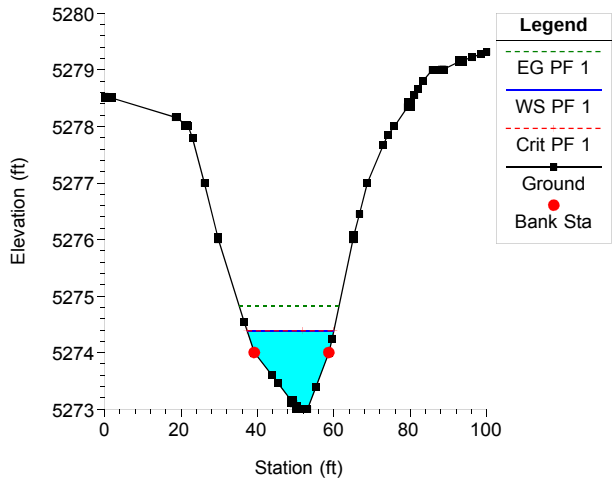

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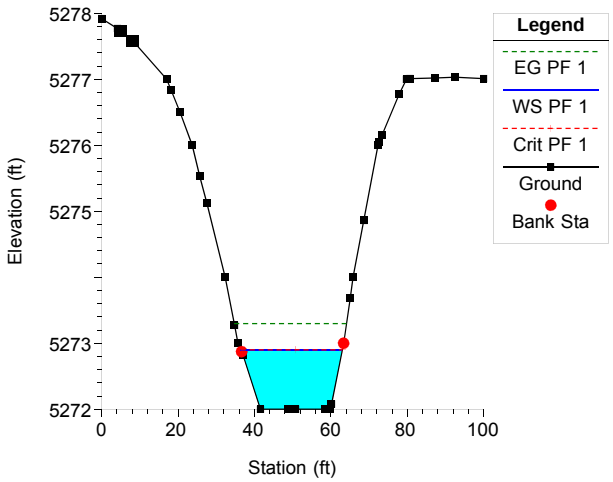

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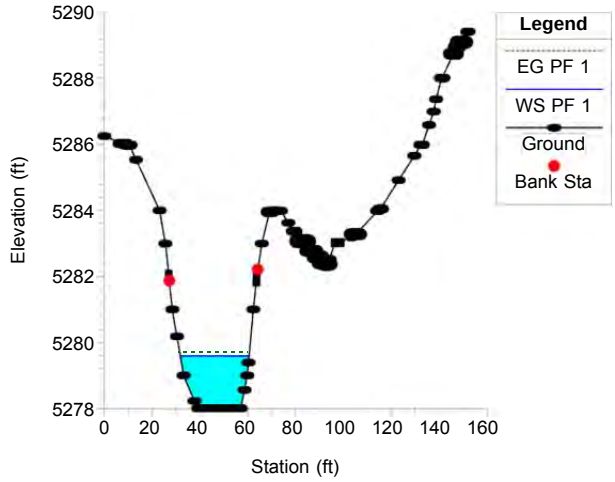

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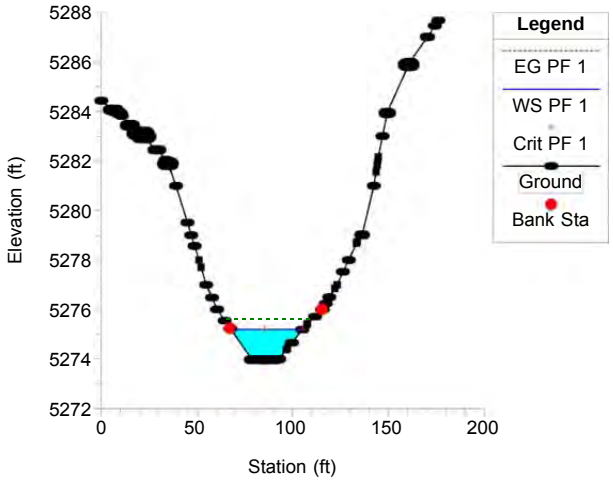

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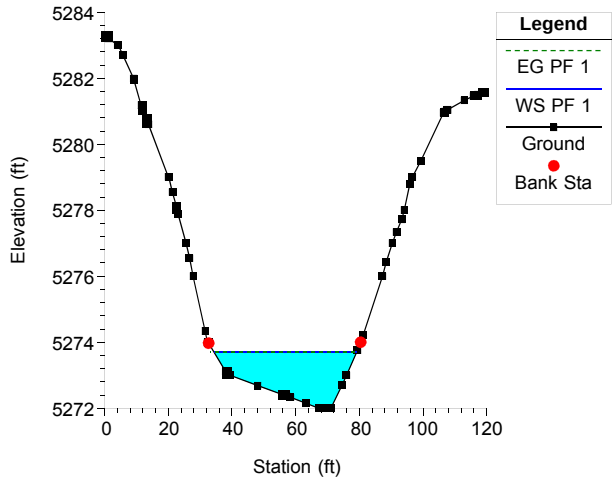

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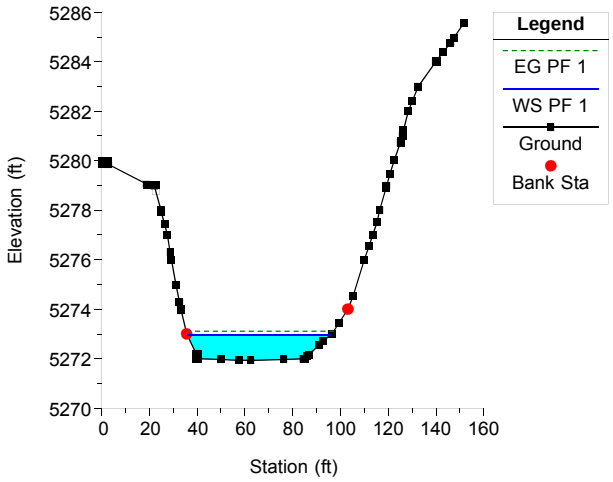

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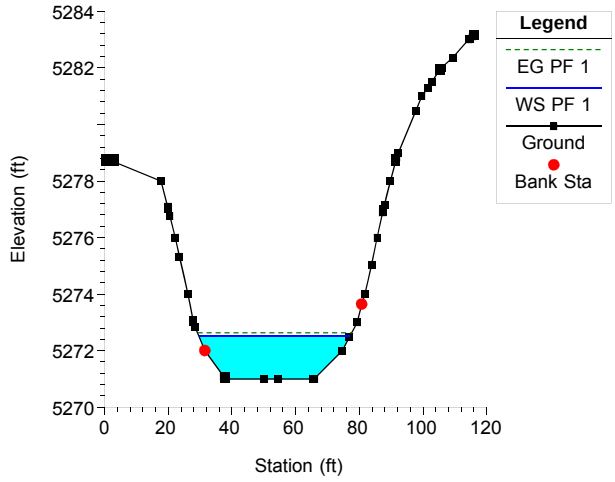

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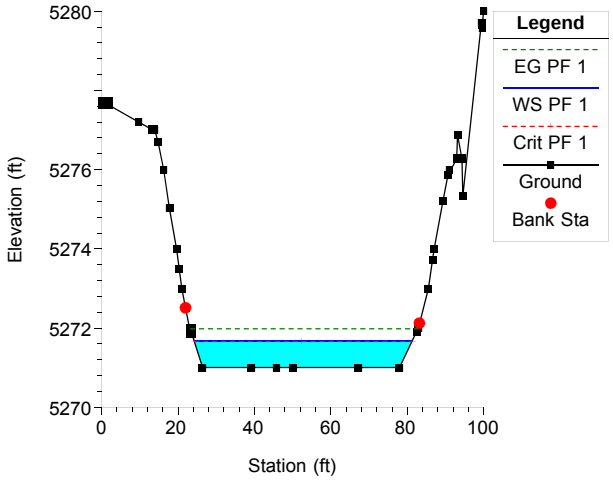

POWER ENGINEERS, INC.
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LAKEWOOD, CO 80235 USA
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ARAPAHOE COUNTY ENGINEERING REDLINES
Engineer / Date: SPL 10/18/2016

October 7, 2016

Ms. Sue Liu, PE
Arapahoe County Public Works & Development
Engineering Division
6924 South Lima Street
Centennial, Colorado 80112

Subject: Rush Creek 345 kV Transmission Line Project
Unmapped Floodplain Delineation – Arapahoe County
Arapahoe County Case #ASI16-003

Dear Ms. Liu

In response to your request, POWER Engineers, Inc. (POWER) is pleased to submit this letter report describing the process for delineating unmapped Arapahoe County floodplains within the proposed right-of-way for the Public Service Company of Colorado (PSCo) Rush Creek 345 kV Transmission Line Project. The Rush Creek 345 kV Transmission Line Project is an approximately 80-93 mile long (depending on the preferred alternative) 345 kV transmission line, planned to cross approximately 13.5 miles of eastern Arapahoe County, approximately 41 miles of Elbert County, and 26 miles of Lincoln County. The Project will interconnect approximately 600 MW of proposed wind energy generation from the proposed Rush Creek I and II Wind Farms into the existing Missile Site Substation in Arapahoe County. Rush Creek I is located in Elbert County and Rush Creek II is located in Cheyenne, Kit Carson, and Lincoln Counties. The proposed route is located in portions of Township 4 South, Range 59 West, Sections 29, 30, 31, and 32, Township 5 South, Range 59 West, Sections 2, 3, 4, 5, 6, 10, 11, 13, 14, 15, 22, 23, and 24 and Township 5 South, Range 58 West, Sections 19, 30, and 31. The proposed right-of-way (ROW) width is 150 feet, depending on the structure type, terrain, span, and other factors. Please see **Attachment A-Stream Crossing Drainages Map**.

In their comments on PSCo's 1041 Application for Areas and Activities of State Interest, Arapahoe County requested all unmapped Arapahoe County floodplains within the proposed route ROW be delineated to determine the number of structures within these floodplains. Arapahoe County defines an unmapped floodplain as any drainageway having a tributary area of 130 acres or more, in addition to the floodplains defined by the Federal Emergency Management Agency (FEMA). The proposed route ROW does not encroach into any mapped FEMA floodplains. See **Attachment B-Water Resource Map**. Below is a description of how the unmapped Arapahoe County floodplains were determined.

This report was prepared by: Mr. Stuart Toraason, PE, LEED AP (HEC-RAS modeling), Ms. Wendy Hosman, PWS (floodplain analysis), Mr. Austin Streetman (GIS analysis and cartography), and Mr. Dave Dean (QA/QC).

INTRODUCTION

POWER Engineers, Inc. (POWER) reviewed the hydrologic and hydraulic conditions contributing to the 100 year peak flow rate and 100 year water surface elevation at seven (7) separate overhead transmission line stream crossing locations along various tributaries to Muddy Creek in Arapahoe County. The purpose of this analysis is to estimate the extents of the 100 year flood plain at each crossing.

DESIGN BASIS

Hydrology

The drainage areas and surface water runoff design peak discharge rates for the 100 year storm event were estimated using the United States Geological Survey (USGS) Stream Stats Version 3.0 application. By selecting the crossing points for each tributary the catchment boundary and flow rates were calculated in Stream Stats for the contributing drainage areas. A summary of the hydrological data and resulting electric line 100 year floodplain crossing distances are contained in Table 1.

TABLE 1: HYDROLOGICAL DATA

CROSSING NUMBER	TOTAL DRAINAGE AREA (ACRES)	100 YEAR PEAK FLOW RATE (CFS)	100 YEAR FLOODPLAIN CROSSING DISTANCE (FEET)	STRUCTURES WITHIN FLOODPLAIN
18	1,782	507	71	0
19	544	242	103	0
20	584	253	68	0
21	701	286	100	0
22	2247	598	40	0
23	133	102	29	0
24	282	163	62 and 159	0

Please provide the detail information as how the 100•year flow rate was calculated in Stream States (i.e. delineated points and watersheds, peak•flow table)

Hydraulic Analysis

The hydraulic characteristics of each tributary are based on a topographic survey of the site area which includes an existing ground surface model. Using the topographic survey and review of aerial imagery, the centerline location for the stream flow path was estimated. The surface topography, stream center line and stream cross-sections taken perpendicular to the flow path were imported into HEC-RAS to recreate the existing stream geometry. The Manning's 'n' roughness coefficient for the main channel was estimated to be 0.042. The Manning's 'n" value for the overbank areas was estimated to be 0.030 throughout the channel reach for all crossing locations. The 100 year peak flow rate from the Stream Stats hydrologic catchment model was

entered as a steady flow condition with the critical water surface elevation acting as the upstream and downstream boundary condition.

The HEC-RAS model estimated the 100 year water surface elevation at each cross section based on the stream geometry and steady flow rate. The 100 year water surface elevations have been plotted on the enclosed Flood Figures in **Attachment C** by interpolating between cross sections. **Attachment D** contains the HEC-RAS model output as select representative cross sections for each tributary. A summary of the results for the complete set of river station cross sections for each tributary is shown in Table 2.

include the River Station # within Attachment D for each cross section.

TABLE 2: HEC-RAS RESULTS

CROSSING NUMBER	RIVER STATION	CHANNEL VELOCITY (FPS)	WATER SURFACE ELEVATION
18	386.02	4.11	5168.87
	367.11	5.41	5168.45
	336.82	3.96	5168.17
	312.85	4.26	5167.78
	219.39	1.71	5167.31
	208.64	1.29	5167.3
	194.79	1.0	5167.29
	180.28	1.12	5167.27
	170.78	1.29	5167.26
	158.01	1.55	5167.24
	145.94	1.65	5167.2
	121.7	1.84	5167.13
	57.48	2.75	5166.75
	43.13	5.17	5166.39
19	669.38	4.32	5261.58
	649.51	4.01	5261.07
	631.28	4.3	5260.61
	605.56	3.59	5260.18
	588.72	4.08	5259.88

CROSSING NUMBER	RIVER STATION	CHANNEL VELOCITY (FPS)	WATER SURFACE ELEVATION
	549.92	3.0	5259.5
	527.3	4.7	5259.01
	494.74	4.99	5258.41
	454.7	5.77	5257.49
	426.04	4.73	5256.52
	378.91	4.14	5256.18
	325.82	5.38	5255.41
	265.54	4.28	5254.88
	152.86	3.53	5254.32
	30.49	6.73	5252.99
20	364.83	1.41	5240.99
	298.98	5.54	5240.36
	283.32	5.18	5240.2
	224.23	2.9	5240.06
	196.23	2.83	5239.97
	170.7	2.87	5239.87
	144.05	3.14	5239.73
	129.63	3.3	5239.65
	102.43	4.16	5239.37
	88.29	3.8	5239.3
	56.23	3.69	5239.12
	34.95	5.76	5238.59
21	629.38	3.49	5203.74
	561.19	4.81	5203.34
	538.61	5.14	5202.94
	508.09	4.15	5202.63

CROSSING NUMBER	RIVER STATION	CHANNEL VELOCITY (FPS)	WATER SURFACE ELEVATION
	489.9	3.74	5202.49
	429.52	3.14	5202.21
	392.97	3.98	5201.96
	353.21	4.75	5201.63
	248.19	4.11	5201.11
	209.13	5.02	5200.69
	178.62	1.34	5200.73
	115.98	5.26	5200.32
	72.27	6.68	5199.76
22	346.3	6.61	5199.15
	334.17	7.3	5198.97
	314.33	7.8	5198.84
	303.1	7.92	5198.88
	277.52	6.65	5198.87
	251.79	6.21	5198.9
	219.65	10.2	5198.11
	187.04	8.73	5198.06
	154.92	9.79	5197.64
	136.14	8.87	5197.68
	87.72	9.27	5197.3
	62.63	10.33	5196.79
23	329.06	5.16	5278.11
	313.48	4.95	5277.82
	303.47	3.74	5277.85
	275.17	4.97	5277.52
	259.58	5.13	5277.37

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CROSSING NUMBER	RIVER STATION	CHANNEL VELOCITY (FPS)	WATER SURFACE ELEVATION
	249.6	4.89	5277.3
	241.36	5.26	5277.16
	234.25	5.4	5277.05
	205.52	6.01	5275.76
	174.77	5.39	5275.35
	154.78	5.2	5275.02
	134.62	5.46	5274.39
	116.07	5.11	5274.1
	100.96	5.22	5273.51
	80.91	4.3	5273.43
	40.12	5.06	5272.9
24	911.6	4.23	5279.59
	885.46	5.69	5279.14
	860.46	4.95	5278.54
	828.03	3.48	5278.22
	792.4	4.79	5277.74
	773.51	4.82	5277.29
	743.4	2.02	5277.39
	714.58	2.42	5277.31
	684.37	3.03	5277.18
	637.13	4.6	5276.67
	611.36	4.83	5276.01
	582.34	5.22	5275.19
	553.97	5.17	5274.34
	529.98	4.2	5274.12
	513.42	5.23	5273.95

CROSSING NUMBER	RIVER STATION	CHANNEL VELOCITY (FPS)	WATER SURFACE ELEVATION
	499.72	6.03	5273.71
	481.76	3.37	5273.69
	461.29	3.18	5273.62
	443.27	4.35	5273.37
	396.74	3.56	5273.1
	380.14	2.71	5273.09
	359.15	3.14	5272.97
	341.95	4.59	5272.64
	322.77	3.06	5272.63
	307.5	2.9	5272.59
	270.49	2.8	5272.51
	247.27	2.34	5272.49
	221.24	2.59	5272.42
	179.51	2.05	5272.37
	145.53	2.91	5272.24
	77.85	4.53	5271.66

CONCLUSION

The 100 year floodplains as delineated by POWER. and represented in this report are approximate based on flow data obtained through the USGS Stream Stats, stream geometry based on topographic survey data of the existing ground surface elevations and hydraulic analysis using HEC-RAS. Results of the analysis are reasonable with no observed anomalies. Based on the results, the 100 year water surface elevation at all seven crossings can be used to visualize the extents of the electric aerial crossings during a 100 year storm event to measure the distance of each crossing. See attached floodplain maps and cross sections.

The proposed transmission line ROW through Arapahoe County crosses seven unmapped floodplains, as defined by the Arapahoe County Stormwater Management Manual. The 100-year water surface elevations were determined and compared to the location of structures for the transmission line. The analysis showed there are no structures located within the Arapahoe County defined floodplains, or FEMA mapped floodplains for this alignment. Impacts to the

drainageways will be limited to two-track roads for access and maintenance, or temporary streams crossings for construction.

Please contact me at (303) 716-8917 if you have any questions.

Sincerely,

PE stamp is required.

Dave Dean
Project Manager

Attachments:

A- Stream Crossing Drainages Map.
B- Water Resources Map.
C- 100-Year Water Surface Elevations.
D -HEC-RAS Model Output.

c: Erin Degutis, RLA, AICP, Public Service Company of Colorado
Stuart Toraason, PE, POWER
Wendy Hosman, PWS, POWER
Austin Streetman, POWER

APPENDIX G GRADING, EROSION, AND SEDIMENT CONTROL STUDY

the attached study is the drainage study for Missile substation and can be removed.

APPENDIX C
DRAFT ARAPAHOE COUNTY ROAD USE AGREEMENT

ARAPAHOE COUNTY ENGINEERING REDLINES
Engineer / Date: SPL 10/21/2016

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Arapahoe County Draft Road Use Agreement

THIS AGREEMENT ("Agreement")

made in duplicate originals this ____day of _____, 2016 (the "Effective Date")

BETWEEN:

ARAPAHOE COUNTY,COLORADO

6924 South Lima Street

Centennial, CO 80112

-AND-

RUSH CREEK 345 kV Transmission Line Project

Public Service Company of Colorado

1800 Larimer Street, 4th Floor

Denver, Colorado

(303) 571-7735

(the "Company")

1. **DEFINITION OF TERMS USED IN THIS AGREEMENT**

"Appurtenance" means:
A sidewalk, ditch, or any type of wall, fence, guardrail, curb, pavement marking, traffic control device, illumination device, mailbox or barrier adjacent to or in, along or on a road, or any construction, obstruction, erection or any situation, arrangement or disposition of any earth, rock, tree or other material or thing adjacent to or in, along or on a road that is not on the traveled portion of the road.

"Business Days" means:
Monday to Friday, during normal business hours, excluding Federal holidays.

"Access Roads" means:
Those Roads identified in the map submitted as the Roads to be used by the Company to move/haul equipment and materials and access/maintain structures.

"Legal load" means:

Not sure why this is in here, the words "legal load" do not appear in the agreement except in this definition.

I. the maximum rated gross weight that may be borne by a tire, an axle or an axle group or any of them; or
II. the maximum rated gross weight that may be borne by a public vehicle or combination of public vehicles on a highway, secondary road, rural road or street and as set out from time to time under the Traffic Safety Act and regulations or orders made there under.

"Road" means:
A road under direction, control and management of the County, including:

I. a developed road on which improvements such as grading or surfacing have been made for the purpose of public access and includes any Appurtenances, and includes a bridge forming part of a public road and any structure incidental to a public road;
II. an undeveloped surveyed road allowance or road plan.

"Pre-Inspection" means:
An inspection of Access roads to be completed prior to the haul or rig move commencing.

"Post inspection" means:
An inspection of Access Roads to be completed after the haul or rig move out has been completed.

"Commodity" means:

Again not sure why this is in here, the word only appears in the agreement in the definitions. As such, this should be deleted.

A physical substance, such as food, grains, and metals, which is interchangeable with another product of the same type, and which investors buy or sell, usually through future contracts. The price of the commodity is subject to supply and demand.

"**Transmission Line Facility**" means:

I. overhead electrical transmission and communications lines
II. transmission line structures
III. electric transformers,
IV. electric substation improvements at the Missile Site Substation
V. other necessary interconnection facilities;
VI. construction and maintenance access roads
VII. temporary construction material and assembly yard(s)

2. PURPOSE OF AGREEMENT

The purpose of this Agreement is to define the terms and conditions under which the parties to this Agreement agree:

a) That in the event there is damage from the use of Acess Roads for the hauling or moving equipment or materials, those parties responsible for such damage are held accountable;
b) As to how dust control will be maintained;
c) To establish routing for the movement of vehicles and equipment, including all surface servicing equipment.

This Agreement is intended to engage both the County and the Company in an effort to avoid damage to Roads and Appurtenances and to minimize interruptions to the traveling public. The parties acknowledge that this Agreement is entered into in order to address these matters and to protect the Roads and Appurtenances from damage.

3. TERM

a) This Agreement shall commence on the Effective Date and shall continue until terminated by either party in accordance with this Section 3.
b) The Company may terminate this Agreement at any time by giving sixty (60) days prior written notice of such termination to the County.
c) If the Company has not commenced construction of Transmission Line Facilities within two (2) miles of any Road by the fifth (5th) anniversary of the Effective Date, the County may terminate this Agreement upon sixty (60) days prior written notice to the Company; provided, however, that such termination shall only be effective if, at the time the County's written termination notice is delivered, the Company has not commenced construction of transmission line

activties within two (2) miles of any Road.

d) Notwithstanding the termination of this Agreement, the provisions respecting liability and indemnification, to the extent liabilities may have accrued prior to the termination, and provisions respecting settlement of accounts, shall remain in full force in accordance with their terms.

4. ROAD USE: RESTRICTIONS

The Company is hereby authorized to operate and move its commercial vehicles on all such Access Roads and Roads, so long as such use is in accordance with this Agreement.

Is someone working on this Exhibit?

Attached hereto as Exhibit A (to be developed) is a list of the restrictions on the Company's use of the Access Roads. The Company shall use commercially reasonable efforts to comply with the restrictions listed on Exhibit A (to be developed).

5. RESTRICTIONS AND DEVIATIONS FROM ROAD RESTRICTIONS

a) Use of the Access Roads by the Company shall only occur once the Company has submitted an Access Road map, and a written approval by the County has been received by the Company.

b) If, following the Pre-Inspection, the County, acting reasonably, determines that it is necessary to impose restrictions on the Company, the County shall provide the Company with a notice in writing. The County shall set out the specifics of the restrictions imposed on the Company and the details of any deviations from road restrictions that the County is prepared to grant and the conditions under which such deviations will be granted, including any requirements for the Company to post security.

c) It is understood that any deviations from road restrictions granted by the County shall comply with County regulations.

6. SECURITY

a) The County may require that the Company post security for repairs that are required by paragraph 8 (c) below, in an amount to be specified by the County.

b) If the County requires that the Company post security, the Company shall not haul equipment or materials on the Roads forming the Access Route until:

i. It has delivered to the County the security required (in the form of surety bond in the amount of $_____(_____

How much $? How are we going to determine the $?

dollars); and

ii. A Pre-Inspection pursuant to 7(a)(i) has been completed.

7. INSPECTIONS

7.1 – Pre & Post Construction Inspections

The Company and the County shall agree as to the condition of the Access Roads both within fifteen (15) days prior to and within fifteen (15) days following completion of construction of the Transmission Line Facilities. Video recordings and photographs of the current conditions of the Access Route Roads will be undertaken by the Company (or a third party hired by the Company), at the Company's expense and provided to the County for its review and retention (i) prior to the start of any construction activities by the Company, and (ii) following the Company's completion of construction of the transmission line activities. The County shall have the right, if so desired, (i) to observe these recordings/photographs as they are being taken and (ii) to require the Company to undertake certain types of recordings and photographs or reasonable additional inspections if the County reasonably believes the recordings/photographs are inadequate representations of the impacted roads current cditions.

7.2 – Intermediate or Emergency Inspections

a) The County or the Company may, at any reasonable time and at reasonable intervals during the term of the Agreement, request that an inspection of the Roads be carried out.
b) Inspections requested under paragraph 7.2 (a) shall be carried out within two (2) business days of receipt of a request for such inspection, and in the presence of official designees of both the County and the Company; provided, however, that any inspections required for potential damage that may pose a safety risk to the motoring public shall be carried out within one (1) business day of the request for the same.
c) The County and the Company shall both acknowledge the results of all inspections by having the inspection document(s) signed by their official designees unless such party or its designee disagrees with the results of such inspection, in which case such party or designee shall submit to the other party notice of such disagreement along with support and reasoning relating to such disagreement. The parties shall negotiate in good faith to come to agreement on the proper results of such inspection.

d) The cost of such reasonable inspections shall be paid by the Company to the County as required by County policy.

8. OTHER TERMS AND CONDITIONS

The following terms and conditions shall apply at all times during the term of this Agreement:

a) Restriction on Use
The County reserves the right to reasonably determine the hours during which vehicles and equipment may be moved on the Roads covered by this Agreement, provided that vehicles and equipment may be moved on the Roads during Business Days, provided further that the County may temporarily suspend approvals under this Agreement if, in the opinion of the County, acting reasonably, the prevailing weather conditions make such use hazardous to the motoring public, or emergencies warrant such suspension.

b) Maintenance
If required by the County, the Company shall provide, at its sole expense, all equipment, materials and labor required to maintain the road surface of the Access Route Roads in substantially the same condition it was immediately prior to the use such Roads, but taking into account the average wear and tear and deterioration from non-Company use during such period. Maintenance related only to average wear and tear and deterioration of such Roads shall be completed by the County at its sole cost and expense.

c) Damages
   i. The Company shall be liable at all times for the repair, to the reasonable satisfaction of the County, of any damage to the Roads caused by the Company's use. Any repairs undertaken shall restore the road surface to substantially the same condition it was in immediately prior to the use of the Road, but taking into account the average wear and tear and deterioration from non-Company use during such period. The Company shall, providing that the weather and weather-related conditions permit, complete any necessary repairs or repairs which pose a risk to the motoring public within ten (10) business days of being notified by the County of the need for such repairs. Any non-necessary repairs or repairs which do not pose a risk to the motoring public may be postponed by the Company until the end of the term of this

gives the company 10 business days from date of notice from county to make repairs when there is "a risk to the motoring public." It seems to me that this may be too long.

Agreement.

ii. In the event the Company is prevented by the weather or weather-related conditions from completing the repairs required by the County, pursuant to that specified in 8(c)(i) above~~,~~ that are required within ten (10) business days, the County, acting reasonably, may specify a further period of time within which the Company must complete such repairs.

d) Costs

In the event that the Company fails to complete the repairs required by the County, pursuant to paragraph 8(c)(i) or (ii) above, the County may draw upon security to effect the repairs in accordance with the provisions of the surety bond. In the event that the security is not sufficient to cover the cost of repairs, or if no security was posted, the Company shall be liable to the County for all reasonable and competitively bid costs (including reasonable attorney fees and costs) incurred by the County in repairing the affected Roads to substantially the same condition they were in immediately prior to the use by the Company and recovering the costs of such repairs. The Company shall have a right to receive details of all expenses incurred by the County.

e) Emergencies

i. The County may, in emergency situations, and acting reasonably, and without giving any notice to the Company as required elsewhere in this Agreement, take immediate and all action necessary to complete repairs to the Roads that the County deems necessary for public safety.

ii. The Company may, in emergency situations, and acting reasonably, and without giving any notice to the County as required elsewhere in this Agreement, take immediate and all action necessary to move vehicles and equipment on the Roads that the Company deems necessary for public safety or to preserve the environment.

iii.

f) Notification

The County and the Company shall provide notification to each other of any action taken under 8(c), (d), (e) and (f) above as soon as is reasonably practicable

the notice should also include notice to the county of any significant road damage caused by the company at the time it happens, with significant damage including anything that may pose a risk to the motoring public.

g) Indemnity

The Company shall indemnify the County against all actions, proceedings, claims, demands and costs suffered by the County to the extent that they are directly or indirectly attributable to damage

indemnity, please add in the second paragraph regarding the county's agreement to indemnify the following language at the beginning of the first sentence in the paragraph: "To the extent authorized by the law of the State of Colorado, …"

caused by the Company, its employees, agents, contractors or subcontractors to the Roads, but such indemnity shall not apply to the intentional acts or negligence of the County, its employees, agents, contractors or subcontractors. Each party's liability to the other party shall be limited to direct damages and shall exclude other liability, including, without limitation, liability for special, indirect, punitive or consequential damages in contract, tort, warranty, strict liability or otherwise.

The County shall indemnify the Company against all actions, proceedings, claims, demands and costs suffered by the Company to the extent that they are directly or indirectly attributable to actions or inactions caused by the County, its employees, agents, contractors or subcontractors to the Roads, but such indemnity shall not apply to the intentional acts or negligence of the Company, its employees, agents, contractors or subcontractors. Each party's liability to the other party shall be limited to direct damages and shall exclude other liability, including, without limitation, liability for special, indirect, punitive or consequential damages in contract, tort, warranty, strict liability or otherwise.

h) Force Majeure
No party shall be deemed to be in default with respect to non-performance if due to strikes, lockouts, fire, storm, acts of God or terrorists, or any other cause (weather similar or dissimilar to those enumerated) beyond its control; but lack of finances shall in no event be deemed to be cause beyond a party's control.

i) Dust Control
The Company shall provide commercially reasonable dust control on the Access Roads during the time that the Company is using the same.

what "commercially reasonable dust control" is?

9. NOTICES

All notices required to be given under the terms of this Agreement shall be in writing and may be mailed or electronically transmitted, addressed to the parties as follows:

County:

Arapahoe County

Attention: _____

6924 South Lima Street

Centennial, CO 80112

Telephone: _____

Fax: _____

E-Mail:_____

Company:

Public Service Company of Colorado

1800 Larimer Street , 4th Floor

Denver, Colorado 80202

Attention: Erin A. Degutis, RLA, AICP, LEED AP

Senior Agent, Siting and Land Rights

Public Service Company of Colorado

d/b/a Xcel Energy Services, Inc.

Telephone: 303.571.7735

Email:Erin.A.Degutis@xcelenergy.com

Either party may, from time to time, change its address for service by giving written notice to the other party. Any notice shall be deemed to have been given and received: if delivered personally, on the day delivered; if sent by registered mail, on the 4th business day following the day it was posted; and if electronically transmitted, at the start of the next regular business day. In the case of postal disruptions, or an anticipated postal disruption, all notices to be given under this Agreement shall be electronically transmitted or delivered by hand (including a reputable overnight courier).

10. ASSIGNMENT

Except as otherwise provided herein, this Agreement shall not be assigned by either party hereto without the prior written consent of the other party, which consent shall not unreasonably be withheld. Notwithstanding the foregoing, the Company shall be permitted without prior written consent of the County to (a) assign this Agreement to an Affiliate; (b) assign this Agreement to a public utility company; and (c) collaterally assign this Agreement to a financing party of the Company or an Affiliate. "Affiliate" shall mean and refer to any person or entity controlling, controlled by, or under common control with Company.

11. WAIVERS

a) Failure by either party, at any time, to require strict performance by the other party of any provision of this Agreement will in no way affect the first party's rights hereunder to enforce such provision; nor will any waiver by either party of any breach be held to be a waiver of any succeeding breach or waiver of any other provision;

b) No waiver of any breach of a covenant or provision of this Agreement shall take effect or be binding upon a party unless it is in writing.

12. SUCCESSORS AND ASSIGNS

The Agreement shall insure to the benefit of, and be binding upon the County and the Company and their respective successors and permitted assigns.

13. TIME IS OF THE ESSENCE

Time shall be of the essence of this Agreement.

14. SEVERABILITY

If any provision of this Agreement shall be held invalid, illegal or unenforceable in any respect by a court of competent jurisdiction, such invalidity, illegality or unenforceability shall not affect any other provision hereof.

[signatures on following page]

IN WITNESS WHEREOF the parties hereto have executed and delivered this Agreement as of the date and year first above written

ARAPAHOE COUNTY

By: _____

Name: _____

Title: _____

Public Service Company of Colorado

By:_____

Name:_____

Title:_____

EXHIBIT A

Road Restrictions
(to be developed)

Rush Creek 345kV Transmission Line Project

1041 / Location & Extent Applications

November 22, 2016

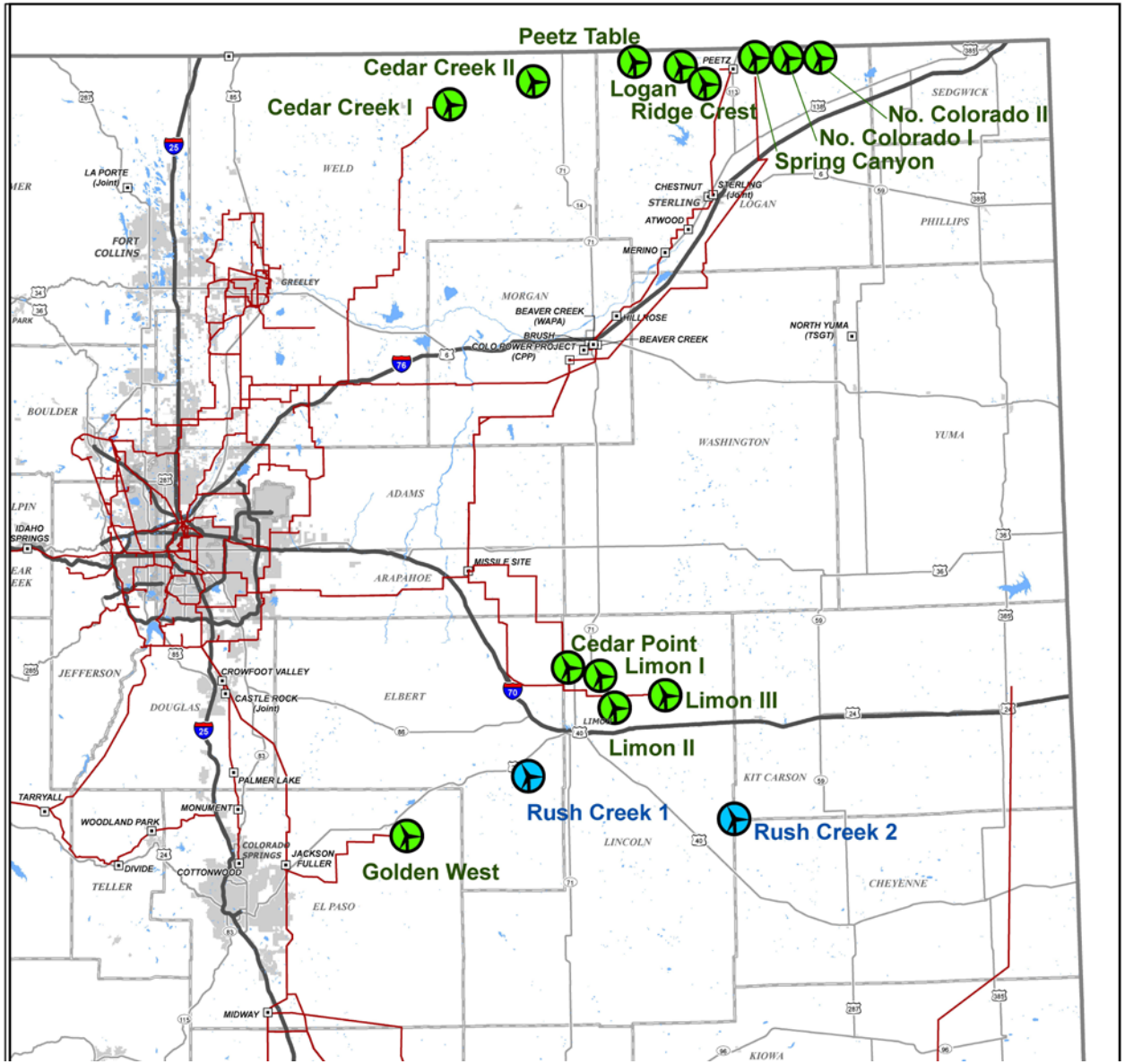
PSCo Overview

- Xcel Energy operates in eight western / midwestern states
  - Colorado: Public Service Company of Colorado
  - Formed in 1869 in the Denver area
  - Currently 2618 employees
  - PSCo generates, purchases, transmits, and distributes electricity
  - Service territory includes: Denver to Fort Collins, San Luis Valley, Pueblo, Grand Junction area

- Customers in Colorado: 1.43 M electric / 1.36 M gas
  - Electric generation: coal, natural gas, hydro, solar, and wind
  - PSCo firm obligation load 6083 MW

- 6545 MW total wind energy on Xcel's system
  - PSCo wind portfolio includes over 2600 MW
  - Rush Creek will be the first PSCo-owned and operated wind asset in Colorado

Wind in Colorado



PSCo purchases energy through 15 long-term PPAs

Existing projects include fairly long transmission lines (red lines) to deliver energy to PSCo's system

PSCo will permit, own, and operate the interconnection line

Project Description

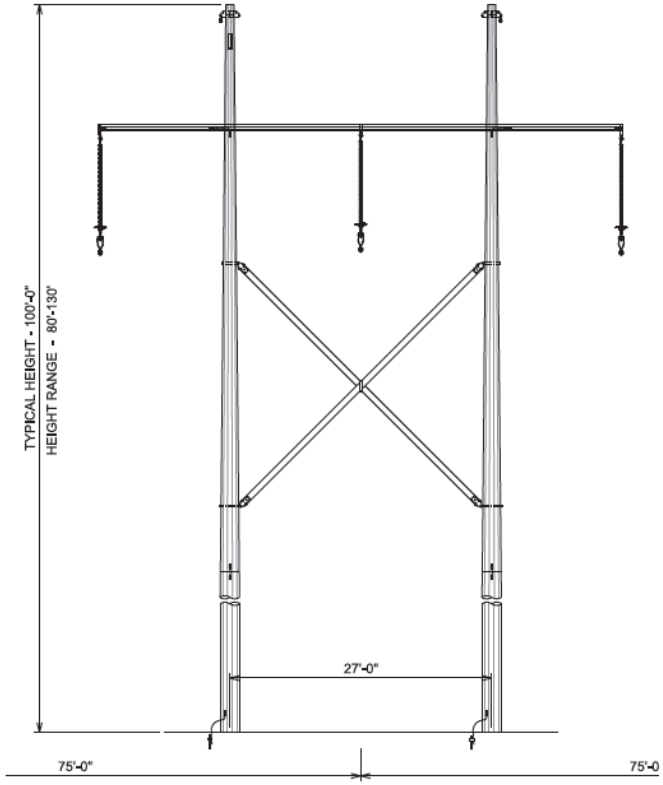
- 345kV transmission line to connect the Rush Creek Wind Farm to the Missile Site Substation (Arapahoe County)
  - Total length of transmission line +/- 90 miles
  - Parallels an existing transmission line in Arapahoe County
- Approximately 13 miles in Arapahoe County (approx. 300 acres)
  - 150-foot wide right-of-way
- Temporary staging yards (20 acres each)
- Temporary access roads to structure locations
- Commence transmission construction in early 2017
- Project commissioning by end of year 2018

Project Overview: Transmission Structure

- H-frame transmission line structure
  - Approximately 100 feet tall (range 80 to 130 feet)
  - Approximately 27 feet wide at the base
  - Material: self-weathering steel
  - Right of way : 150 feet

Angle Structure (typ.)

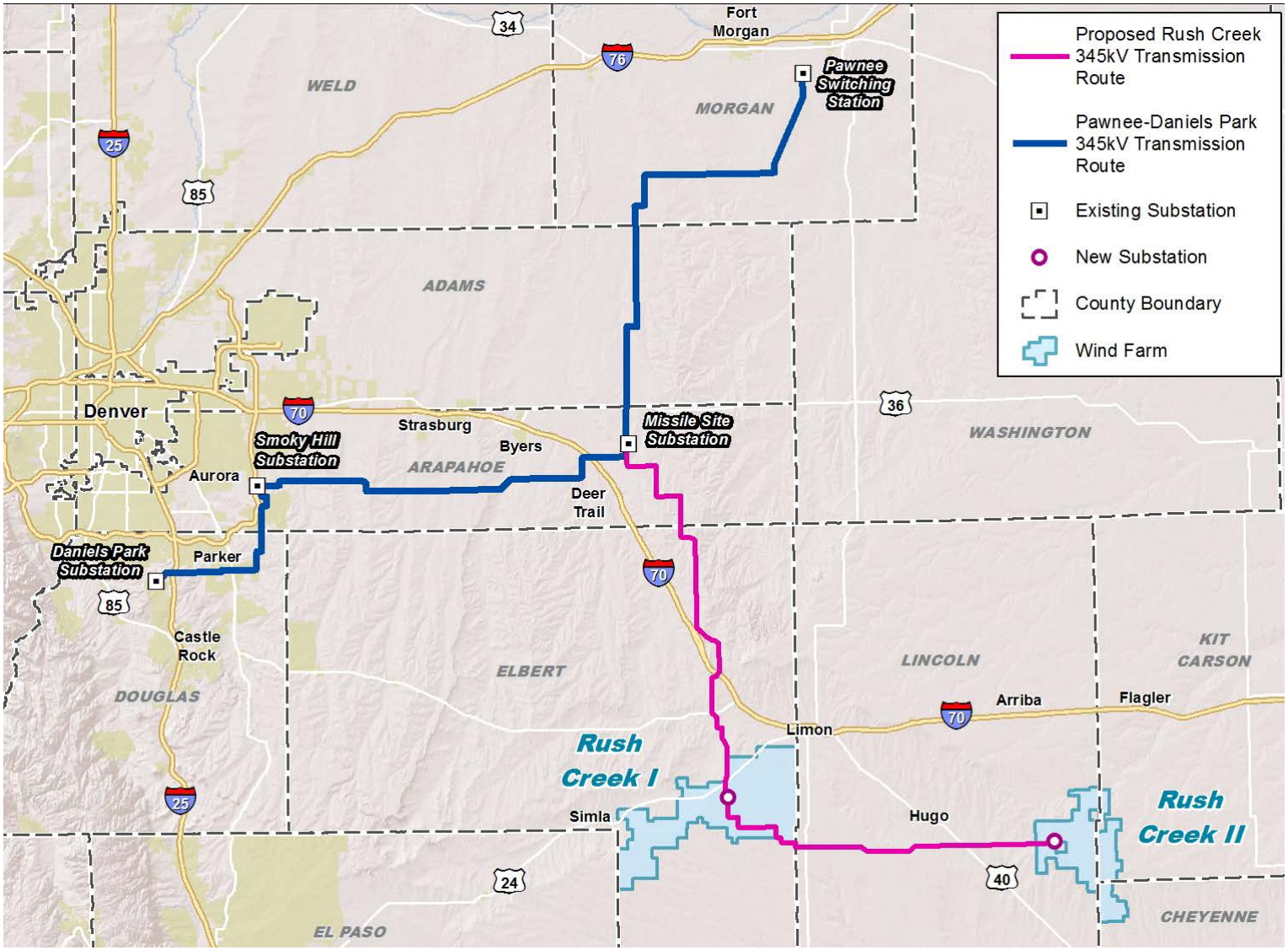
H-frame Structure (typ.)



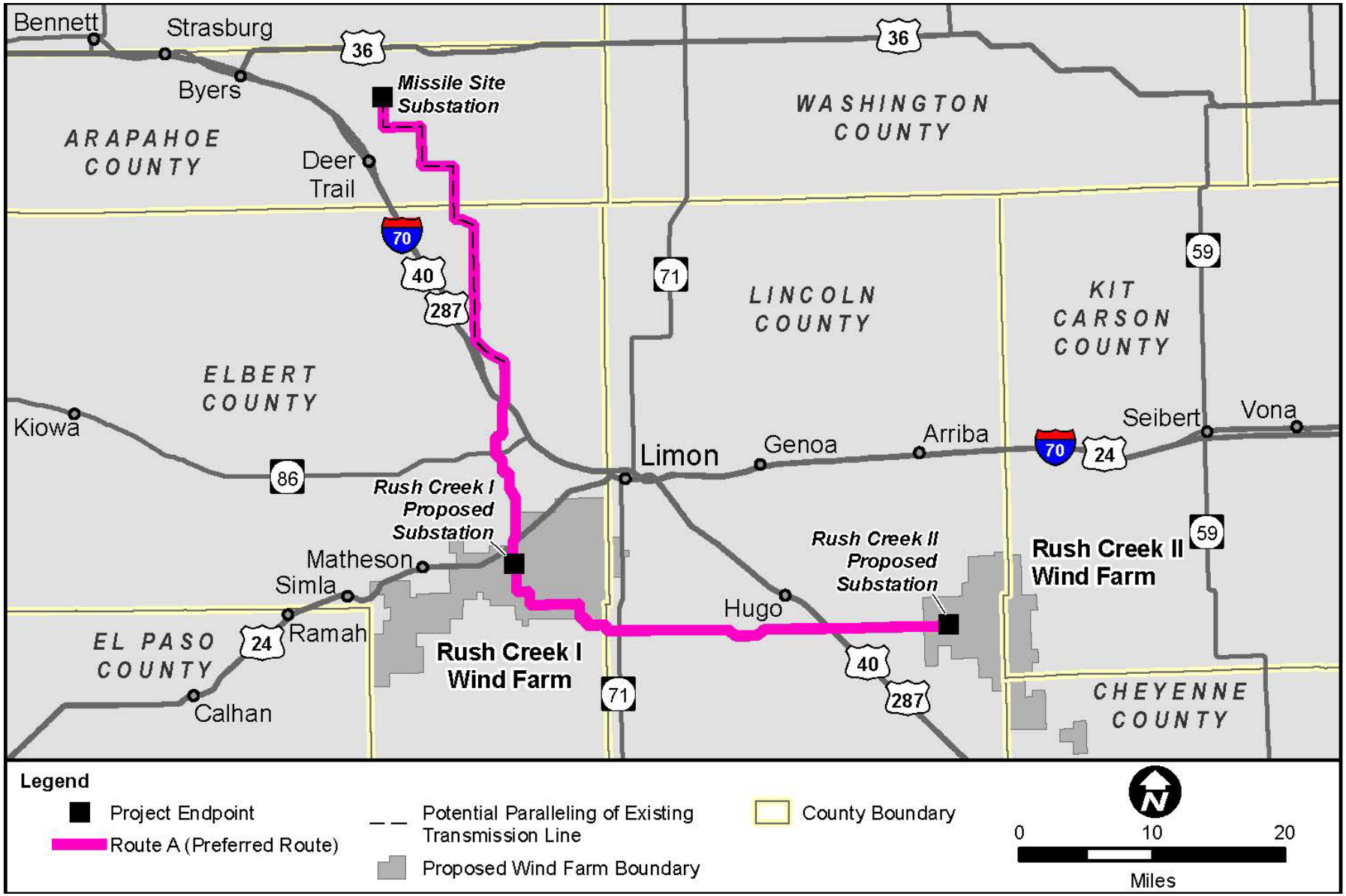
Planning Process

- Identify wind farm locations and interconnection point
- Creation of broad study area for transmission – 3 county area
- Analyze land use and environmental resources
  - Identify 1-mile wide study corridors
  - Review potential opportunities and constraints
  - Field work to ground-truth data
- Agency coordination
  - Colorado Parks & Wildlife, US Fish & Wildlife Service, State Historic Preservation Office, etc.
  - Multiple meetings with Arapahoe County
- Public involvement process: open house meetings / individual meetings
- Opportunity / constraints analysis of alternative routes
- Selection of Preferred Route

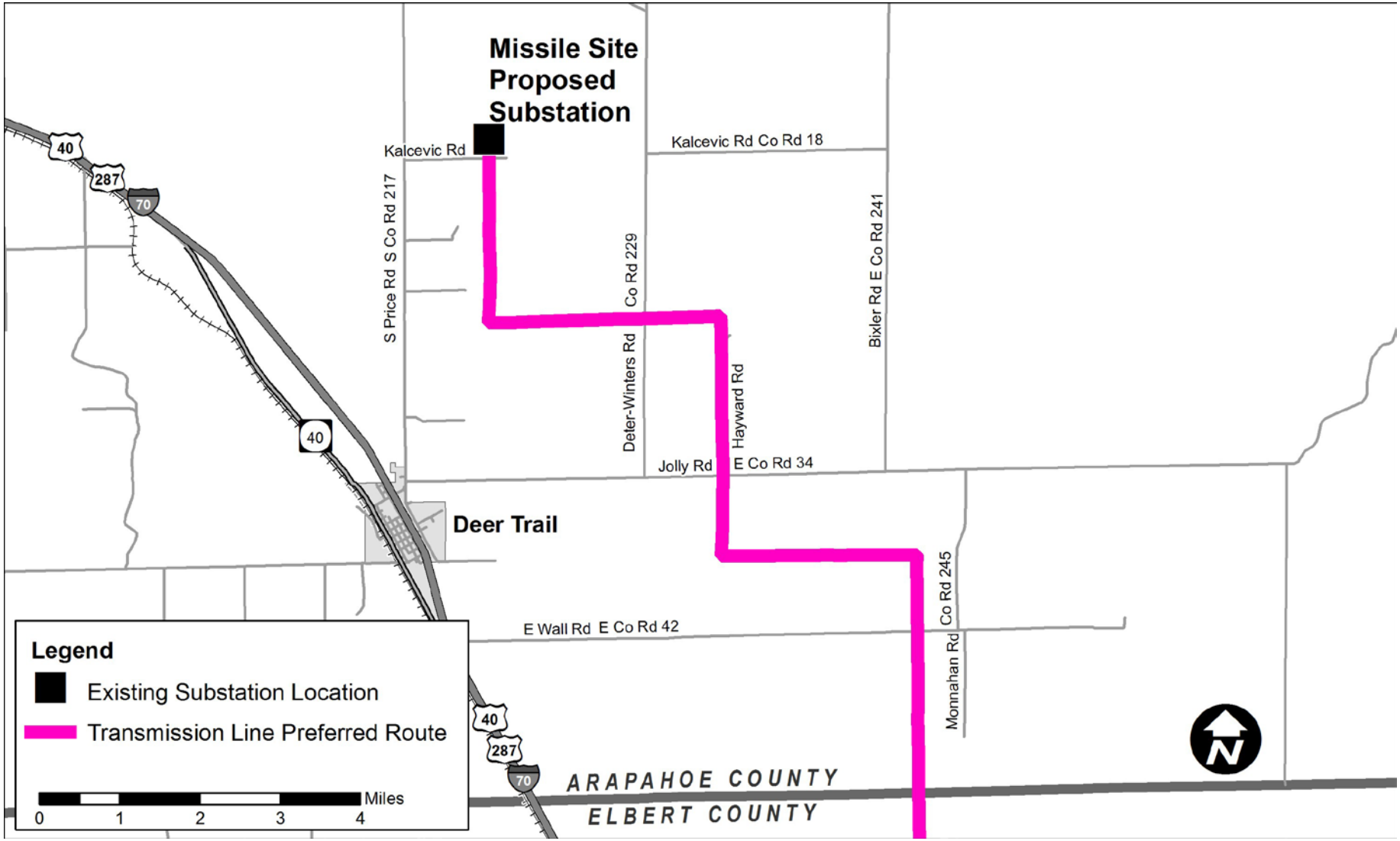
Project Context



Project Area



Project Area: Arapahoe County



Public Outreach

- Public input is integral to the planning process
  - +2,000 landowners and 63 local/regional stakeholders invited
  - Public notice in four local newspapers
- Five public open house meetings: Deer Trail on June 2nd
  - 20 people attended the Deer Trail meeting
  - Over 235 people attended five meetings
- Project information handouts – also on Project website
- Individual meetings with landowners
- Solicited written comments: received emails / telephone calls
- Project website: ***transmission.xcelenergy.com/Projects/Colorado/Rush-Creek-Connect***

Approval Criteria

- Section V of the Arapahoe County 1041 Regulations sets out more than 20 general approval criteria.

- Each of these criteria was discussed in detail in PSCo's 1041 permit application.
  - PSCo's application meets the approval criteria.

- In the interest of time, we will discuss a few key criteria.

Agricultural Activities

- The Proposed Project will not unduly degrade the quality or quantity of agricultural activities
  - Rangeland and crops
  - Animal husbandry

No Nuisance

- The Proposed Project will not cause a nuisance
- Vibrations, odors, glare or other nuisances are not anticipated during the operation of the transmission line
- Noise during the construction period will be temporary and short in duration and comply with all applicable noise regulations

Environment

- The Preferred Route would cross less than 0.25 mile of sparsely-treed area
  - If vegetation must be removed, erosion, sedimentation, and stream instability would be minimized with the use of BMPs and appropriate revegetation
- Disturbance to grassland and farmlands anticipated to be minimal
  - Footprint of the 345kV H-frame transmission line structures
  - New access roads
- Grazing and cultivated agricultural activities primarily unaffected along the vast majority of the Preferred Route

Questions?

Erin Degutis, RLA, AICP
Voice: 303.571.7735
Email: Erin.A.Degutis@XcelEnergy.com

ARAPAHOE COUNTY
COLORADO'S FIRST

MEETING OF THE ARAPAHOE COUNTY PLANNING COMMISSION
TUESDAY, NOVEMBER 22, 2016 AT 6:30 P.M.
LIMA PLAZA - ARAPAHOE ROOM - 6954 S LIMA ST, CENTENNIAL CO 80112

CASE NOS. L16-007 & ASI16-003, RUSH CREEK 345 kV TRANSMISSION LINE LOCATION & EXTENT AND 1041 PERMIT

No.	NAME	ADDRESS	Are you IN FAVOR of approval or OPPOSED?	Do you wish to address the Board on this matter? Yes or No?
1	BEN TURNER	2580 W MAIN ST, #200 LITTLETON	IN FAVOR	NO
2	Chad Schell	1500 Larimer 5th Floor Denver	IN Favor	No
3	Abby Kirkebride	410 17th St. Denver	In Favor	NO
4	ERIN DEGUTIS	1800 LARIMER ST 4TH F	DENVER IN FAVOR	Y
5	see attached team list			
6				
7				
8				
9				
10				
11				
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13				
14				
15				
16				
17				
18				
19				
20				

Rush Creek 345kV Transmission Line Project
Arapahoe County Planning Commission
November 22, 2016

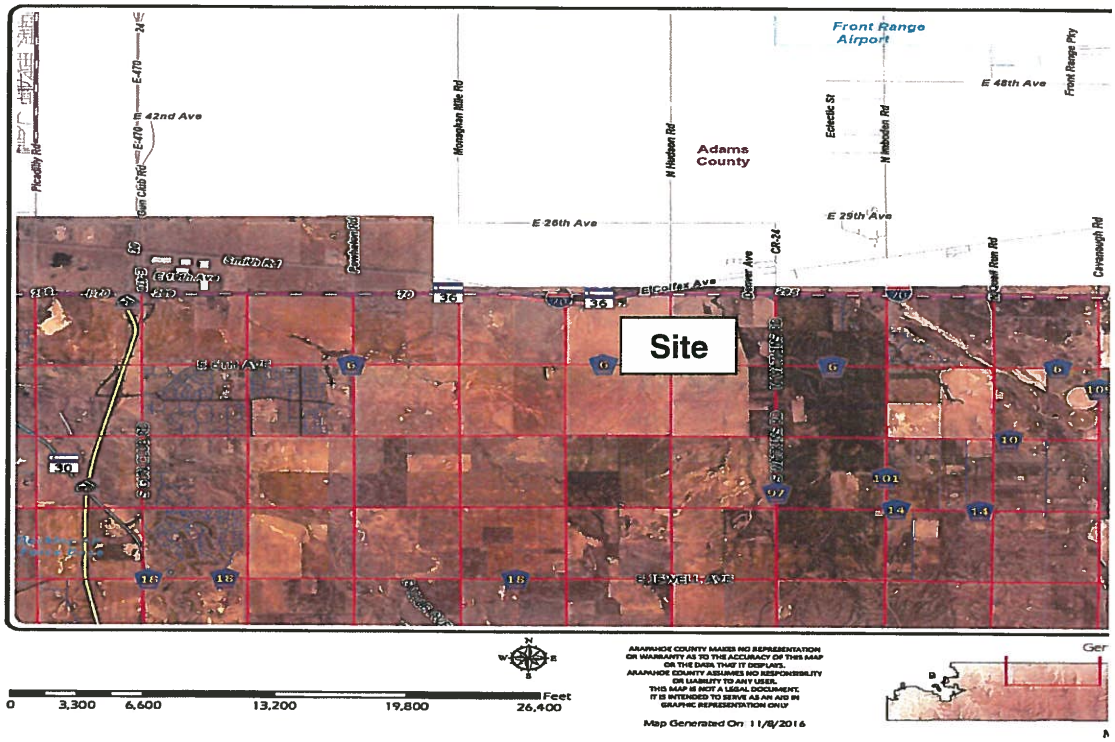
Xcel Energy Team

Name	Role	Company
John Lupo	Manager, Siting & Land Rights	Xcel Energy
Susan Innis	Manager, Siting & Land Rights	Xcel Energy
Tom Henley	Area Manager	Xcel Energy
Chad Schell, PE	Project Manager, Transmission Line	Xcel Energy
Parker Wrozek, PE	Transmission Design	Xcel Energy
Victor Orozco	Substation Design	Xcel Energy
Sean Buczek, PE	Project Manager, Energy Supply	Xcel Energy
Mark Stutz	Media Relations	Xcel Energy
James Dominic	Strategic Project Manager	Xcel Energy
Carolynne White, LEED AP	External Counsel	Brownstein Hyatt Farber Schreck
Abby Kirkbride	External Counsel	Brownstein Hyatt Farber Schreck
Chelsie Miera	Consultant	EIS
Dave Dean	Consultant, Routing/Siting/Permitting	POWER Engineers

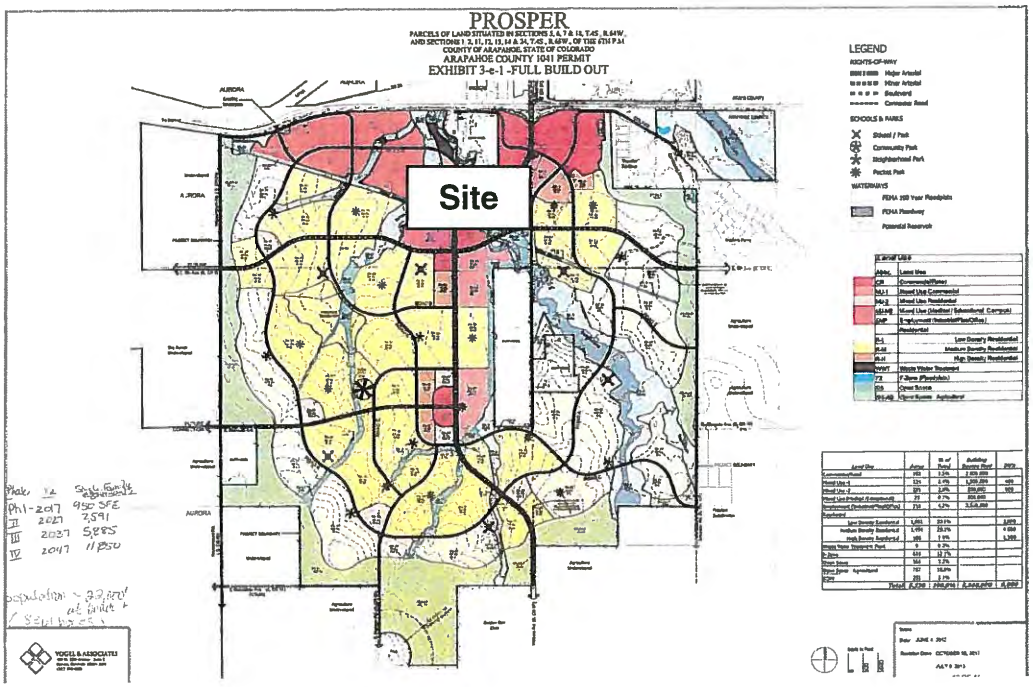
ARAPAHOE COUNTY PLANNING COMMISSION
PUBLIC HEARING
November 22, 2016
6:30 P.M.

SUBJECT: L16-002 – PROSPER WASTEWATER TREATMENT PLANT LOCATION & EXTENT
Sherman Feher, Senior Planner **November 10, 2016**

VICINITY MAP: The property is located south of I-70 and approximately 2000 feet west of Watkins Road. This application is in Commissioner District No. 3.



Vicinity Map



Zoning Map

ADJACENT SUBDIVISIONS, ZONING, AND LAND USES:

North	-	Prosper; MU-PUD; Agriculture
South	-	Prosper; MU-PUD; Agriculture
East	-	Prosper; MU-PUD; Agriculture
West	-	Prosper; MU-PUD; Agriculture

Looking South over WWTP Site

Looking SW over WWTP Site

PROPOSAL:

The applicant, The Prosper Regional Water & Sanitation District, is requesting Planning Commission approval for a Location and Extent case, known as the Prosper Wastewater Treatment Plant. This is specified in the Land Development Code as a "major facility of a public utility" as part of the Location & Extent. The applicant seeks to construct a wastewater treatment plant to serve the Prosper Development.

This Location and Extent (L&E) case is being done in conjunction with a 1041 Permit Case. Both of these cases will be heard by the Planning Commission. The Planning Commission will make the final decision on the L&E case and make a recommendation to the BOCC for the 1041 Permit case. The BOCC will make the final decision on the 1041 Permit case. The Location and Extent case primarily reviews the general location and overall extent of the project. The 1041 Permit case reviews environmental and socio-economic factors that are related to the project. There is also a Subdivision Exemption case for the property where the wastewater treatment plant will be located. The Subdivision Exemption case will be heard by the BOCC.

RECOMMENDATION:

Staff: Staff is recommending approval of this case with conditions, based on the findings listed in the staff report.

I. BACKGROUND

Zoning
The property is currently zoned MU-PUD.

II. DISCUSSION

Staff review of this application included a comparison of the project to policies and goals outlined in the Comprehensive Plan, a review of pertinent zoning regulations, background activity, and analysis of referral comments.

1. The Comprehensive Plan

The Comprehensive Plan designation for this area is in Tier 1 of the Planning Reserve. The Planning Reserve is creating a reserve of vacant land to accommodate future uses/development. Tier 1 is envisioned as the first area of development along the I-70 Corridor. One of the goals for Public Facilities and Services is Goal PFS1 IS TO "Plan for Adequate Public Facilities and Service in

Growth Areas." As such, this proposed wastewater treatment plant is allowed by the Comprehensive Plan land use designation of Tier 1 of the Planning Reserve and is supported by the Goal for adequate public facilities.

2. Regulatory Review and additional Background Information

Chapter 13, Section 13-700 of the Land Development Code, covers the policy and regulatory aspects of a Location and Extent. This includes a specific review of – Location and Extent, Section 13-702 – General Requirements and Procedure. A Location and Extent does not have specific approval criteria but may be approved upon the finding that:

13-702.01A No road, park, public way, ground, or space, no public building or structure, and no major facility of a public utility shall be constructed or authorized in the unincorporated areas of Arapahoe County unless and until the proposed location and extent thereof has been submitted to and approved by the Arapahoe County Planning Commission.

13-702.05 The Planning Commission and the Board of County Commissioners, when applicable, may approve the facilities as submitted, approve it with conditions, or deny the facility. The conditions to be imposed are those necessary, in the discretion of the Planning Commission and Board of County Commissioners, to mitigate or eliminate any adverse impacts of the proposed facility on the surrounding area, and may include the posting of sufficient performance guarantees with the County to guarantee the construction of any improvements.

SUBMITTAL REQUIREMENTS - The applicant is in compliance with Section 13-703, sub-section 13-703.01, by submitting all of the required materials.

3. Referral Comments

The following chart is an overview of the comments. A copy of all referral comments follows the staff report. The Applicant's response is in italics

Engineering Services	-	Comments on Engineering studies, Subdivision Improvement Agreement, and Urban Drainage. *The applicant has addressed or will address these comments. The remaining items will be conditions of approval.*

Mapping	-	Comments on L&E Exhibit. *The applicant has addressed or will address these comments.*
Zoning Administrator	-	Comments on landscaping. *Applicant has addressed or will address comments.*
Open Spaces	-	No response.
Weed Control		No response.
Sheriff's Department		No comments.
Bennett Fire District	-	Comments regarding fire suppression, roads, hazardous materials, Knox key access etc. *Applicant responded to referral comments; see applicant's comments that are part of this Planning Commission packet. These items will be a condition of approval.*
City of Aurora		Comment on Prosper Development, floodplain mapping and Metro Wastewater Reclamation District. *Applicant responded to referral comments; see applicant's comments that are part of this Planning Commission packet.*
Colorado Parks & Wildlife	-	No response.
Army Corps of Engineers	-	No response.
Assessor's Office	-	No response.
West Arapahoe Conservation District		No response.
Tri-County Health	-	Comment on site application and utility plan, floodplains, dust and odor, and setbacks etc. *Applicant responded to referral comments; see applicant's comments that are part of this Planning Commission packet.*
REAP		No comments.
Xcel Energy	-	Add utility easements to Preliminary and Final Plats. *Comments noted.*
East End Advisory Committee	-	Janet Cook had "No comments"; No response from other members.
Urban Drainage		Comments on drainage issues and concerns. *The applicant has addressed or will address these comments. The remaining items will be conditions of approval.*

III. STAFF FINDINGS

Staff has visited the site and has reviewed the plans and supporting documentation and referral comments. Based upon review of applicable policies and approval standards in the Land Development Code and analysis of referral comments, our findings include:

1. The application for the wastewater treatment plant L&E complies with the Arapahoe County Comprehensive Plan.

2. The submitted L&E application is in conformance with the submittal and processing requirements of the Land Development Code.

3. Staff finds that the request for approval of Location and Extent for wastewater treatment plant is in conformance with policies and goals outlined in the Land Development Code for a Location & Extent.

4. The Applicant needs to obtain a permit to construct and operate a wastewater treatment plant from the Colorado Department of Public Health and Environment.

5. Bennett Fire Protection District has requested a number of items to be addressed by the applicant for the proposed wastewater treatment plant.

6. There are a number of Engineering issues and concerns that need to be addressed.

IV. RECOMMENDATION:

Considering the findings and other information provided herein, the staff recommends approval of this case, Prosper Wastewater Treatment Plant (Case No. L16-002), subject to the following conditions:

1. The applicant makes any minor modifications to plans, as requested by the Public Works and Development Department.
2. The applicant agrees to address all Engineering Services Division comments and concerns as identified within their staff reports, prior to construction.
3. The Applicant will obtain a permit to construct and operate a wastewater treatment plant from the Colorado Department of Public Health and Environment prior to construction of the wastewater treatment plant.
4. The applicant agrees to address comments issued by the Urban Drainage and Flood Control District (UDFCD).
5. The applicant will execute a Subdivision Improvement Agreement.

6. The applicant will obtain all other necessary permits prior to commencing construction of the project.
7. The applicant will comply with all items requested by the Bennett Fire Protection District regarding this project.

This is based upon:

- The proposed use is acceptable and consistent with the standards as determined by the Land Development Code.
- The proposed use benefits and serves the interest of the citizens of Arapahoe County.

V. DRAFT MOTIONS:

A. APPROVAL: In the case of L16-002, Prosper Wastewater Treatment Plant Location and Extent, we have read the staff report and received testimony at the public hearing. We find ourselves in agreement with staff findings including all plans and attachments as set forth in the staff report dated November 10, 2016, and move to approve this case, subject to the following conditions:

1. The applicant makes any minor modifications to plans, as requested by the Public Works and Development Department.
2. The applicant agrees to address all Engineering Services Division comments and concerns as identified within their staff reports, prior to construction.
3. The Applicant will obtain a permit to construct and operate a wastewater treatment plant from the Colorado Department of Public Health and Environment prior to construction of the wastewater treatment plant.
4. The applicant agrees to address comments issued by the Urban Drainage and Flood Control District (UDFCD).
5. The applicant will execute a Subdivision Improvement Agreement.
6. The applicant will obtain all other necessary permits prior to commencing construction of the project.
7. The applicant will comply with all items requested by the Bennett Fire Protection District regarding this project.

B. DENIAL (This recommendation would not be consistent with the Staff recommendation. Any alternate motion must include new findings and conditions in support of the motion for Approval where those differ from the Staff-recommended findings and conditions)*:*

In the case of L16-002, Prosper Wastewater Treatment Plant Location and Extent, we have read the staff report and received testimony at the public hearing. We find ourselves not in agreement with staff findings regarding the

draft plan and attachments as set forth in the staff report dated November 10, 2016, and DENY the Location and Extent case.
Findings:

1. State new or amended findings to support Planning Commission recommendation of "Denial" as part of the motion.
2.

A. *<u>CONTINUE</u>: In the case of L16-002, Prosper Wastewater Treatment Plant, Location and Extent case, I move to continue the decision on this request to [DATE], 2016, date certain, at 6:30 p.m., at this same location [to receive further information] [to further consider information presented during the hearing].*

Attachments:
Application
Response Letter
Referral Letters
Location and Extent Exhibit

Arapahoe County Colorado's First	Public Works and Development 6924 S. Lima Street Centennial, Colorado 80112 Phone: 720-874-6650 www.arapahoegov.com	**Land Development Application** Form must be complete Land Development Application materials received after 2pm shall be date stamped received the following working day

APPLICANT/REPRESENTATIVE: Vogel & Associates LLC	ADDRESS: 475 West 12th Ave, Suite E Denver, CO 80204 PHONE: 303.893.4288 FAX: 303.893.6792 EMAIL: jvogel@vogelassoc.com	SIGNATURE: NAME: Jeffrey B. Vogel Principal TITLE:
OWNER(S) OF RECORD: VREI, Inc.	ADDRESS: 5641 N Broadway Denver, CO 80215 PHONE: 303.566.8000 FAX: 303.566.8099 EMAIL:	SIGNATURE: NAME: Greg Ruegsegger Vice President TITLE:
ENGINEERING FIRM: Dewberry Engineers Inc. Stacy Roberts 3-951-0637	ADDRESS: 990 S Broadway, Suite 400, Denver, CO 80209 PHONE: 303.951.0614 FAX: 303.825.2322 EMAIL: apratt@dewberry.com	CONTACT PERSON: Alan Pratt, PE

Pre-Submittal Case Number: Q15-103 Pre-Submittal Planner: Sherman Fehrer Pre-Submittal Engineer: Sarah White

Parcel ID no. (AIN no.)	1977-00-0-00-418
Parcel Address or Cross Streets:	Interstate 70 and Watkins Road
Subdivision Name & Filing No.:	None
Related Case Numbers: (Preliminary/Final Development Plan, Rezoning, and / or Plat)	Latest Approved Zoning - Z12-010 also, Z12-100 & S14-001

	EXISTING	PROPOSED
Zoning:	PUD - Waste Water Treatment	PUD - Wastewater Treatment Plant
Case/Project/Subdivision Name:	None	Prosper WWTP
Site Area (Acres):		8.22
Floor Area Ratio (FAR):		0.18
Density (Dwelling Units/Acre):		N/A
Building Square Footage:		66,450 (includes basins)
Disturbed Area (Acres):		

CASE TYPE (Administrative Case types are shaded in Gray)

☐ Preliminary Development Plan or Major Amendment ☐	☑ Location & Extent or Major Amendment ☐	☐ Administrative Site Plan	☐ Preliminary Plat
☐ Master Development Plan or Major Amendment ☐	☐ Rezoning - Conventional	☐ Administrative Amendment to _____(PDP, FDP, etc.)	☐ Final Plat
☐ Final Development Plan or Major Amendment ☐	☐ Land Development Code Amendment	☐ Technical Amendment to _____(PDP, FDP, etc.)	☐ Minor Subdivision
☐ Planned Sign Program or Major Amendment ☐	☐ Use by Special Review or Major Amendment ☐	☐ Commercial Mobile Radio Service (CMRS/cellular antennas)	☐ Subdivision Exemption
☐ Vacation of Right of Way/Easement/Plat	☐ Use by Special Review – Oil and Gas	☐ Plat Correction	☐ Replat (Major)
☐ 1041 – Areas & Activities of State Interest – Use by Special Review ☐	☐ Special District Title 30 ☐ Title 32 ☐	☐ Administrative Oil & Gas Use by Special Review (AOGUSR)	☐ Administrative Replat
☐ Comprehensive Plan	☐ Rural Cluster	☐ Street Name Change	☐ _____

THIS SECTION FOR OFFICE USE ONLY

Case No:	L16-002	Planning Manager:	Sherman	Engineering Manager:	Sarah

Planning Fee:	Y	N	$	Engineering Fee:	Y	N	$	TCHD Fee? ☐	$

This application shall be submitted with all applicable application fees. Submittal of this application does not establish a vested property right in accordance with C.R.S. 24-68-105(1). Processing and review of this application may require the submittal of additional information, subsequent reviews, and/or meetings, as outlined in the Arapahoe County Land Development Code.

RECEIVED

FEB 19 2016

ARAPAHOE COUNTY PLANNING DIVISION

Dewberry

Dewberry Engineers Inc.
990 South Broadway, Suite 400
Denver, CO 80209

303.825.1802
303.825.2322 fax
www.dewberry.com

December 21, 2015

Arapahoe County Public Works & Development
Planning Division
6924 S Lima Street
Centennial, CO 80112

Re: Prosper Development Wastewater Treatment Facility Letter of Intent

Dear Public Works & Development:

Our company, Dewberry Engineers Inc., on behalf of the property owner, Prosper Farms Investment LLC, is proposing a project within unincorporated Arapahoe County. The project is located in between Hayesmount Road and N Watkins Road just south of interstate 70 in the north portion of parcel #035150836. This project includes 8.22 acres and is currently zoned Prosper PDP WWTP.

As referenced in the Prosper Preliminary Development Plan (PDP) and 1041 Permit, the intent is to construct a Waste Water Treatment Plant (WWTP) to serve the Prosper community. The WWTP will be located within Planning Area 71 of the Prosper PDP. The proposed building structures include an administration/lab, headworks, pumping station, UV/reuse water, digester blower, solids handling, and maintenance shop.

Based on previous discussions, it is our understanding that a 1041 Permit and Location and Extents application will have to be processed and approved. It is the intent to schedule a pre-submittal meeting to discuss and review in greater detail the process and respective submittal requirements.

Developer contact information:
Vogel & Associates
Jeff Vogel, AICP, Principal
475 W 12th Ave, Suite E
Denver, CO 80204
Phone: (303) 893-4288
Email: jvogel@vogelassoc.com

Sincerely,
Dewberry Engineers Inc.

Patrick Radabaugh, PE
Project Manager

ARAPAHOE COUNTY
COLORADO'S FIRST

Planning Commission
Engineering Summary Report

Date: November 10, 2016

To: Arapahoe County Planning Commissioners

Via: Sherman Feher, Planning Division

From: Sarah White, Engineering Services Division

Re: **Prosper Wastewater Treatment Plant (WWTP)**
ASI16-001 1041 Permit
L16-002 Location & Extent
X16-001 Subdivision Exemption

Purpose and Recommendation

The purpose of this report is to provide the Engineering Services Division Staff findings, comments, and recommendations regarding the above-referenced land use application(s).

Scope/Location:

Dewberry Engineers Inc., on behalf of owners VREI, Inc., is requesting approval of the 1041, Location & Extent and Subdivision Exemption for the development of the Prosper Wastewater Treatment Plant (WWTP). The proposed development is generally located within the area known as 'Prosper', south of Interstate 70, east of N. Watkins Road and north of E 6th Avenue. The proposal is for a wastewater treatment plant on approximately 9 acres. The site is proposed to be built in 4 phases based on the future development of Prosper.

The site is located within the Box Elder Creek drainage basin. Phase I development will utilize a temporary access road (reference Arapahoe County Case No. E16-029) until the permanent public road is built out as per the Prosper PDP (case no. Z12-100).

Referenced Referral Items

1041
L&E Exhibit
Subdivision Exemption
Drainage Report
Construction Drawings
O&M Manual
GESC Plans and Report

Cc: Chuck Haskins, Engineering Services Division, Division Manager
Case Files ASI16-001, L16-002, X16-001

Engineering Services Division Staff (Staff) has reviewed the referenced land use application(s) and has the following findings and comments:

Findings:

1. Engineering review and approval fees are included with the planning fee for the 1041 and L&E, with the exclusion of the easements that will need to be prepared by separate document(s). Fees for the Subdivision Exemption are paid.
2. This site lies within Coyote Run-Box Elder Creek watershed basin. Basin fees are still being established for this area, but are not yet determined.
3. This development lies within the boundaries of the Urban Drainage and Flood Control District (UDFCD).
4. Urban Drainage and Flood Control District (UDFCD) has been included as a referral agency. Their comments will need to be addressed prior to final approval
5. Construction activities that disturb one or more acres are required by the Environmental Protection Agency (EPA) to obtain a Construction Stormwater Permit.
6. The subdivision exemption process requires a permanent roadway or an access easement to be established. The permanent roadway as propose din the Prosper Preliminary Development Plan (PDP) is not yet constructed. Once the development around the Waste Water Treatment Plant (WWTP) begins, a permanent road will be constructed that allows access to the WWTP. In the interim, access to WWTP will be via private access road. Easement recordation information will need to be noted on the Subdivision Exemption exhibit. Engineering Case E16-029 has been submitted and is under review for the Access Road construction.
7. The WWTP will have a limited on-site staff, and generates very minimal traffic, as such a Traffic Impact Study was waived for this development.
8. Drainage easements for each detention pond outfalls will need to be dedicated to Arapahoe County via separate document.
9. Waste water treatment plants are exempt from specific critical facility regulations established by the Colorado Water Conservation Board. However, applicant in encouraged to minimize potential hazards from floodwaters. County would recommend have lowest floor elevation a minimum of 2 feet above 100-year water surface elevation, ensure on-site waste disposal is located such that outside but adjacent to 100 year floodplain - are there any additional mitigation measures needed? County discourages critical facilities within the 500 year floodplain, since these drainage ways have not been mapped for 500 yr flooding, recommend additional provisions may be needed - flood proofing bldg or elevation of facility to be at 2 ft above BFE (LDC section 12-2007.09)
10. All applicable public and private improvements (i.e., storm sewer systems, detention ponds, roadways appurtenances, etc.) associated with this development proposal shall be guaranteed within a Subdivision Improvements Agreement (SIA). The applicant will be required to enter into a Subdivision Improvement Agreement (SIA) to guarantee onsite and offsite improvements related to this development. Subdivision Improvement Agreement will be prepared by County Staff with finalization of costs.

Recommendations:

The Division of Engineering Services recommends this case favorably subject to the following conditions:

1. The applicant agrees to address the Division of Engineering Services' comments and concerns as identified within the ESD Staff Report.
2. The applicant agrees to address comments issued by the Urban Drainage and Flood Control District (UDFCD).
3. The applicant executes a Subdivision Improvement Agreement.

URBAN DRAINAGE AND FLOOD CONTROL DISTRICT

Paul A. Hindman, Executive Director
2480 W. 26th Avenue, Suite 156B
Denver, CO 80211-5304

Telephone 303-455-6277
Fax 303-455-7880
www.udfcd.org

September 30, 2016

UDFCD Maintenance Eligibility Program
Referral Review Comments

To: **Sarah L. White, Arapahoe County**
Project: **Prosper Farms WWTP**
Stream: **Coyote Run and Rat Run**
UDFCD MEP Phase: **Design**
UD MEP ID: **106341/10000720**

Dear Sarah,

This letter is in response to the request for our comments concerning the referenced project. We appreciate the opportunity to review this proposal. We have reviewed this proposal only as it relates to major drainage features, in this case:

- Coyote Run and Rat Run

We have the following comments to offer:

1. The Phase III Drainage Report states that the existing 100-yr floodplains for Coyote Run and Rat Run establish constraints from a layout and elevation standpoint. We agree with this assessment and recommend that the 100-year flood elevations for the adjacent major drainageways be confirmed relative to the grading and elevations of the site and treatment plant.

2. The proposed private access road is the sole access in and out of the proposed WWTP. The road is proposed to cross Rat Run. The design of the Rat Run roadway crossing should be designed for long term sustainability, with consideration of the 100-year discharge (2,500 cfs), stream channel stability and floodplain impacts. A hydraulic analysis should be conducted for the crossing. According to the Phase III Report, a future High Density Residential Land use is designated for property to the south of the WTP site. With regard to this future upstream land use, consideration should be given to installation of a stabilization check structure with the crossing. The need for additional check structures can be evaluated as future development is proposed upstream. A Floodplain Development Permit application should be submitted, with certification by the Engineer of no adverse impact to 100-year flood elevations.

3. Two storm drain outfalls to Rat Run are proposed, one each from the North and West onsite detention ponds. It appears that the discharge is to the overbank zone of the major drainageway, so a low tailwater basin is the appropriate outfall protection, as it allows outflows to sheet flow to the main channel following dissipation at the pipe outfall. Calculations for the outfalls should be included in the Drainage Report. The pond outfall profiles on Sheets 4 and 5 should include the design flow, velocity and Froude Number at the outfall and should show the FES and outlet protection. Standard UDFCD details for a typical FES (Fig 9-29), Low Tailwater Basin (Fig 9-37, as appropriate) and Riprap/Soil Riprap (Fig 8-34) should be included.

4. The overflow spillways from each pond should have a concrete crest control wall.

5. The Drainage Plan at the end of the Phase III Report should include the 100-yr flood elevations along Rat Run as indicated on the 1995 FHAD or as may be updated by analysis of the access road crossing.

Please feel free to contact me with any questions or concerns.

Sincerely,
Urban Drainage and Flood Control District

John M. Pflaum, P.E.
Floodplain Management Program

Arapahoe County
Colorado's First

Public Works and Development
6924 S. Lima Street Centennial, Colorado 80112 Phone: 720-874-6650; FAX 720-874-6611
www.co.arapahoe.co.us
Planning Division

Phase II Referral Routing

Case Number / Case Name:	**ASI16-001, Prosper Wastewater Treatment Plant 1041 Permit / Areas of State Interest and L16-002, Prosper Wastewater Treatment Plant / Location and Extent and X16-001, Prosper Wastewater Treatment Plant/Subdivision Exemption**
Planner:	**Sherman Feher**
Engineer:	**Sarah L White**
Date:	**July 8, 2016**
Date to be returned:	**August 8, 2016**

	Arapahoe County Agencies				
☒	Assessor / Arapahoe County (Residential)	Karen Hart		**Citizen's Organizations**	
☐	Attorney / Arapahoe County	Robert Hill	☐	CCNA-Cherry Creek Neighborhoods Ass.	
☐	Building / Arapahoe County	Steve Byer	☐	CECON-(Within Centennial)	
☒	Engineering / Arapahoe County	Sarah L. White	☐	Four Square Mile Neighborhood	
☒	Mapping / Arapahoe County	Pat Hubert	☐	South Metro Chamber of Commerce	
☐	Oil & Gas / Arapahoe County	Diane Kocis		**Conservation District**	
☒	Open Space / Arapahoe County	Shannon Carter	☐	Deer Trail Conservation District	
☒	Planning / Arapahoe County	Sherman Feher	☒	West Arapahoe Conservation District	Tasha Chevarria
☒	Sheriff / Arapahoe County	1 to Brian McKnight 1 to Glenn Thompson		**Transportation**	
☒	Weed Control / Arapahoe County	Russell Johnson	☐	CDOT / State Highway Dept- Region 1	Rick Solomon
☒	Zoning / Arapahoe County	Tammy King	☐	E-470 Authority	Peggy Davenport
	Referral Agencies		☐	RTD	Chris Quinn
☐	Architectural Review Committee		☐		
☐	Airport or Military Base			**Utilities: Gas, Electric & Phone**	
☐	CGS Colorado Geological Survey-Soils		☐	Centurylink/Phone	Charles Place
☒	City / Town	Aurora	☐	Conoco Phillips / Gas Pipeline	
☒	Colorado Parks and Wildlife	Travis Harris	☒	XCEL	Donna George
☐	County		☐	IREA	Brooks Kaufman
☐	DRCOG			**Water / Sanitation / Stormwater / Wetlands**	
☒	Bennett Fire Protection District	**Caleb Connor**	☐	ACWWA	
☐	Metro District		☒	U.S. Army Corp. of Engineer	Kiel Downing
☐	Post Office Growth Coordinator	J. Hernandez	☐	CCBWQA	
☒	Reap I-70 Regional Economic Advancement Partnership	Matt Reay and Jack Keever	☐	Colorado Division of Water Resources	Joanne Williams
☐	Recreation District / Park District (External)		☐	SEMSWA	Paul Danley
☐	Bennett School District #29J Aurora School District	Keith Yach	☐	ECCVW&S	Chris Douglass
☐	Special District		☒	Urban Drainage & Flood	David Mallory
☒	Tri-County Health Department	Sheila Lynch	☒	Other / 5 Sets East End Adv. Committee	
☐					

The enclosed case has been submitted to the Arapahoe County Planning Office for consideration. Because of the possible effect of the proposed development upon your area, the case is being referred for your comment. Please examine this request and, after review, check the appropriate line and return to the Arapahoe County Planning Office on or before the date indicated above.

	COMMENTS:	SIGNATURE
☐	Have NO Comments to make on the case as submitted	
☒	Have the following comments to make related to the case:	AJS 7-12-16
	SEE ATTACHED	

VOGEL AND ASSOCIATES
RESPONES 8-26-2016

Note change to add language the the quantities must reflect the required number of plant material

002 PROSPER WASTEWATER TREATMENT PLANT

PAGE 6: STANDARD NOTES: REMOVE LANGUAGE FROM #2 OR ADD QUANTITIES MUST MATCH NUMBER OF TREES AND SHRUBS PROVIDED IN LANDSCAPE SUMMARY TABLE

Note added for amendment, ratio, and tilling depth.

#3 - SOIL AMENDMENT TYPE + RATIO + TILLING DEPTH

LEGEND: SEED TYPES PROVIDED
SHRUB BED - TYPES/QUANTITIES ON PLAN
TREES - CALIPER SIZES, HGTS + TYPE BREAKDOWN ON PLAN OR CHART
SHRUBS - QUANTITIES ON PLAN W/ CONTAINER SIZES ON CHART PAGE 7

Caliper sizes, heights, and container sizes were added to plant schedule. Specific Types and quantities of plants were added to plans.

PAGE 7: PLANT SCHEDULE
ALL DECIDUOUS TREES NEED QUANTITY BREAKDOWN + CALIPER SIZE
ALL ORNAMENTAL TREES NEED QUANTITY BREAKDOWN + CALIPER SIZE
ALL EVERGREEN TREES NEED QUANTITY BREAKDOWN + TREE HEIGHT

Caliper sizes, heights, and container sizes were added to plant schedule. Specific Types and quantities of plants added to plant schedule.

ALL SHRUBS + GRASSES NEED QUANTITY BREAKDOWN + CONTAINER SIZES - 5gal/1gal.

Ornamental grasses were removed from plant schedule because none were shown on plan.

ARE 1gal SHRUBS (GRASSES) BEING SUBSTITUTED FOR 5gal SHRUBS?

Detail shows dimension of 8'-0" for height and 8' ft. is in the detail description for the fence.

NO HEIGHT FOR SECURITY FENCING ON DETAIL (2)

IS VINYL CLAD FABRIC ALLOWED AS A FENCE TYPE?

Vinyl clad fabric is the coating on the fence. No slats are proposed for the fence.

L16-002 Con't

PAGE 7 - ALL PINES SHOULD BE TRIPLED GUYED/STAKED
REMOVE "UPLAND" FROM UPLAND EVERGREEN TREE

Detail revised to include tripled guyed/ staked. and "UPLAND" was removed from detail title.

Arapahoe County
Colorado's First

Public Works and Development
6924 S. Lima Street Centennial, Colorado 80112 Phone: 720-874-6650; FAX 720-874-6611
www.co.arapahoe.co.us

Planning Division

Phase II Referral Routing

Case Number / Case Name:	ASI16-001, Prosper Wastewater Treatment Plant 1041 Permit / Areas of State Interest and L16-002, Prosper Wastewater Treatment Plant / Location and Extent and X16-001, Prosper Wastewater Treatment Plant/Subdivision Exemption
Planner:	Sherman Feher
Engineer:	Sarah L White
Date:	July 8, 2016
Date to be returned:	August 8, 2016

	Arapahoe County Agencies				
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☐	Building / Arapahoe County	Steve Byer	☐	CECON-(Within Centennial)	
☒	Engineering / Arapahoe County	Sarah L. White	☐	Four Square Mile Neighborhood	
☒	Mapping / Arapahoe County	Pat Hubert	☐	South Metro Chamber of Commerce	
☐	Oil & Gas / Arapahoe County	Diane Kocis		**Conservation District**	
☒	Open Space / Arapahoe County	Shannon Carter	☐	Deer Trail Conservation District	
☒	Planning / Arapahoe County	Sherman Feher	☒	West Arapahoe Conservation District	Tasha Chevarria
☒	Sheriff / Arapahoe County	1 to Brian McKnight 1 to Glenn Thompson		**Transportation**	
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	Referral Agencies		☐	RTD	Chris Quinn
☐	Architectural Review Committee		☐		
☐	Airport or Military Base			**Utilities: Gas, Electric & Phone**	
☐	CGS Colorado Geological Survey-Soils		☐	Centurylink/Phone	Charles Place
☒	City / Town	Aurora	☐	Conoco Phillips / Gas Pipeline	
☒	Colorado Parks and Wildlife	Travis Harris	☒	XCEL	Donna George
☐	County		☐	IREA	Brooks Kaufman
☐	DRCOG			**Water / Sanitation / Stormwater / Wetlands**	
☒	Bennett Fire Protection District	Caleb Connor	☐	ACWWA	
☐	Metro District		☒	U.S. Army Corp. of Engineer	Kiel Downing
☐	Post Office Growth Coordinator	J. Hernandez	☐	CCBWQA	
☒	Reap I-70 Regional Economic Advancement Partnership	Matt Reay and Jack Keever	☐	Colorado Division of Water Resources	Joanne Williams
☐	Recreation District / Park District (External)		☐	SEMSWA	Paul Danley
☐	Bennett School District #29J Aurora School District	Keith Yach	☐	ECCVW&S	Chris Douglass
☐	Special District		☒	Urban Drainage & Flood	David Mallory
☒	Tri-County Health Department	Sheila Lynch	☒	Other / 5 Sets East End Adv. Committee	
☐					

The enclosed case has been submitted to the Arapahoe County Planning Office for consideration. Because of the possible effect of the proposed development upon your area, the case is being referred for your comment. Please examine this request and, after review, check the appropriate line and return to the Arapahoe County Planning Office on or before the date indicated above.

	COMMENTS:	SIGNATURE
☒	Have NO Comments to make on the case as submitted	Gary W Duke
☐	Have the following comments to make related to the case:	

County
Colorado's First

Public Works and Development
6924 S. Lima Street Centennial, Colorado 80112 Phone: 720-874-6650; FAX 720-874-6611
www.co.arapahoe.co.us

Planning Division

Phase II Referral Routing

Case Number / Case Name:	**ASI16-001, Prosper Wastewater Treatment Plant 1041 Permit / Areas of State Interest and L16-002, Prosper Wastewater Treatment Plant / Location and Extent and X16-001, Prosper Wastewater Treatment Plant/Subdivision Exemption**
Planner:	**Sherman Feher**
Engineer:	**Sarah L White**
Date:	**July 8, 2016**
Date to be returned:	**August 8, 2016**

	Arapahoe County Agencies	
☒	Assessor / Arapahoe County (Residential)	Karen Hart
☐	Attorney / Arapahoe County	Robert Hill
☐	Building / Arapahoe County	Steve Byer
☒	Engineering / Arapahoe County	Sarah L. White
☒	Mapping / Arapahoe County	Pat Hubert
☐	Oil & Gas / Arapahoe County	Diane Kocis
☒	Open Space / Arapahoe County	Shannon Carter
☒	Planning / Arapahoe County	Sherman Feher
☒	Sheriff / Arapahoe County	1 to Brian McKnight 1 to Glenn Thompson
☒	Weed Control / Arapahoe County	Russell Johnson
☒	Zoning / Arapahoe County	Tammy King
	Referral Agencies	
☐	Architectural Review Committee	
☐	Airport or Military Base	
☐	CGS Colorado Geological Survey-Soils	
☒	City / Town	Aurora
☒	Colorado Parks and Wildlife	Travis Harris
☐	County	
☐	DRCOG	
☒	Bennett Fire Protection District	**Caleb Connor**
☐	Metro District	
☐	Post Office Growth Coordinator	J. Hernandez
☒	Reap I-70 Regional Economic Advancement Partnership	Matt Reay and Jack Keever
☐	Recreation District / Park District (External)	
☐	Bennett School District #29J Aurora School District	Keith Yach
☐	Special District	
☒	Tri-County Health Department	Sheila Lynch
☐		

	Citizen's Organizations	
☐	CCNA-Cherry Creek Neighborhoods Ass.	
☐	CECON-(Within Centennial)	
☐	Four Square Mile Neighborhood	
☐	South Metro Chamber of Commerce	
	Conservation District	
☐	Deer Trail Conservation District	
☒	West Arapahoe Conservation District	Tasha Chevarria
	Transportation	
☐	CDOT / State Highway Dept- Region 1	Rick Solomon
☐	E-470 Authority	Peggy Davenport
☐	RTD	Chris Quinn
☐		
	Utilities: Gas, Electric & Phone	
☐	Centurylink/Phone	Charles Place
☐	Conoco Phillips / Gas Pipeline	
☒	XCEL	Donna George
☐	IREA	Brooks Kaufman
	Water / Sanitation / Stormwater / Wetlands	
☐	ACWWA	
☒	U.S. Army Corp. of Engineer	Kiel Downing
☐	CCBWQA	
☐	Colorado Division of Water Resources	Joanne Williams
☐	SEMSWA	Paul Danley
☐	ECCVW&S	Chris Douglass
☒	Urban Drainage & Flood	David Mallory
☒	Other / 5 Sets East End Adv. Committee	

The enclosed case has been submitted to the Arapahoe County Planning Office for consideration. Because of the possible effect of the proposed development upon your area, the case is being referred for your comment. Please examine this request and, after review, check the appropriate line and return to the Arapahoe County Planning Office on or before the date indicated above.

	COMMENTS:	SIGNATURE
☒	Have NO Comments to make on the case as submitted	Janet L Cook
☐	Have the following comments to make related to the case:	

Planning & Development Services

Planning Division
15151 E. Alameda Parkway, Ste. 2300
Aurora, Colorado 80012
303.739.7250

City of Aurora

Worth Discovering • auroragov.org

August 3, 2016

Ms. Nancy Doty, Chair
Arapahoe County Commission
5334 S. Prince Street
Littleton, CO 80120

Dear Chair Doty,

Thank you for the opportunity to comment on the referral for the Prosper Wastewater Treatment Plant application. The City of Aurora has reviewed the application and has the following comments:

1. **City Concerns Regarding The Prosper Development**
   Prosper and the adjacent Sky Ranch development do not conform to Metro Vision 2035, and, if approved, will have significant traffic, noise and water supply issues. Given these issues, the City of Aurora does not support these proposals. The applicant could seek annexation into Aurora. The annexation process includes mechanisms to address the traffic, land use, and water service issues that this development presents.

2. **Public Works Department**
   Floodplain mapping provided with the application package appears to present current effective FEMA mapping. UDFCD recently completed a FHAD study (Olsson, 2014) which included Coyote Run and appears to show a somewhat wider floodplain (especially just upstream of the I-70 crossing) and somewhat higher flood elevations. The County may want to consider if the more recent UDFCD study constitutes the "best available information" and require its use rather than the current FEMA mapping.

   The 2014 UDFCD FHAD did not include Rat Run and current effective FEMA mapping for this stream system upstream of I-70 and adjacent to the proposed WWTP site is Approximate Zone A. It is recommended as part of the WWTP design process (if not 1041 permitting) that the applicant carry out floodplain modeling to develop detailed floodplain limits and elevations for Rat Run.

   UDFCD recently completed an MDP that includes Coyote Run (Olsson, 2014) and recommended "floodplain preservation" with no structural improvements for the channel reach adjacent to the proposed WWTP. It appears that the proposed site plan is adhering to this UDFCD conceptual design and the City would recommend this approach be maintained when/if updated FHAD mapping is utilized for Coyote Run and detailed floodplain information is developed for Rat Run.

The UDFCD MDP (Olsson, 2014) indicates that the Coyote Run channel slope is on the order of 0.6% in the reach adjacent to the proposed WWTP and recommends no channel check structures. A slope of 0.6% is relatively high for a developed watershed and the introduction of WWTP and urban runoff base flows into a previously intermittent stream system has the potential to significantly impact channel invert and bank stability. UDFCD has recently changed its recommended channel design slopes for urbanized watersheds to be substantially lower than 0.6%. It is recommended that the applicant address the potential need for channel checks and/or grade controls.

WWTP's are typically considered "critical facilities" and as such, it is recommended that an enhanced level of flood protection (> than the 100yr event) be considered. The COA standard for critical facilities is 2 feet above the 100-yr floodplain. Draft federal guidance for EO 13690 has similar requirements.

3. **Metro Wastewater Reclamation District**
In reviewing the maps in our records, it appears that the Prosper area is partially within our "expected service area", however that is only relevant to Special Connectors and expansion of their service area. Prosper is not within the corporate boundaries of Aurora so they are not obligated to send that flow to the District.

In the event Aurora were to annex the Prosper development in the future, the treatment plant that the developer is proposing could not be expanded, or that area would have to be excluded from the District under 32-4-515 and Board Policy Exclusion-Service Area. Even though the proposed treatment plant may be within our expected service area, unless it is within the boundaries of Aurora or they choose to serve it (Service Contract section 303), it is District staff's opinion that there is no requirement that it connects to the District's system and it would not violate our competing system prohibitions.

Cordially,

Bob Watkins
Interim Planning and Development Services Director
City of Aurora

Cc: Members of City Council
George Noe, City Manager
Nancy Freed, Deputy City Manager
Jason Batchelor, Deputy City Manager

City of Aurora Comments and Responses

1.City Concerns Regarding

The Prosper Development Prosper and the adjacent Sky Ranch development do not conform to Metro Vision 2035, and, if approved, will have significant traffic, noise and water supply issues. Given these issues, the City of Aurora does not support these proposals. The applicant could seek annexation into Aurora. The annexation process includes mechanisms to address the traffic, land use, and water service issues that this development presents.

Response: The proposed WWTP is consistent with the approved Prosper Preliminary Development Plan. It is the applicant's intent to develop the property in Arapahoe County consistent with the approved Preliminary Development Plan. The approved Preliminary Development Plan addresses issues related to land use, drainage, water service and other planning considerations.

2. Public Works Department

Floodplain mapping provided with the application package appears to present current effective FEMA mapping. UDFCD recently completed a FHAD study (Olsson, 2014) which included Coyote Run and appears to show a somewhat wider floodplain (especially just upstream of the I- 70 crossing) and somewhat higher flood elevations. The County may want to consider if the more recent UDFCD study constitutes the "best available information" and require its use rather than the current FEMA mapping.

The 2014 UDFCD FHAD did not include Rat Run and current effective FEMA mapping for this stream system upstream of I-70 and adjacent to the proposed WWTP site is Approximate Zone A. It is recommended as part of the WWTP design process (if not 1041 permitting) that the applicant carry out floodplain modeling to develop detailed floodplain limits and elevations for Rat Run.

Response: We feel an obligation to continue to show the current FEMA mapping, until such time as it is updated by the more current 2014 UDFCD FHAD. We have provided (to Arapahoe County) our 100 yr modeling of Rat Run and its tributary known as Rat 1-D (or known as stream 120), for the purpose of identifying the existing conditions 100 yr flood limits, utilizing the match elevation determined from the 2014 FHAD right at the south side of Interstate 70.

UDFCD recently completed an MDP that includes Coyote Run (Olsson, 2014) and recommended "floodplain preservation" with no structural improvements for the channel reach adjacent to the proposed WWTP. It appears that the proposed site plan is adhering to this UDFCD conceptual design and the City would recommend this approach be maintained when/if updated FHAD mapping is utilized for Coyote Run and detailed floodplain information is developed for Rat Run. The UDFCD MDP (Olsson, 2014) indicates that the Coyote Run channel slope is on the order of 0.6% in the reach adjacent to the proposed WWTP and recommends no channel check structures. A slope of 0.6% is relatively high for a developed watershed and the introduction of WWTP and urban runoff base flows into a previously intermittent stream system has the potential to significantly impact channel invert and bank stability. UDFCD has recently changed its recommended channel design slopes for urbanized watersheds to be substantially lower than 0.6%. It is recommended that the applicant address the potential need for channel checks and/or grade controls.

Response: We have been directed by the County to adhere to the MDP, which we believe we have done. As stated in your comment there are no requirements for stabilization facilities in this area.

WWTP's are typically considered "critical facilities" and as such, it is recommended that an enhanced level of flood protection (> than the 100yr event) be considered. The COA standard for critical facilities is 2 feet above the 100-yr floodplain. Draft federal guidance for EO 13690 has similar requirements.

Response: Per the County, the WWTP is not considered a Critical Facility, though we do note that the proposed facilities are 2' or more above the 100 yr water surface as determined on Coyote Run (East side of site) from the 2014 FHAD, AND as determined for Rat Run (West side of site) from analysis/modeling by our firm for this project. Reference can be made to sht 3 of the CD set of plans which identifies the BFE's (100 yr Base Flood Elevations) for both Coyote Run and for Rat Run.

3. Metro Wastewater Reclamation District

In reviewing the maps in our records, it appears that the Prosper area is partially within our "expected service area", however that is only relevant to Special Connectors and expansion of their service area. Prosper is not within the corporate boundaries of Aurora so they are not obligated to send that flow to the District.

In the event Aurora were to annex the Prosper development in the future, the treatment plant that the developer is proposing could not be expanded, or that area would have to be excluded from the District under 32-4-515 and Board Policy Exclusion Service Area. Even though the proposed treatment plant may be within our expected service area, unless it is within the boundaries of Aurora or they choose to serve it (Service Contract section 303), it is District staff' s opinion that there is no requirement that it connects to the District's system and it would not violate our competing system prohibitions.

Response: The intent is to develop Prosper within Arapahoe County and per the approved Preliminary Development Plan that includes the proposed WWTP site. There is not a requirement that Prosper connect to the Metro Wastewater Reclamation District.

Xcel Energy℠
PUBLIC SERVICE COMPANY

Right of Way & Permits

1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: 303.571.3306
Facsimile: 303. 571.3284
donna.l.george@xcelenergy.com

August 3, 2016

Arapahoe County Public Works and Development
6924 South Lima Street
Centennial, CO 80112

Attn: Sherman Feher

Re: Prosper Wastewater Treatment Plant, Case # ASI16-001

Public Service Company of Colorado's (PSCo) Right of Way & Permits Referral Desk has reviewed the plans and subdivision exemption plat for **Prosper Wastewater Treatment Plant**. As always, thank you for the opportunity to take part in the review process. To ensure that adequate utility easements are available within this development, PSCo requests that the following language or plat note be placed on the preliminary and final plats for the subdivision:

> *Minimum ten-foot (10') wide dry utility easements are hereby dedicated on private property abutting all public streets, and around the perimeter of each commercial/ industrial lot in the subdivision or platted area. These easements are dedicated to Arapahoe County for the benefit of the applicable utility providers for the installation, maintenance, and replacement of electric, gas, television, cable, and telecommunications facilities (Dry Utilities). Utility easements shall also be granted within any access easements and private streets in the subdivision. Permanent structures, improvements, objects, buildings, wells, water meters and other objects that may interfere with the utility facilities or use thereof (Interfering Objects) shall not be permitted within said utility easements and the utility providers, as grantees, may remove any Interfering Objects at no cost to such grantees, including, without limitation, vegetation. Public Service Company of Colorado (PSCo) and its successors reserve the right to require additional easements and to require the property owner to grant PSCo an easement on its standard form.*

Public Service Company also requests that **all utility easements be depicted graphically on the preliminary and final plats.** While these easements may accommodate certain utilities to be installed in the subdivision, some additional easements may be required as planning and building progresses.

In addition, 31-23-214 (3), C.R.S., requires the subdivider, at the time of subdivision platting, to provide for major utility facilities such as electric substation sites, gas or electric transmission line easements and gas regulator/meter station sites as deemed necessary by PSCo. While this provision will not be required on every plat, when necessary, PSCo will work with the subdivider to identify appropriate locations. This statute also requires the subdivider to submit a letter of agreement to the municipal/county commission that adequate provision of electrical and/or gas service has been provided to the subdivisions.

The property owner/developer/contractor must contact the **Builder's Call Line** at 1-800-628-2121 or https://xcelenergy.force.com/FastApp (Register so you can track your application) and complete the application process for any new electric service. It is then the responsibility of the developer to contact the

Designer assigned to the project for approval of design details. Additional easements may need to be acquired by separate document for new facilities.

As a safety precaution, PSCo would like to remind the developer to call the **Utility Notification Center** at 1-800-922-1987 for utility locates prior to construction.

If you have any questions about this referral response, please contact me at (303) 571-3306.

Donna George
Contract Right-of-Way Referral Processor
Public Service Company of Colorado

Xcel Energy Comments and Responses

Public Service Company of Colorado's (PSCO) Right of Way & Permits Referral Desk has reviewed the plans and subdivision exemption plat for Prosper Wastewater Treatment Plant. As always, thank you for the opportunity to take part in the review process. To ensure that adequate utility easements are available within this development, PSCo requests that the following language or plat note be placed on the preliminary and final plats for the subdivision:

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Designer assigned to the project for approval of design details. Additional easements may need to be acquired by separate document for new facilities.

As a safety precaution, PSCo would like to remind the developer to call the Utility Notification Center at 1-800-922-1987 for utility locates prior to construction.

Response: The requirements and development standards outlined above have been noted in our files.

BENNETT FIRE PROTECTION DISTRICT #7

DISTRICT OFFICE: 303-644-3572 FAX: 303-644-3401
EMAIL: LIFESAFETY@BENNETTFIRERESCUE.ORG
"Striving to Preserve Life and Property"

July 21st, 2016
Sherman Feher
Arapahoe County Public Works & Development
6924 S. Lima Street
Centennial, CO 80112

Re: AS116-001, Prosper Wastewater Treatment Plant 1041 Permit / Areas of State Interest and L 16-002, Prosper Wastewater Treatment Plant/ Location and Extent and X16-001, Prosper Wastewater Treatment Plant/Subdivision Exemption

Planner Feher,

In regards case AS116-001, Prosper Wastewater Treatment Plant 1041 Permit / Areas of State Interest and L 16-002, Prosper Wastewater Treatment Plant/ Location and Extent and X16-001, Prosper Wastewater Treatment Plant/Subdivision Exemption, Bennett Fire Protection District has the following comments and considerations:

- Bennett Fire Protection District currently serves this location as it falls within our Fire Protection District and has no objections to the proposed development.

- The applicant shall consult with Bennett Fire Protection District to ensure all aspects of the project conform to the District's adopted fire code (2012 IFC).

- The developer shall ensure that the proposed water systems pertaining to hydrant distribution for fire suppression is adequate to protect the proposed development as well as meet the design criteria of both Arapahoe County and the Bennett Fire Protection District. Considerations for design requirements shall include adopted codes and standards as well as ISO distribution and fire flow requirements.

- Bennett Fire Protection District will accept the proposed temporary road guidelines contained in the referral. All temporary and permanent roads constructed for any part of the development shall conform to IFC fire apparatus access requirements.

- As the proposed temporary access road will serve as the interim sole means of providing emergency services to the facility, the proposed temporary access road shall be maintained at all times during its service life of the facility. This includes, grading, maintenance, and snow removal. If at any times Bennett Fire Protection District deems the road inadequate for the provision of emergency services, the applicant shall work with the Fire District to make necessary improvements.

- The internal access road design includes roads which are 20ft in width. The current IFC standard for fire apparatus access roads with a fire hydrant is 26ft in width at the point of the hydrant. The applicant may need to make minor revisions at the hydrant locations to meet this width.

- The processing of waste water often involves the storage and use of hazardous materials. This information shall be provided to Bennett Fire Protection District to be reviewed and approved.

- Facilities which store or use hazardous materials are often classified as "H" occupancies, which require fire sprinkler suppression or special electrical considerations. Applicant shall ensure the facility design meets the District's adopted fire code requirements.

- KNOX Fire Department Key access hardware shall be provided for all vehicle access gates as well as each building on site.

Thank You

Caleb J. Connor
Fire Marshal
Life Safety Division
Bennett Fire Protection District
303-644-3572 - Headquarters / 303-532-7733 - Direct
www.BennettFireRescue.org

Bennett Fire Protection District Comments and Responses

In regards case AS116-001, Prosper Wastewater Treatment Plant 1041 Permit / Areas of State Interest and L 16-002, Prosper Wastewater Treatment Plant/ Location and Extent and X16-001, Prosper Wastewater Treatment Plant/Subdivision Exemption, Bennett Fire Protection District has the following comments and considerations:

• Bennett Fire Protection District currently serves this location as it falls within our Fire Protection District and has no objections to the proposed development.

• The applicant shall consult with Bennett Fire Protection District to ensure all aspects of the project conform to the District's adopted fire code (2012 IFC).

Response: The applicant will coordinate aspects with the Fire Code and District.

• The developer shall ensure that the proposed water systems pertaining to hydrant distribution for fire suppression is adequate to protect the proposed development as well as meet the design criteria of both Arapahoe County and the Bennett Fire Protection District. Considerations for design requirements shall include adopted codes and standards as well as ISO distribution and fire flow requirements.

Response: Fire hydrant distribution and required fire suppression will be incorporated into the final construction drawings for the site and buildings/facilities.

• Bennett Fire Protection District will accept the proposed temporary road guidelines contained in the referral. All temporary and permanent roads constructed for any part of the development shall conform to IFC fire apparatus access requirements.

Response: Access roads will meet IFC requirements for access.

• As the proposed temporary access road will serve as the interim sole means of providing emergency services to the facility, the proposed temporary access road shall be maintained at all times during its service life of the facility. This includes, grading, maintenance, and snow removal. If at any times Bennett Fire Protection District deems the road inadequate for the provision of emergency services, the applicant shall work with the Fire District to make necessary improvements.

Response: The temporary road will be maintained to provide all-season access.

• The internal access road design includes roads which are 20ft in width. The current IFC standard for fire apparatus access roads with a fire hydrant is 26ft in width at the point of the hydrant. The applicant may need to make minor revisions at the hydrant locations to meet this width.

Response: Some hydrant locations moved to intersection and other locations the road has been widened to 26' per IFC.

• The processing of waste water often involves the storage and use of hazardous materials. This information shall be provided to Bennett Fire Protection District to be reviewed and approved.

Response: Hazardous materials including the storage will be reviewed with the Bennett Fire Protection District.

• Facilities which store or use hazardous materials are often classified as "H" occupancies, which require fire sprinkler suppression or special electrical considerations. Applicant shall ensure the facility design meets the District's adopted fire code requirements.

Response: The Applicant will ensure the facility design meets the District's adopted fire code requirements including NFPA 820 requirements for Fire Protection in Wastewater Treatment and Collection Facilities.

• KNOX Fire Department Key access hardware shall be provided for all vehicle access gates as well as each building on site.

Response: A KNOX Box will be provided for the gate.

Tri-County Health Department

August 9, 2016

Sherman Feher.
Arapahoe County Planning Department
6924 S. Lima Street
Centennial, CO 80112

RE: ASI 116-001, Prosper Wastewater Treatment Plant 1041 Permit/Areas of State Interest
L16-002, Prosper Wastewater Treatment Plant/Location and Extent
X16-001, Prosper Wastewater Treatment Plant/Subdivision Exemption
Prosper Wastewater Treatment Plant
TCHD Case No. 3993

Dear Mr. Feher:

Thank you for the opportunity to review and comment on the 1041 Permit/Areas of State Interest, Location and Extent, and Subdivision Exemption for the proposed Prosper Wastewater Treatment Plant (WWTP). Tri-County Health Department (TCHD) staff has reviewed the application for compliance with applicable public and environmental health regulations. After reviewing the application, TCHD has the following comments.

The Site Application and Utility Plan for the WWTP indicate that the recommended WWTP is a Membrane Bioreactor (MBR). Section 7 b. of the Application Submittal states: "This plant will include modern wastewater treatment facilities with biological nutrient removal (BNR) and filtration for the production of reuse water. The Location and Extent drawings depicting the WWTP (Sheets 1-15) are typical of a Biological Nutrient Removal (BNR) System. TCHD recommends that the drawings be revised to reflect the preferred alternative of an MBR.

Sheet 5 of the drawings indicates that the WWTP site is bounded on the east by a floodway and on the west by floodplain. The Location and Extent Plan shows an access road to the site across the Rat Run Drainageway. Construction of the road may alter the floodplain, and future flood events may impede or prevent access to the site. TCHD recommends that the applicant address any applicable regulatory and technical issues associated with the floodplain alteration and also site access.

Section 10, Dust and Odor: The second sentence states: Odor control equipment will be installed at the influent lift station and at the Headworks Building of the WWTP. These facilities are typically the source of the majority of odors at WWTP's. The Location and Extent drawings indicate that the WWTP is in close proximity to future residences. TCHD is concerned that odors will also be produced from the aeration basins, resulting in complaints from nearby residents. Consequently, TCHD recommends that the aeration basins be covered. The Water Quality Control Division

(WQCD) also has requirements for setbacks from residential areas. Please describe how the proposed facilities will comply with the WQCD's setback polices.

TCHD has submitted comments regarding the WWTP Site Application and Utility Plan that are relevant to the subject case I have included our comment letter as an enclosure to this letter.

Please feel free to contact me at (720) 200-1568 or wbrown@tchd.org if you have any questions regarding TCHD's comments.

Sincerely,

Warren S. Brown, P.E.
Senior Environmental Health Consultant

Enclosure

CC: Julio Iturreria, Larry Mugler, Arapahoe County
Bret Icenogle, P.E., David Kurz, P.E., CDPHE
Sheila Lynch, Steven Chevalier, TCHD

Tri-County Health Department Comments and Responses

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The Site Application and Utility Plan for the WWTP indicate that the recommended WWTP is a Membrane Bioreactor (MBR). Section 7 b. of the Application Submittal states: "This plant will include modern wastewater treatment facilities with biological nutrient removal (BNR) and filtration for the production of reuse water. The Location and Extent drawings depicting the WWTP (Sheets 1-15) are typical of a Biological Nutrient Removal (BNR) System. TCHD recommends that the drawings be revised to reflect the preferred alternative of an MBR.
Response: The BNR system is presented in the Location and Extent (L&E) drawings as the largest footprint (worst case) treatment process alternative at full build-out of the WWTP (35-40 years from now). A note has been added to the L&E drawings under Specific Notes (1 of 15) and Phase Designations (2 of 15) describing the phasing in more detail. The MBR system is the selected treatment process alternative for the initial phase of the WWTP (2-5 years from now) and is described in detail in the Site Application/Utility Plan. A Site Plan has been included in the Utility Plan report to show that the Phase 1 (MBR) is an integral part of the WWTP at build-out. The Metropolitan Districts will need to determine the selected treatment process for future phases as the demand of the WWTP increases.

Sheet 5 of the drawings indicates that the WWTP site is bounded on the east by a floodway and on the west by floodplain. The Location and Extent Plan shows an access road to the site across the Rat Run Drainageway. Construction of the road may alter the floodplain, and future flood events may impede or prevent access to the site. TCHD recommends that the applicant address any applicable regulatory and technical issues associated with the floodplain alteration and also site access.
Response: We have determined that there is no alteration to the floodzone and the floodway on the east side of the property.

The proposed access road, located on the west side of the property has been designed to match the existing grade across the floodzones of Rat Run and of Rat 1-D (a tributary to Rat Run). By matching the existing grade across these drainages it is shown that the elevation of the 100 yr storm event within the drainages, will not increase, thus the roadway has no impact on the floodzones. We have provided analysis of these 2 drainages to Arapahoe County to confirm our findings. Arapahoe County is further requiring that a "No Rise Certificate" be provided by our office to confirm and document these findings.

The access roadway is comprised of a gravel surface, and is identified as temporary until such time as a future paved is completed in the area. There is no specific timetable for the future permanent roadway construction.

As the access road is placed at the natural ground elevation across the 2 drainageways, it will overflow and "flood" during storm events. Maximum flow depth at the 100 yr event has been determined to be 18" at the roadway crossings. Staff personal will be trained on use of

the roadway during pending and actual storm events. Standard vehicles may be required to be temporarily parked outside of the floodzone areas, with staff being transported into the site with all-terrain vehicles.

An ultimate emergency means of access is available to the site from I-70.

Bennett Fire Department has reviewed the site plan and accessibility route and have determined it to be sufficient.

Section 10, Dust and Odor: The second sentence states: Odor control equipment will be installed at the influent lift station and at the Headworks Building of the WWTP. These facilities are typically the source of the majority of odors at WWTP's. The Location and Extent drawings indicate that the WWTP is in close proximity to future residences. TCHD is concerned that odors will also be produced from the aeration basins, resulting in complaints from nearby residents. Consequently, TCHD recommends that the aeration basins be covered. The Water Quality Control Division (WQCD) also has requirements for setbacks from residential areas. Please describe how the proposed facilities will comply with the WQCD's setback polices.
Response: The WQCD's setback distances are not met thus odor mitigating elements will be incorporated into the design including aeration system failure alarms, covering or enclosing the digester and process basins, and providing odor control systems for the influent lift station and headworks building.

Arapahoe County
Colorado's First

Public Works and Development
6924 S. Lima Street Centennial, Colorado 80112 Phone: 720-874-6650; FAX 720-874-6611
www.co.arapahoe.co.us

Planning Division

Phase II Referral Routing

Case Number / Case Name:	**ASI16-001, Prosper Wastewater Treatment Plant 1041 Permit / Areas of State Interest and L16-002, Prosper Wastewater Treatment Plant / Location and Extent and X16-001, Prosper Wastewater Treatment Plant/Subdivision Exemption**
Planner:	**Sherman Feher**
Engineer:	**Sarah L White**
Date:	**July 8, 2016**
Date to be returned:	**August 8, 2016**

	Arapahoe County Agencies	
☒	Assessor / Arapahoe County (Residential)	Karen Hart
☐	Attorney / Arapahoe County	Robert Hill
☐	Building / Arapahoe County	Steve Byer
☒	Engineering / Arapahoe County	Sarah L. White
☒	Mapping / Arapahoe County	Pat Hubert
☐	Oil & Gas / Arapahoe County	Diane Kocis
☒	Open Space / Arapahoe County	Shannon Carter
☒	Planning / Arapahoe County	Sherman Feher
☒	Sheriff / Arapahoe County	1 to Brian McKnight 1 to Glenn Thompson
☒	Weed Control / Arapahoe County	Russell Johnson
☒	Zoning / Arapahoe County	Tammy King
	Referral Agencies	
☐	Architectural Review Committee	
☐	Airport or Military Base	
☐	CGS Colorado Geological Survey-Soils	
☒	City / Town	Aurora
☒	Colorado Parks and Wildlife	Travis Harris
☐	County	
☐	DRCOG	
☒	Bennett Fire Protection District	**Caleb Connor**
☐	Metro District	
☐	Post Office Growth Coordinator	J. Hernandez
☒	Reap I-70 Regional Economic Advancement Partnership	Matt Reay and Jack Keever
☐	Recreation District / Park District (External)	
☐	Bennett School District #29J Aurora School District	Keith Yach
☐	Special District	
☒	Tri-County Health Department	Sheila Lynch
☐		

	Citizen's Organizations	
☐	CCNA-Cherry Creek Neighborhoods Ass.	
☐	CECON-(Within Centennial)	
☐	Four Square Mile Neighborhood	
☐	South Metro Chamber of Commerce	
	Conservation District	
☐	Deer Trail Conservation District	
☒	West Arapahoe Conservation District	Tasha Chevarria
	Transportation	
☐	CDOT / State Highway Dept- Region 1	Rick Solomon
☐	E-470 Authority	Peggy Davenport
☐	RTD	Chris Quinn
☐		
	Utilities: Gas, Electric & Phone	
☐	Centurylink/Phone	Charles Place
☐	Conoco Phillips / Gas Pipeline	
☒	XCEL	Donna George
☐	IREA	Brooks Kaufman
	Water / Sanitation / Stormwater / Wetlands	
☐	ACWWA	
☒	U.S. Army Corp. of Engineer	Kiel Downing
☐	CCBWQA	
☐	Colorado Division of Water Resources	Joanne Williams
☐	SEMSWA	Paul Danley
☐	ECCVW&S	Chris Douglass
☒	Urban Drainage & Flood	David Mallory
☒	Other / 5 Sets East End Adv. Committee	

The enclosed case has been submitted to the Arapahoe County Planning Office for consideration. Because of the possible effect of the proposed development upon your area, the case is being referred for your comment. Please examine this request and, after review, check the appropriate line and return to the Arapahoe County Planning Office on or before the date indicated above.

	COMMENTS:	SIGNATURE
☒	Have NO Comments to make on the case as submitted	7/11/16
☐	Have the following comments to make related to the case:	

LOCATION AND EXTENT
PROSPER WASTEWATER TREATMENT PLANT

LOT 1, BLOCK 1, PROSPER WWTP SUBDIVISION EXEMPTION
COUNTY OF ARAPAHOE, STATE OF COLORADO

STANDARD NOTES:

THE OWNER(S), DEVELOPER(S) AND/OR SUBDIVIDER(S) OF THE LOCATION AND EXTENT KNOWN AS PROSPER WASTEWATER TREATMENT PLANT, THEIR RESPECTIVE SUCCESSORS, HEIRS AND/OR ASSIGNS AGREE TO THE FOLLOWING NOTES:

STREET MAINTENANCE

IT IS MUTUALLY UNDERSTOOD AND AGREED THAT THE DEDICATED ROADWAYS SHOWN ON THIS PLAT/PLAN WILL NOT BE MAINTAINED BY THE COUNTY UNTIL AND UNLESS THE STREETS ARE CONSTRUCTED IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS IN EFFECT AT THE DATE CONSTRUCTION PLANS ARE APPROVED, AND PROVIDED CONSTRUCTION OF SAID ROADWAYS IS STARTED WITHIN ONE YEAR OF THE CONSTRUCTION PLAN APPROVAL. THE OWNERS, DEVELOPERS AND/OR SUBDIVIDERS, THEIR SUCCESSORS AND/OR ASSIGNS IN INTEREST, SHALL BE RESPONSIBLE FOR STREET MAINTENANCE UNTIL SUCH TIME AS THE COUNTY ACCEPTS THE RESPONSIBILITY FOR MAINTENANCE AS STATED ABOVE.

DRAINAGE MAINTENANCE

THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL DRAINAGE FACILITIES INSTALLED PURSUANT TO THE SUBDIVISION AGREEMENT. REQUIREMENTS INCLUDE, BUT ARE NOT LIMITED TO MAINTAINING THE SPECIFIED STORM WATER DETENTION/ RETENTION VOLUMES, MAINTAINING OUTLET STRUCTURES, FLOW RESTRICTION DEVICES AND FACILITIES NEEDED TO CONVEY FLOW TO SAID BASINS. ARAPAHOE COUNTY SHALL HAVE THE RIGHT TO ENTER PROPERTIES TO INSPECT SAID FACILITIES AT ANY TIME. IF THESE FACILITIES ARE NOT PROPERLY MAINTAINED, THE COUNTY MAY PROVIDE NECESSARY MAINTENANCE AND ASSESS THE MAINTENANCE COST TO THE OWNER OF THE PROPERTY.

EMERGENCY ACCESS NOTE

EMERGENCY ACCESS IS GRANTED HEREWITH OVER AND ACROSS ALL PAVED AREAS FOR POLICE, FIRE AND EMERGENCY VEHICLES.

DRIVES, PARKING AREAS, AND UTILITY EASEMENTS MAINTENANCE

THE OWNERS OF THIS PLAN OR PLAT, THEIR SUCCESSORS, AND/OR ASSIGNS IN INTEREST, THE ADJACENT PROPERTY OWNER(S), HOMEOWNERS ASSOCIATION OR OTHER ENTITY OTHER THAN ARAPAHOE COUNTY, IS RESPONSIBLE FOR MAINTENANCE AND UPKEEP OF ANY AND ALL DRIVES, PARKING AREAS, AND EASEMENTS, I.E.: CROSS-ACCESS EASEMENTS, DRAINAGE EASEMENTS, ETC.

PRIVATE STREET MAINTENANCE

IT IS MUTUALLY UNDERSTOOD AND AGREED THAT THE PRIVATE ROADWAYS SHOWN ON THIS PLAT/PLAN ARE NOT IN CONFORMANCE WITH ARAPAHOE COUNTY ROADWAY DESIGN AND CONSTRUCTION STANDARDS AND WILL NOT BE MAINTAINED BY THE COUNTY UNTIL AND UNLESS THE STREETS ARE CONSTRUCTED IN CONFORMANCE WITH THE SUBDIVISION REGULATIONS IN EFFECT AT THE DATE OF THE REQUEST FOR DEDICATION. THE OWNERS, DEVELOPERS, AND/OR SUBDIVIDERS, THEIR SUCCESSORS AND/OR ASSIGNS IN INTEREST, SHALL BE RESPONSIBLE FOR STREET MAINTENANCE UNTIL SUCH TIME AS THE COUNTY ACCEPTS RESPONSIBILITY FOR MAINTENANCE AS STATED ABOVE.

DRAINAGE LIABILITY

IT IS THE POLICY OF ARAPAHOE COUNTY THAT IT DOES NOT AND WILL NOT ASSUME LIABILITY FOR THE DRAINAGE FACILITIES DESIGNED AND/OR CERTIFIED BY CORE CONSULTANTS ARAPAHOE COUNTY REVIEW'S DRAINAGE PLANS PURSUANT TO COLORADO REVISED STATUTES TITLE 30, ARTICLE 28, BUT CANNOT, ON BEHALF OF VREI, INC. GUARANTEE THAT FINAL DRAINAGE DESIGN REVIEW WILL ABSOLVE VREI, INC.. AND/OR THEIR SUCCESSORS AND/OR ASSIGNS OF FUTURE LIABILITY FOR IMPROPER DESIGN. IT IS THE POLICY OF ARAPAHOE COUNTY THAT APPROVAL OF THE FINAL PLAT AND/OR FINAL DEVELOPMENT PLAN DOES NOT IMPLY APPROVAL OF CORE CONSULTANTS DRAINAGE DESIGN.

LANDSCAPE MAINTENANCE

THE OWNERS OF THIS PLAN OR PLAT, THEIR SUCCESSORS AND/OR ASSIGNS IN INTEREST, THE ADJACENT PROPERTY OWNER(S), HOMEOWNER'S ASSOCIATION OR OTHER ENTITY OTHER THAN ARAPAHOE COUNTY IS RESPONSIBLE FOR MAINTENANCE AND UPKEEP OF PERIMETER FENCING, LANDSCAPED AREAS AND SIDEWALKS BETWEEN THE FENCE LINE/PROPERTY LINE AND ANY PAVED ROADWAYS.

THE OWNERS OF THIS SUBDIVISION, THEIR SUCCESSORS AND/OR ASSIGNS IN INTEREST, OR SOME OTHER ENTITY OTHER THAN ARAPAHOE COUNTY, AGREE TO THE RESPONSIBILITY OF MAINTAINING ALL OTHER OPEN SPACE AREAS ASSOCIATED WITH THIS DEVELOPMENT.

SIGHT TRIANGLE MAINTENANCE

THE OWNERS OF PRIVATE PROPERTY CONTAINING A TRAFFIC SIGHT TRIANGLE ARE PROHIBITED FROM ERECTING OR GROWING ANY OBSTRUCTIONS OVER THREE FEET IN HEIGHT ABOVE THE ELEVATION OF THE LOWEST POINT ON THE CROWN OF THE ADJACENT ROADWAY WITHIN SAID TRIANGLE.

PUBLIC IMPROVEMENTS NOTE

AFTER FINAL DEVELOPMENT PLAN/FINAL PLAT APPROVAL, ISSUANCE OF INDIVIDUAL BUILDING PERMITS WILL BE SUBJECT TO THE FOLLOWING STIPULATIONS AND/OR CONDITIONS PRECEDENT, WHICH OWNER AGREES TO IN CONJUNCTION WITH APPROVAL OF THE FINAL DEVELOPMENT PLAN AND/OR FINAL PLAT. SUCH BUILDING PERMITS WILL BE ISSUED ONLY AFTER THE OWNERS GUARANTEE PUBLIC IMPROVEMENTS IN A FORM ACCEPTABLE TO THE BOARD OF COUNTY COMMISSIONERS PURSUANT TO STATE STATUTE.

DRAINAGE MASTER PLAN NOTE

THE POLICY OF THE COUNTY REQUIRES THAT ALL NEW DEVELOPMENT AND REDEVELOPMENT SHALL PARTICIPATE IN THE REQUIRED DRAINAGE IMPROVEMENTS AS SET FORTH BELOW:

1. DESIGN AND CONSTRUCT THE LOCAL DRAINAGE SYSTEM AS DEFINED BY THE PHASE III DRAINAGE REPORT AND PLAN.
2. DESIGN AND CONSTRUCT THE CONNECTION OF THE SUBDIVISION DRAINAGE SYSTEM TO A DRAINAGEWAY OF ESTABLISHED CONVEYANCE CAPACITY SUCH AS A MASTER PLANNED OUTFALL STORM SEWER OR MASTER PLANNED MAJOR DRAINAGEWAY. THE COUNTY WILL REQUIRE THAT THE CONNECTION OF THE MINOR AND MAJOR SYSTEMS PROVIDE CAPACITY TO CONVEY ONLY THOSE FLOWS (INCLUDING OFFSITE FLOWS) LEAVING THE SPECIFIC DEVELOPMENT SITE. TO MINIMIZE OVERALL CAPITAL COSTS, THE COUNTY ENCOURAGES ADJACENT DEVELOPMENTS TO JOIN IN DESIGNING AND CONSTRUCTING CONNECTION SYSTEMS. ALSO, THE COUNTY MAY CHOOSE TO PARTICIPATE WITH A DEVELOPER IN THE DESIGN AND CONSTRUCTION OF THE CONNECTION SYSTEM.
3. EQUITABLE PARTICIPATION IN THE DESIGN AND CONSTRUCTION OF THE MAJOR DRAINAGEWAY SYSTEM THAT SERVES THE DEVELOPMENT AS DEFINED BY ADOPTED MASTER DRAINAGEWAY PLANS (SECTION 3.4 OF THE ARAPAHOE COUNTY STORMWATER MANAGEMENT MANUAL) OR AS REQUIRED BY THE COUNTY AND DESIGNATED IN THE PHASE III DRAINAGE REPORT.

December 21, 2015 ; Q:\50079191\CAD\CIVIL\FIGURES\9191CVR1.DWG ; TLACEY

CASE NO. L16-002

SPECIFIC NOTES:

STREET LIGHTING

ALL LOTS ARE SUBJECT TO AND BOUND BY TARIFFS WHICH ARE NOW AND MAY IN THE FUTURE BE FILED WITH THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO RELATING TO STREET LIGHTING IN THIS PLAN OR PLAT, TOGETHER WITH RATES, RULES, AND REGULATIONS THEREIN PROVIDED AND SUBJECT TO ALL FUTURE AMENDMENTS AND CHANGES THERETO. THE OWNER OR OWNERS, THEIR SUCCESSORS AND/OR ASSIGNS IN INTEREST, SHALL PAY AS BILLED, A PORTION OF THE COST OF PUBLIC STREET LIGHTING IN THE PLAN OR PLAT ACCORDING TO APPLICABLE RATES, RULES, AND REGULATIONS, INCLUDING FUTURE AMENDMENTS AND CHANGES ON FILE WITH THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO.

STORMWATER MAINTENANCE

THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL PERMANENT BEST MANAGEMENT PRACTICES (BMP'S) AND STORMWATER FACILITIES INSTALLED PURSUANT TO THE SUBDIVISION AGREEMENTS AND THE OPERATIONS AND MAINTENANCE (O AND M) GUIDE IN THE CASE OF PERMANENT BMP'S. REQUIREMENTS INCLUDE, BUT ARE NOT LIMITED TO, MAINTAINING THE SPECIFIED BMP'S CONTAINED IN THE O AND M MANUAL RECORDED AT RECEPTION NUMBER ______________, AND THE STORMWATER FACILITIES SHOWN IN THE APPROVED PHASE III DRAINAGE REPORT AND SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS.

THE OWNERS OF THIS SUBDIVISION, THEIR SUCCESSORS AND/OR ASSIGNS IN INTEREST, OR SOME ENTITY OTHER THAN ARAPAHOE COUNTY, AGREE TO THE RESPONSIBILITY OF MAINTAINING ALL PERMANENT BMP'S AND/OR STORMWATER FACILITIES ASSOCIATED WITH THIS DEVELOPMENT. IF THE PERMANENT BMP'S AND STORMWATER FACILITIES ARE NOT PROPERLY MAINTAINED, THE COUNTY MAY PROVIDE NECESSARY MAINTENANCE AND ASSESS THE MAINTENANCE COST TO THE OWNER OF THE PROPERTY.

WASTEWATER TREATMENT PROCESS PHASING

PHASE 1 TREATMENT PROCESS BASINS WILL BE LOCATED IN THE PHASE 1 PROCESS BUILDING. THE PHASE 4 SITE PLAN AT BUILD-OUT REPRESENTS THE LARGEST FOOTPRINT (WORST CASE) TREATMENT PROCESS. THE METROPOLITAN DISTRICTS WILL DETERMINE THE SELECTED TREATMENT PROCESS FOR FUTURE PHASES AS THE DEMAND OF THE WWTP INCREASES.

LEGAL DESCRIPTION:

A PARCEL OF LAND SITUATED IN THE NW ¼ OF SECTION 1, TOWNSHIP 4 SOUTH, RANGE 65 WEST, OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF ARAPAHOE, STATE OF COLORADO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NW CORNER OF SAID SECTION 1, WHENCE THE N ¼ CORNER OF SAID SECTION 1 BEARS N89°49'24"E A DISTANCE OF 2640.14 FEET, WITH ALL BEARINGS CONTAINED HEREIN RELATIVE TO;
THENCE S76°54'31"E A DISTANCE OF 1749.90 FEET TO THE POINT OF BEGINNING;
THENCE S87°46'14"E A DISTANCE OF 332.44 FEET;
THENCE S24°21'17"W A DISTANCE OF 58.15 FEET;
THENCE S20°55'23"E A DISTANCE OF 53.88 FEET TO A POINT OF NON-TANGENT CURVE;
THENCE ALONG A CURVE TO THE LEFT WHOSE CHORD BEARS S20°55'23"E A DISTANCE OF 59.10 FEET, SAID CURVE HAVING A CENTRAL ANGLE OF 09°56'06", A RADIUS OF 341.25 FEET, AN ARC LENGTH OF 59.17 FEET;
THENCE S20°55'23"E NON-TANGENT TO THE LAST DESCRIBED CURVE A DISTANCE OF 158.97 FEET;
THENCE S32°01'43"E A DISTANCE OF 147.01 FEET;
THENCE S52°47'32"E A DISTANCE OF 42.94 FEET TO A POINT OF NON-TANGENT CURVE;
THENCE ALONG A CURVE TO THE LEFT WHOSE CHORD BEARS S52°47'32"E A DISTANCE OF 31.47 FEET, SAID CURVE HAVING A CENTRAL ANGLE OF 06°06'03", A RADIUS OF 295.64 FEET, AN ARC LENGTH OF 31.48 FEET;
THENCE S52°47'32"E NON-TANGENT TO THE LAST DESCRIBED CURVE A DISTANCE OF 167.18 FEET;
THENCE S40°52'11"E A DISTANCE OF 13.05 FEET;
THENCE S32°02'59"E A DISTANCE OF 202.63 FEET;
THENCE S42°28'07"E A DISTANCE OF 139.69 FEET;
THENCE S04°01'11"W A DISTANCE OF 206.73 FEET;
THENCE S10°20'05"E A DISTANCE OF 98.37 FEET;
THENCE S45°33'17"W A DISTANCE OF 36.78 FEET TO A POINT OF NON–TANGENT CURVE;
THENCE ALONG A CURVE TO THE LEFT WHOSE CHORD BEARS N57°10'32"W A DISTANCE OF 543.41 FEET, SAID CURVE HAVING A CENTRAL ANGLE OF 25°27'37", A RADIUS OF 1233.00 FEET, AN ARC LENGTH OF 547.90 FEET;
THENCE N16°48'09"W NON-TANGENT TO THE LAST DESCRIBED CURVE A DISTANCE OF 393.05 FEET;
THENCE N40°15'48"W A DISTANCE OF 317.16 FEET;
THENCE N16°46'03"W A DISTANCE OF 304.14 FEET TO THE POINT OF BEGINNING.

PARCEL CONTAINS (370,337 SQUARE FEET) 8.5018 ACRES.

CERTIFICATE OF OWNERSHIP

I________________________ HEREBY AFFIRM THAT I AM THE OWNER OR AUTHORIZED AGENT OF ALL INDIVIDUALS HAVING OWNERSHIP INTEREST IN THE PROPERTY DESCRIBED HEREIN, KNOWN AS PROSPER WASTEWATER TREATMENT PLANT CASE NUMBER L16-002.

____

OWNER OF RECORD OR AUTHORIZED AGENT

STATE OF __________________)
) SS
COUNTY OF __________________)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS

_________ DAY OF ______________________, A.D.,20_____

BY ________________ AS ____________________________ OF
______________________________AN AUTHORIZED SIGNATORY.

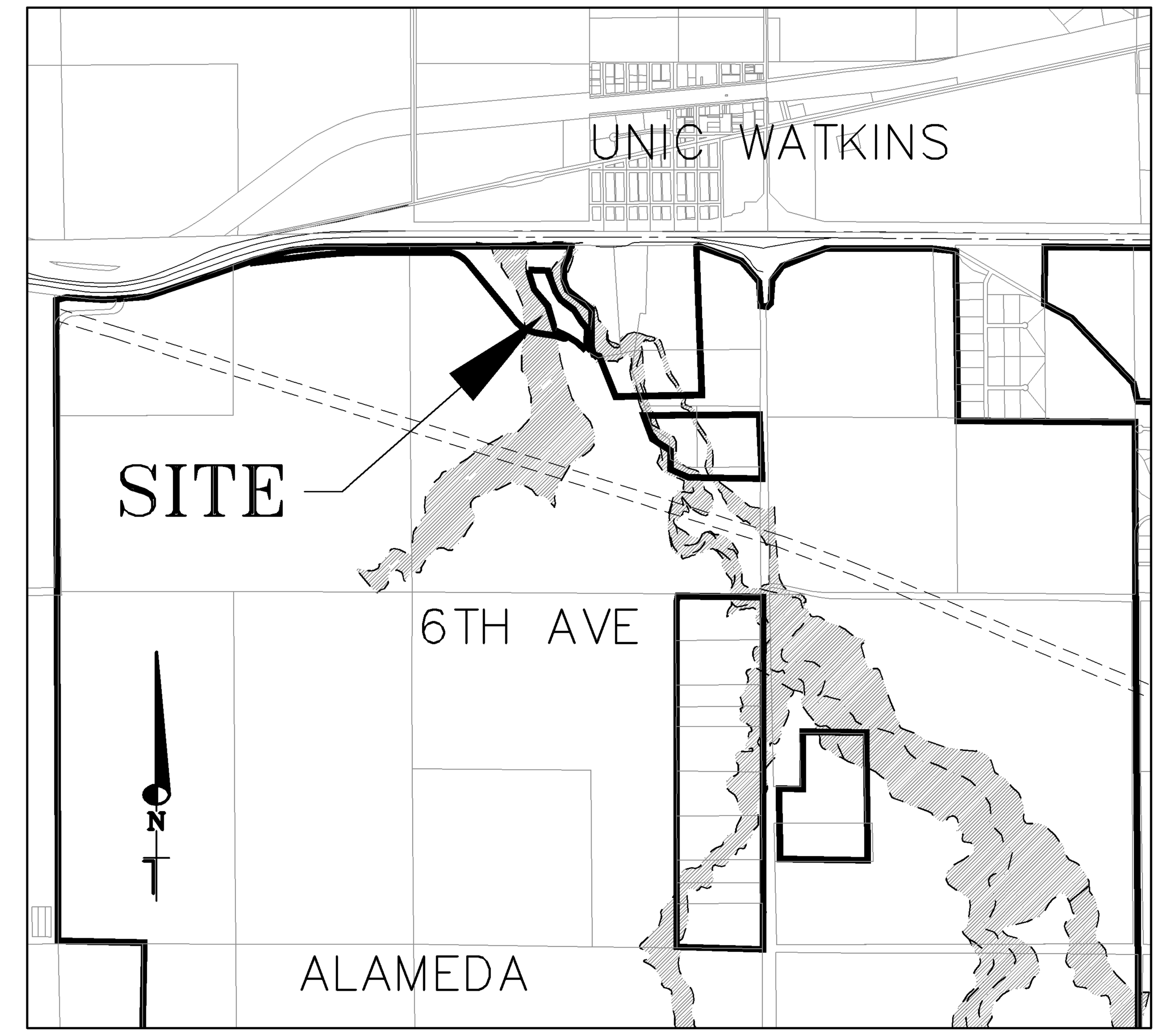
BY______________________ WITNESS MY HAND AND SEAL.
NOTARY PUBLIC

________________________MY COMMISSION EXPIRES ___________

ADDRESS

____

CITY STATE ZIP CODE



VICINITY MAP

SCALE: 1" = 2000'

LIST OF DRAWINGS

SHEET NO.	TITLE
1	COVER
2	PRELIMINARY SITE PLAN
3	GRADING AND DRAINAGE PLAN
4	UTILITY AND PAVING PLAN
5	SITE ANALYSIS
6	LANDSCAPE PLAN
7	LANDSCAPE PLAN DETAILS
8	HEADWORKS BUILDING
9	PROCESS PUMP STATION/BLOWER BUILDING
10	UV BUILDING
11	DIGESTER BLOWER BUILDING
12	AEROBIC DIGESTERS
13	SOLIDS HANDLING BUILDING
14	ADMINISTRATION BUILDING
15	MAINTENANCE SHOP

PLANNING COMMISSION APPROVAL

APPROVED BY THE ARAPAHOE COUNTY PLANNING COMMISSION ON THIS _____ DAY OF ____________ ____ A.D., 20____.

CHAIR: ____________________________

BOARD OF COUNTY COMMISSIONERS APPROVAL

APPROVED BY THE ARAPAHOE COUNTY BOARD OF COMMISSIONERS ON THIS _____ DAY OF ____ ____ A.D., 20____.

CHAIR: ____________________________

ATTEST: ____________________________

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Dewberry Engineers Inc.
990 S. BROADWAY, SUITE 400
Denver, Colorado 80209
(303) 825-1802

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CORE ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS (HORIZONTAL AND VERTICAL). THE EXISTING UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS, HOWEVER, THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.

REVISIONS

#	DESCRIPTION	DATE	BY
B	INITIAL COUNTY REVIEW COMMENTS	05/13/16	SR
C	COUNTY REVIEW COMMENTS_RND. 2	07/01/16	SR

PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

PROSPER, COLORADO
WASTEWATER TREATMENT PLANT
COVER

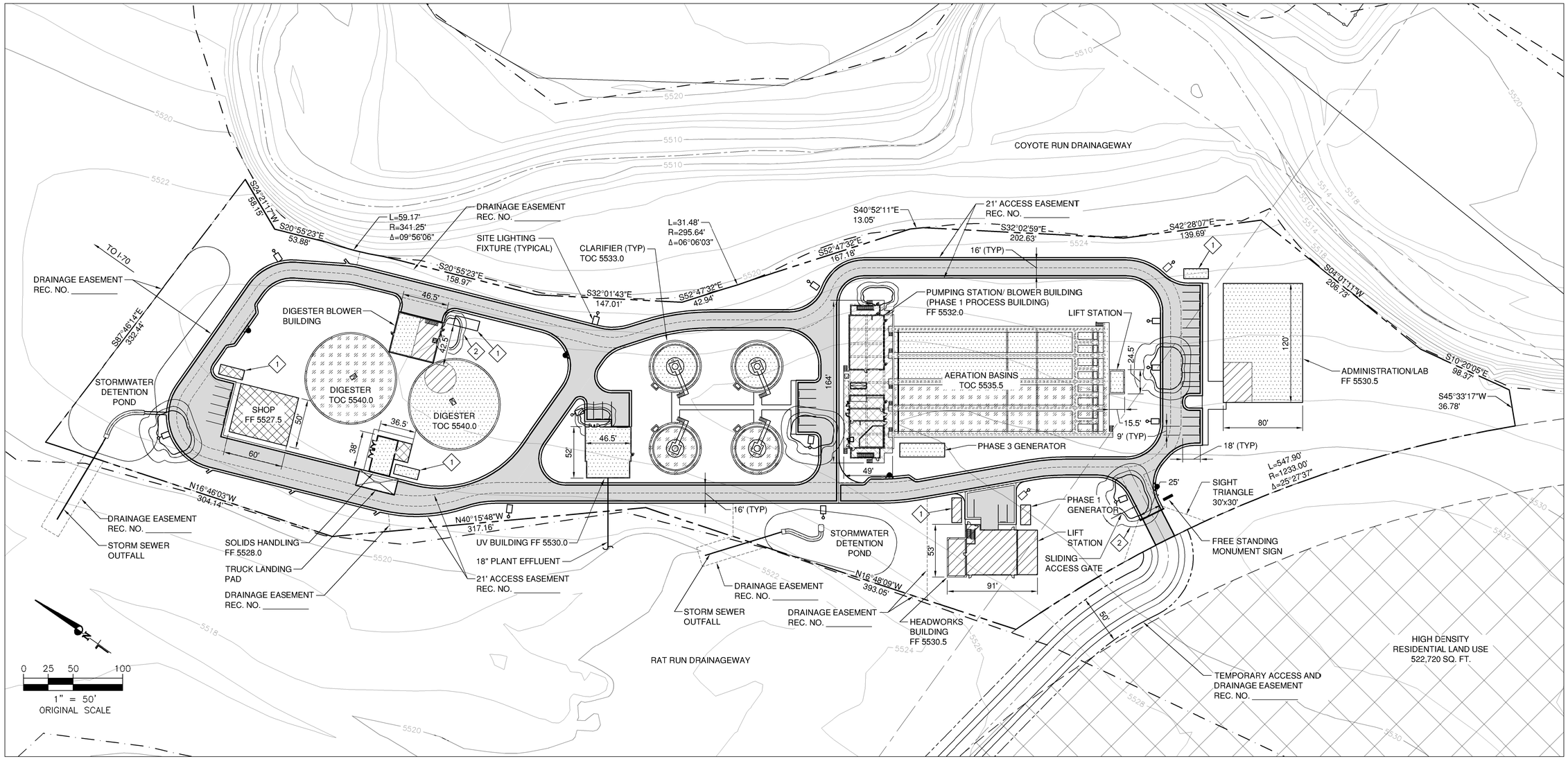
INITIAL PLAN RELEASE: ________
DESIGNED BY: SMR
DRAWN BY: TWL
CHECKED BY: ______

JOB NO. 50079191

SHEET 1 OF 15

LOCATION AND EXTENT
PROSPER WASTEWATER TREATMENT PLANT

LOT 1, BLOCK 1, PROSPER WWTP SUBDIVISION EXEMPTION
COUNTY OF ARAPAHOE, STATE OF COLORADO



GENERAL NOTES:

1. BENCHMARK: ARAPAHOE COUNTY BM010101 - 3 1/4" DIAMETER ALUMINUM CAP 300' SOUTH OF NORTH WATKINS MILE ROAD AND INTERSTATE HIGHWAY 70 ON EAST SIDE. ELEVATION: 5538.35 FEET (NAVD 1988 DATUM).
2. BEARINGS ARE BASED ON THE NORTH LINE OF THE NW ¼ OF SECTION 1, TOWNSHIP 4 SOUTH, RANGE 64 WEST, OF THE 6TH PRINCIPAL MERIDIAN BEARING N 89°49'24" E.
3. THE WWTP SITE IS APPROXIMATELY 370,337 SQ. FT. AND IS ZONED SPECIFICALLY FOR THE WWTP.
4. SITE LIGHTING FIXTURES SHALL BE LIGHT EMITTING DIODE (LED), MINIMUM 80 LUMENS PER WATT. SITE FIXTURES SHALL BE ON MULTIPLE CIRCUITS AND HAVE DIMMABLE AND CONTROLLABLE LUMEN OUTPUT IN ADDITION TO AUTOMATIC CONTROL VIA COMBINED PHOTOCELL AND MOTION DETECTOR. FIXTURES ARE SHOWN REPRESENTATIONAL OF PROPOSED LOCATIONS BUT NOT TO SCALE, FOR EASE OF VISIBILITY ON SHEET.
5. THE EXISTING WASTEWATER TREATMENT PLANT ZONING IS MU-PUD.
6. THE WWTP ACCESS ROAD AND ALL ON-SITE ROADS WILL BE ASPHALT SURFACING.

THERE A TOTAL OF 34 PARKING SPACES ON THE WWTP SITE.

BUILDING HEIGHTS AND AREAS:

BUILDING	HEIGHT (FT.)	AREA (SQ. FT.)
ADMIN/LAB	20	9,600
AERATION BASINS	8	23,492
HEADWORKS	20	3,246
PUMPING STATION	25	5,335
CLARIFIERS	7	8,714
UV/REUSE	20	2,382
DIGESTER BLOWER	25	1,976
DIGESTERS	15	13,489
SOLIDS HANDLING	20	1,121
SHOP	25	3,000

LAND USE AREAS:

LAND USE	AREA (SQ. FT.)
WWTP	72,355
ROADWAYS	69,614
PARKING	6,134
LANDSCAPING	202,096
STORMWATER DETENTION	20,138
TOTAL AREA	370,337

PHASE DESIGNATIONS:

PHASE 1
PHASE 2
PHASE 3
PHASE 4

LEGEND:

FIRE HYDRANT
SITE LIGHTING FIXTURE
PROPERTY LINE
100-YR FLOODPLAIN
EASEMENT

NOTE:
PHASE 1 TREATMENT PROCESS BASINS WILL BE LOCATED IN THE PHASE 1 PROCESS BUILDING. THE PHASE 4 SITE PLAN AT BUILD-OUT REPRESENTS THE LARGEST FOOTPRINT (WORST CASE) TREATMENT PROCESS. THE METROPOLITAN DISTRICTS WILL DETERMINE THE SELECTED TREATMENT PROCESS FOR FUTURE PHASES AS THE DEMAND OF THE WWTP INCREASES.

KEY NOTES:

1. OUTDOOR WASTE DISPOSAL SYSTEMS.
2. LIGHTING GRADIENT (TYPICAL). LIGHTING GRADIENTS SHOWN FOR VARIOUS CONFIGURATIONS. PHOTOMETRIC DATA: INNERMOST GRADIENT = 1 FOOTCANDLE. MIDDLE GRADIENT = 0.5 FOOTCANDLE. OUTERMOST GRADIENT = 0.1 FOOTCANDLE. PHOTOMETRIC DATA IS BASED ON MOUNTING HEIGHT OF 12'-0" FOR SITE LIGHTING AND 8'-0" FOR WALL MOUNTED FIXTURES.

CASE NO. L16-002

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Denver, Colorado 80209
(303) 825-1802

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR DISTURB THE GROUND IN THE VICINITY OF UNDERGROUND MEMBER UTILITIES.
Know what's below. Call before you dig. 811
CONE ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS (HORIZONTAL AND VERTICAL). THE EXISTING UTILITIES SHOWN ARE BASED ON AVAILABLE RECORDS OBTAINED FROM THE BEST AVAILABLE INFORMATION. IT IS, HOWEVER, THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.

REVISIONS

#	DESCRIPTION	DATE	BY
B	INITIAL COUNTY REVIEW COMMENTS	06/10/16	SR
C	COUNTY REVIEW COMMENTS_RND. 2	07/01/16	SR

PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT
PROSPER, COLORADO
WASTEWATER TREATMENT PLANT
PRELIMINARY SITE PLAN

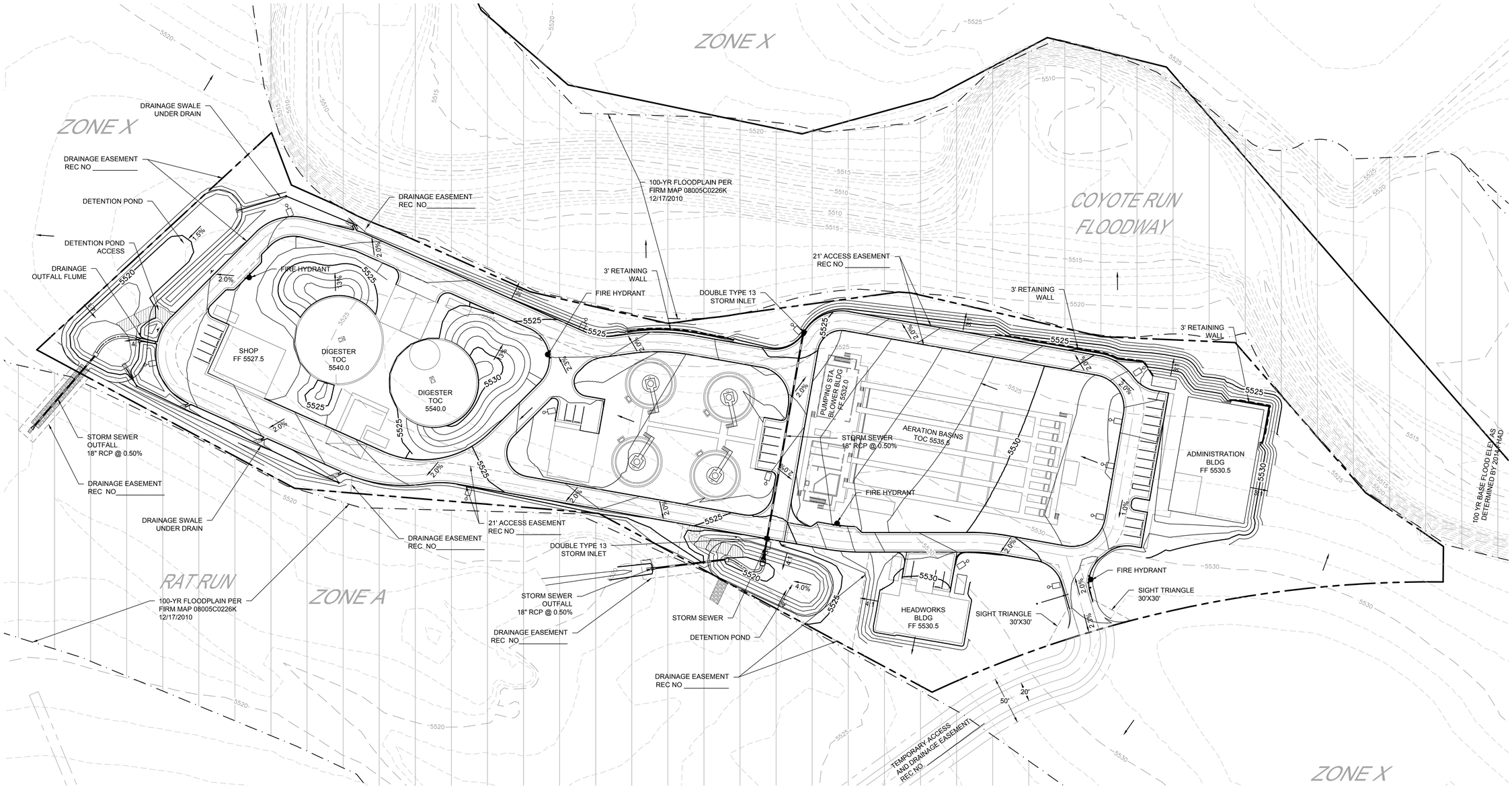
INITIAL PLAN RELEASE: _____
DESIGNED BY: SMR
DRAWN BY: TWL
CHECKED BY: _____

JOB NO. 50079191

SHEET 2 OF 15

LOCATION AND EXTENT
PROSPER WASTEWATER TREATMENT PLANT

LOT 1, BLOCK 1. PROSPER WWTP SUBDIVISION EXEMPTION
COUNTY OF ARAPAHOE, STATE OF COLORADO



LEGEND

- MANHOLE and PIPE
- INLET
- FLARED END SECTION
- PROPERTY BOUNDARY LINE
- LIMITS OF CONSTRUCTION
- 6360 MAJOR CONTOUR
- MINOR CONTOUR
- 6340 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR

0 50' 100'
1 inch = 50 ft.

PREPARED BY:

CORE CONSULTANTS

CIVIL ENGINEERING
DEVELOPMENT CONSULTING
LAND SURVEYING
303.703.4444
1950 W. Littleton Blvd., Ste. 109
Littleton, CO 80120

CASE NO. L16–002

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Dewberry Engineers Inc.
990 S. BROADWAY, SUITE 400
Denver, Colorado 80209
(303) 825–1802

Know what's below. Call before you dig. 811
CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU BEGIN EXCAVATION TO HAVE THE LOCATION OF UNDERGROUND MEMBER UTILITIES.
CORE ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS (HORIZONTAL AND VERTICAL). THE EXISTING UTILITIES SHOWN ON THE PLAN WERE PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS, HOWEVER, THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITES.

REVISIONS

#	DESCRIPTION	DATE	BY
1	COUNTY REVIEW COMMENTS	8/25/16	MM

PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT
PROSPER, COLORADO
WASTEWATER TREATMENT PLANT
GRADING & DRAINAGE PLAN

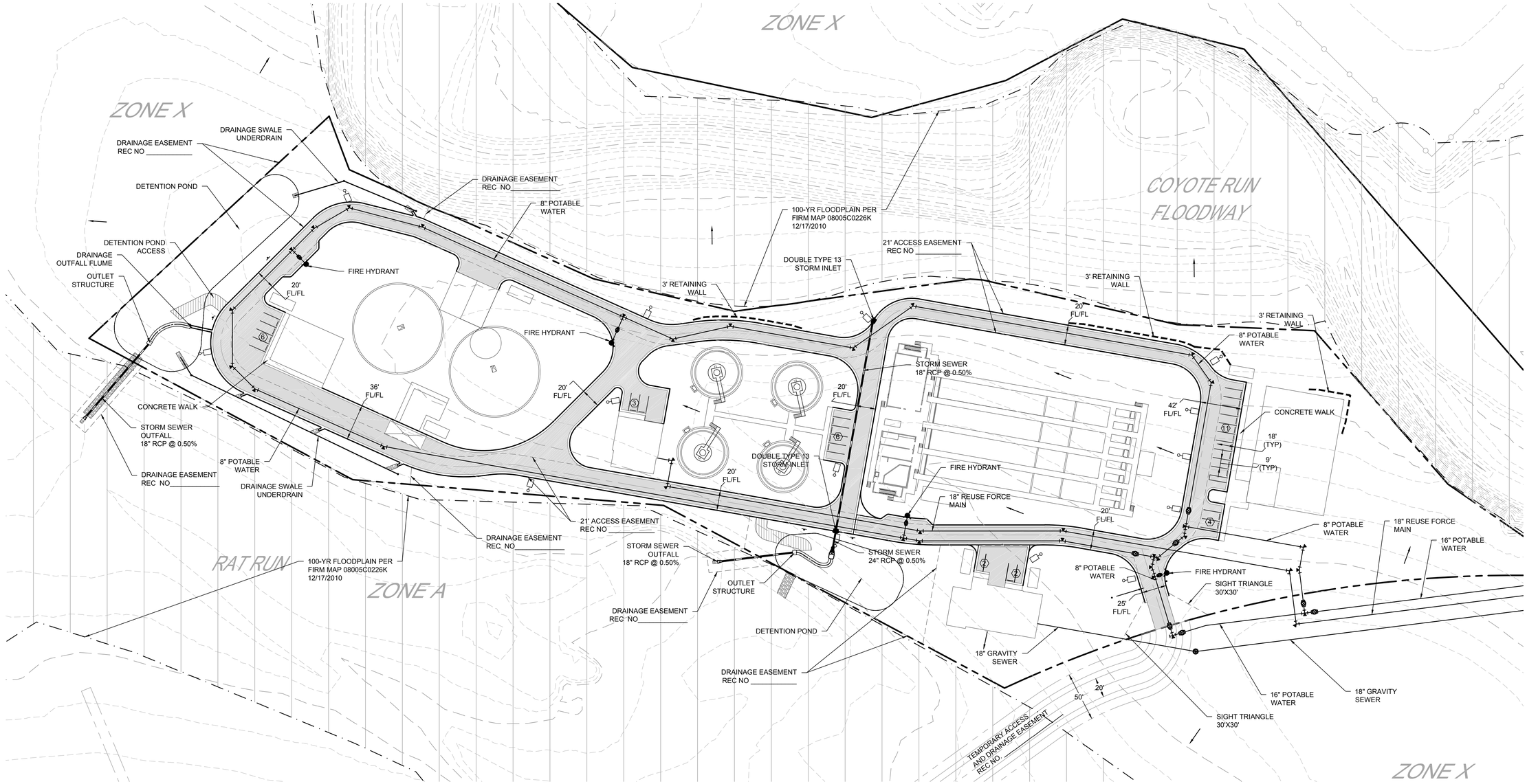
INITIAL PLAN
RELEASE: MM
DESIGNED BY: 5/13/16
DRAWN BY: MM
CHECKED BY: MM

JOB NO. 11-012

SHEET 3 OF 15

LOCATION AND EXTENT
PROSPER WASTEWATER TREATMENT PLANT

LOT 1, BLOCK 1. PROSPER WWTP SUBDIVISION EXEMPTION
COUNTY OF ARAPAHOE, STATE OF COLORADO



LEGEND:

SANITARY SEWER
- GRAVITY SEWER PIPE with MANHOLE

WATER
- POTABLE WATER MAIN
- REUSE WATER LINE
- WATER VALVE
- FIRE HYDRANT
- BEND and THRUST BLOCK

STORM DRAIN
- MANHOLE and PIPE
- 10' TYPE R SUMP INLET
- FLARED END SECTION
- EASEMENT
- PROPERTY BOUNDARY LINE
- LIGHT POLE
- PARKING SPACE COUNT
- ASPHALT PAVEMENT
- CLASS 6 ROADBASE

0 50' 100'
1 inch = 50 ft.

PREPARED BY:

CORE CONSULTANTS
CIVIL ENGINEERING
DEVELOPMENT CONSULTING
LAND SURVEYING
303.703.4444
1950 W. Littleton Blvd., Ste. 109
Littleton, CO 80120

CASE NO. L16-002

Dewberry®
Dewberry Engineers Inc.
990 S. BROADWAY, SUITE 400
Denver, Colorado 80209
(303) 825-1802

Know what's below. Call before you dig. 811
CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.
CDOT ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS (HORIZONTAL AND VERTICAL). THE EXISTING UTILITIES SHOWN ON THE PLANS WERE PLOTTED FROM FIELD MAPS OBTAINED FROM THE BEST AVAILABLE INFORMATION. IT IS, HOWEVER, THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITES.

REVISIONS

#	DESCRIPTION	DATE	BY
1	COUNTY REVIEW COMMENTS	08/25/16	MM

PROSPER REGIONAL WATER & SANITATION
SERVICE METROPOLITAN DISTRICT
PROSPER, COLORADO
WASTEWATER TREATMENT PLANT
UTILITY & PAVING PLAN

INITIAL PLAN
RELEASE: 5/13/16
DESIGNED BY: MM
DRAWN BY: MM
CHECKED BY: MM

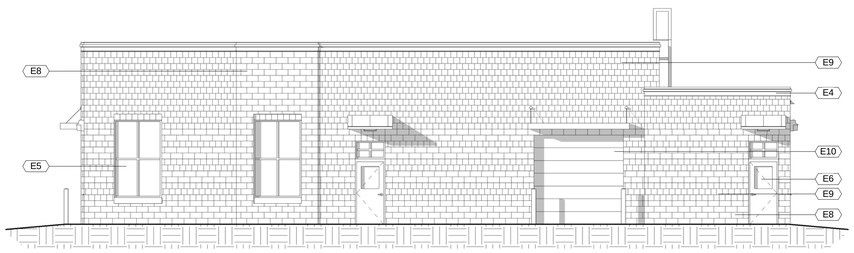
JOB NO. 11-012

SHEET 4 OF 15

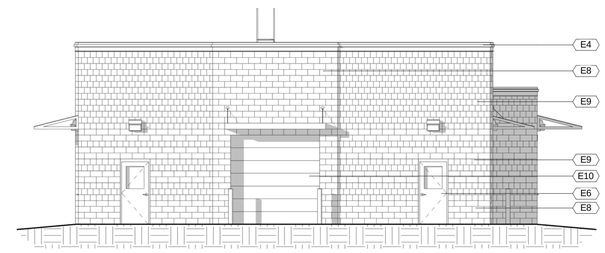
LOCATION AND EXTENT
PROSPER WASTEWATER TREATMENT PLANT

LOT 1, BLOCK 1, PROSPER WWTP SUBDIVISION EXEMPTION
COUNTY OF ARAPAHOE, STATE OF COLORADO

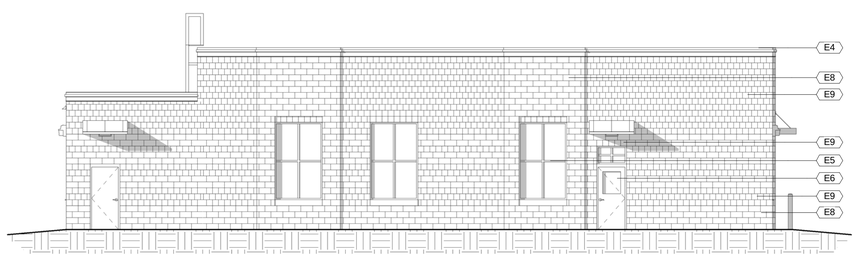
ELEVATION KEYED NOTES	
NOTE	DESCRIPTION
E1	LAPPED SIDING PANELS
E2	CORRUGATED METAL PANELS
E3	STACKED STONE
E4	METAL FASCIA
E5	ALUMINUM STOREFRONT
E6	HOLLOW METAL DOOR & FRAME
E7	FACE BRICK
E8	CMU - 8X16
E9	CMU - 8X8
E10	OVERHEAD COILING DOOR
E11	EQUIPMENT SCREEN
E12	METAL CLADDING



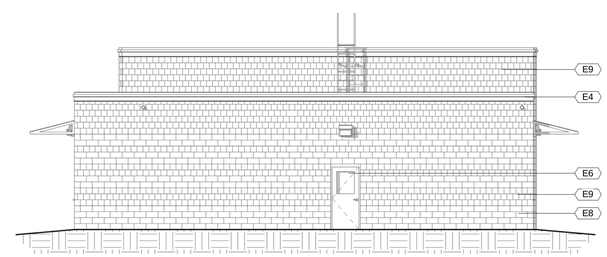
A NORTH ELEVATION
Scale: 1/8" = 1'-0"



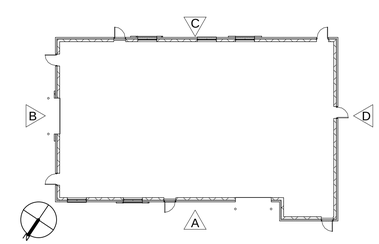
B EAST ELEVATION
Scale: 1/8" = 1'-0"



C SOUTH ELEVATION
Scale: 1/8" = 1'-0"



D WEST ELEVATION
Scale: 1/8" = 1'-0"



CASE NO L16-002

8/24/2016
4:02:06 PM

Dewberry
Dewberry Engineers Inc.
990 S. BROADWAY, SUITE 400
Denver, Colorado 80209
(303) 825-1802

Know what's below. Call before you dig.
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR DEMOLISH FOR THE LOCATING OF UNDERGROUND PETROLEUM UTILITIES
811
CONTRACTOR IS RESPONSIBLE FOR ISOLATING UTILITY LOCATIONS (HORIZONTAL AND VERTICAL) THE EXISTING UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS NOT THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.

REVISIONS

#	DESCRIPTION	DATE	BY
B	INITIAL COUNTY REVIEW COMMENTS	5/31/16	WL
C	COUNTY REVIEW COMMENTS-ROUND 2	7/27/16	WL

PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT
PROSPER, COLORADO
WASTEWATER TREATMENT PLANT
A-1000 HEADWORKS BUILDING

INITIAL PLAN
RELEASE: 2013.05.01
DESIGNED BY:
DRAWN BY: WL
CHECKED BY:

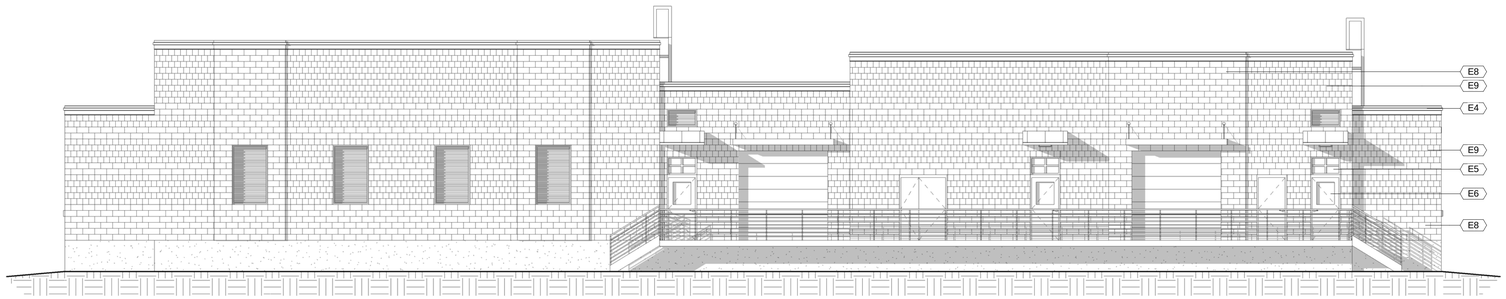
JOB NO.
50079191

SHEET
8 OF 15

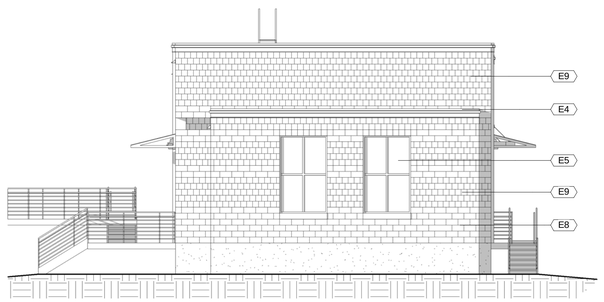
LOCATION AND EXTENT
PROSPER WASTEWATER TREATMENT PLANT

LOT 1, BLOCK 1, PROSPER WWTP SUBDIVISION EXEMPTION
COUNTY OF ARAPAHOE, STATE OF COLORADO

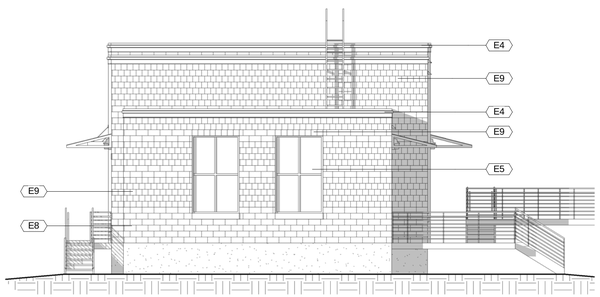
ELEVATION KEYED NOTES	
NOTE	DESCRIPTION
E1	LAPPED SIDING PANELS
E2	CORRUGATED METAL PANELS
E3	STACKED STONE
E4	METAL FASCIA
E5	ALUMINUM STOREFRONT
E6	HOLLOW METAL DOOR & FRAME
E7	FACE BRICK
E8	CMU - 8X16
E9	CMU - 8X8
E10	OVERHEAD COILING DOOR
E11	EQUIPMENT SCREEN
E12	METAL CLADDING



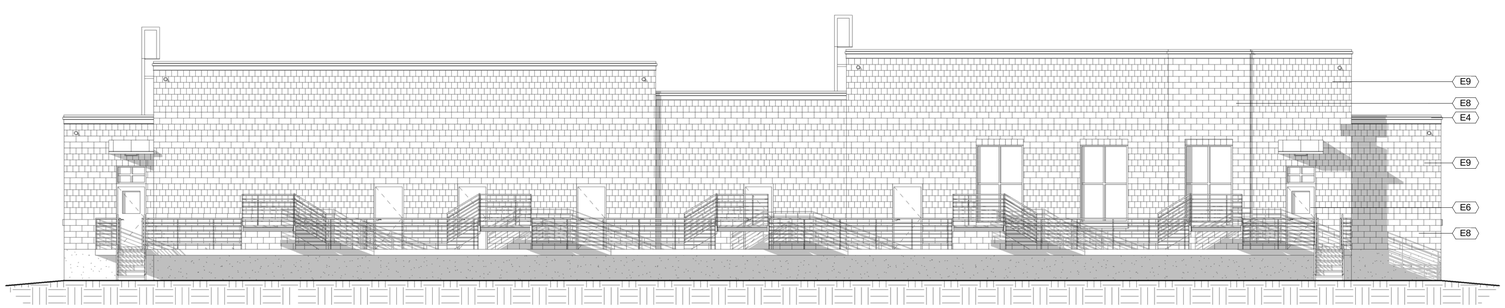
A NORTH ELEVATION
Scale: 1/8" = 1'-0"



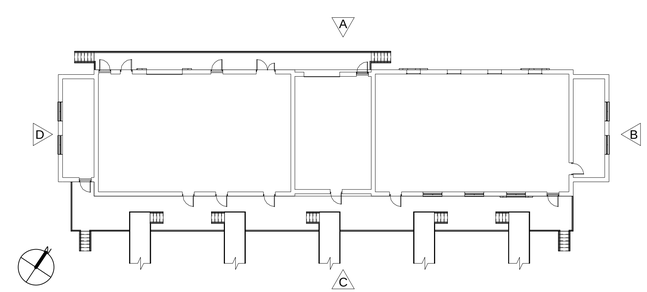
B EAST ELEVATION
Scale: 1/8" = 1'-0"



C WEST ELEVATION
Scale: 1/8" = 1'-0"



D SOUTH ELEVATION
Scale: 1/8" = 1'-0"



CASE NO L16-002

8/24/2016
4:02:18 PM

Dewberry
Dewberry Engineers Inc.
990 S. BROADWAY, SUITE 400
Denver, Colorado 80209
(303) 825-1802

Know what's below. Call before you dig.
811
CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR DEMOLISH FOR THE MARKING OF UNDERGROUND FACILITIES.
CONTRACTOR IS RESPONSIBLE FOR EXISTING UTILITY LOCATIONS (HORIZONTAL AND VERTICAL) THE EXISTING UTILITIES SHOWN ON THE DRAWINGS HAVE BEEN PLOTTED FROM RECORD DRAWINGS AND ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.

REVISIONS

#	DESCRIPTION	DATE	BY
B	FINAL COUNTY REVIEW COMMENTS	05/13/16	WL
C	COUNTY REVIEW COMMENTS-SECOND	07/07/16	WL

PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT
PROSPER, COLORADO
WASTEWATER TREATMENT PLANT
A-4000 PROCESS PUMP STATION/ BLOWER BUILDING

INITIAL PLAN
RELEASE: 2013.05.01
DESIGNED BY:
DRAWN BY: WL
CHECKED BY:

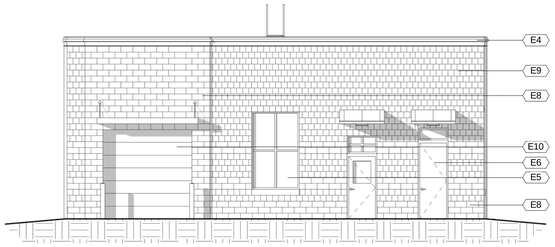
JOB NO.
50079191

SHEET
9 OF 15

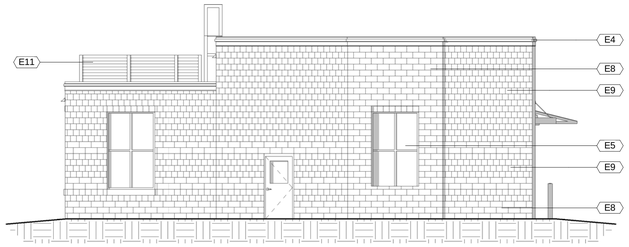
LOCATION AND EXTENT
PROSPER WASTEWATER TREATMENT PLANT

LOT 1, BLOCK 1, PROSPER WWTP SUBDIVISION EXEMPTION
COUNTY OF ARAPAHOE, STATE OF COLORADO

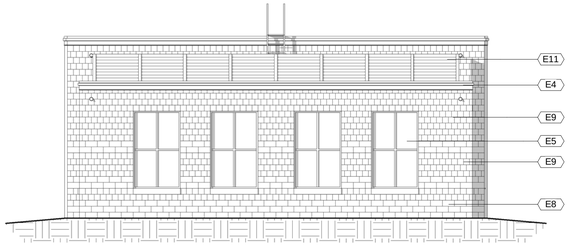
ELEVATION KEYED NOTES	
NOTE	DESCRIPTION
E1	LAPPED SIDING PANELS
E2	CORRUGATED METAL PANELS
E3	STACKED STONE
E4	METAL FASCIA
E5	ALUMINUM STOREFRONT
E6	HOLLOW METAL DOOR & FRAME
E7	FACE BRICK
E8	CMU - 8X16
E9	CMU - 8X8
E10	OVERHEAD COILING DOOR
E11	EQUIPMENT SCREEN
E12	METAL CLADDING



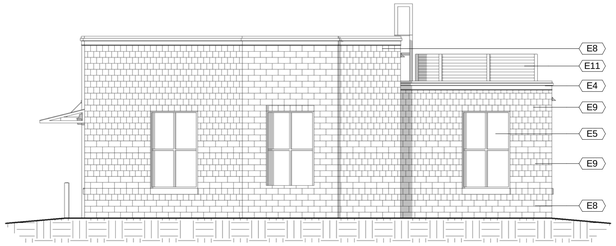
A SOUTH ELEVATION
Scale: 1/8" = 1'-0"



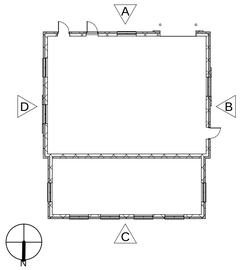
B WEST ELEVATION
Scale: 1/8" = 1'-0"



C NORTH ELEVATION
Scale: 1/8" = 1'-0"



D EAST ELEVATION
Scale: 1/8" = 1'-0"



CASE NO L16-002

8/24/2016
4:02:26 PM

Dewberry
Dewberry Engineers Inc.
990 S. BROADWAY, SUITE 400
Denver, Colorado 80209
(303) 825-1802

Know what's below. Call before you dig.
CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR DEMOLISH FOR THE LOCATING OF UNDERGROUND UTILITIES
811
CONSEQUENCES AND RESPONSIBILITY FOR DISTURBING UTILITY LOCATIONS HORIZONTAL AND VERTICAL) THE EXISTING UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM RECORDS OBTAINED FROM THE UTILITY OWNERS. THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.

REVISIONS

#	DESCRIPTION	DATE	BY
B	INITIAL COUNTY REVIEW COMMENTS	05/20/16	WL
C	COUNTY REVIEW COMMENTS-ROUND 2	07/07/16	WL

PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT
PROSPER, COLORADO
WASTEWATER TREATMENT PLANT
A-7000 UV BUILDING

INITIAL PLAN
RELEASE: 2013.05.01
DESIGNED BY:
DRAWN BY: WL
CHECKED BY:

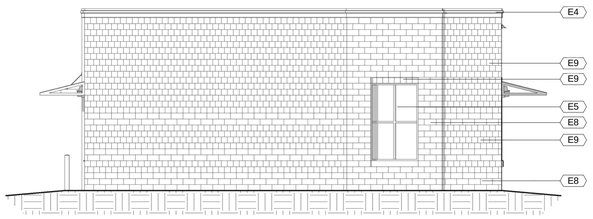
JOB NO.
50079191

SHEET
10 OF 15

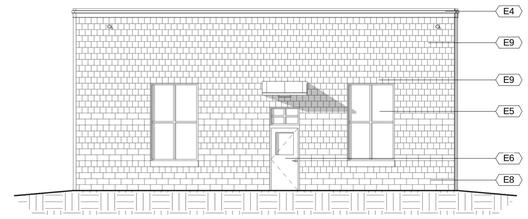
LOCATION AND EXTENT
PROSPER WASTEWATER TREATMENT PLANT

LOT 1, BLOCK 1, PROSPER WWTP SUBDIVISION EXEMPTION
COUNTY OF ARAPAHOE, STATE OF COLORADO

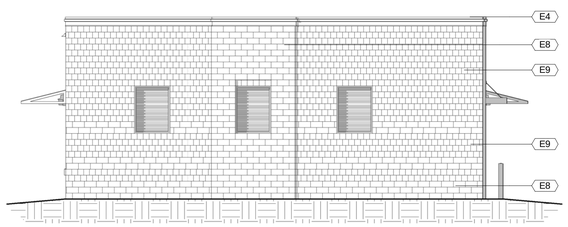
ELEVATION KEYED NOTES	
NOTE	DESCRIPTION
E1	LAPPED SIDING PANELS
E2	CORRUGATED METAL PANELS
E3	STACKED STONE
E4	METAL FASCIA
E5	ALUMINUM STOREFRONT
E6	HOLLOW METAL DOOR & FRAME
E7	FACE BRICK
E8	CMU - 8X16
E9	CMU - 8X8
E10	OVERHEAD COILING DOOR
E11	EQUIPMENT SCREEN
E12	METAL CLADDING



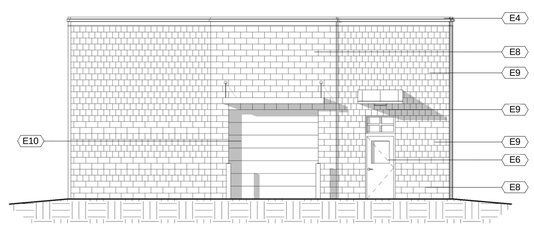
A EAST ELEVATION
Scale: 1/8" = 1'-0"



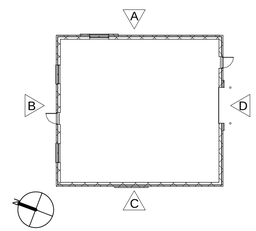
B NORTH ELEVATION
Scale: 1/8" = 1'-0"



C WEST ELEVATION
Scale: 1/8" = 1'-0"



D SOUTH ELEVATION
Scale: 1/8" = 1'-0"



CASE NO L16-002

8/24/2016
4:02:34 PM

Dewberry
Dewberry Engineers Inc.
990 S. BROADWAY, SUITE 400
Denver, Colorado 80209
(303) 825-1802

Know what's below. Call before you dig.
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR DEMOLISH FOR THE LOCATION OF UNDERGROUND UTILITIES
811
CONCESSIONS NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS (HORIZONTAL AND VERTICAL). THE EXISTING UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE SOURCE OF INFORMATION. THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.

REVISIONS

#	DESCRIPTION	DATE	BY
B	INITIAL COUNTY REVIEW COMMENTS	05/20/16	WL
C	COUNTY REVIEW COMMENTS--ROUND 2	07/07/16	WL

PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT
PROSPER, COLORADO
WASTEWATER TREATMENT PLANT
A-8000 DIGESTER BLOWER BUILDING

INITIAL PLAN
RELEASE: 2013.05.01
DESIGNED BY:
DRAWN BY: WL
CHECKED BY:

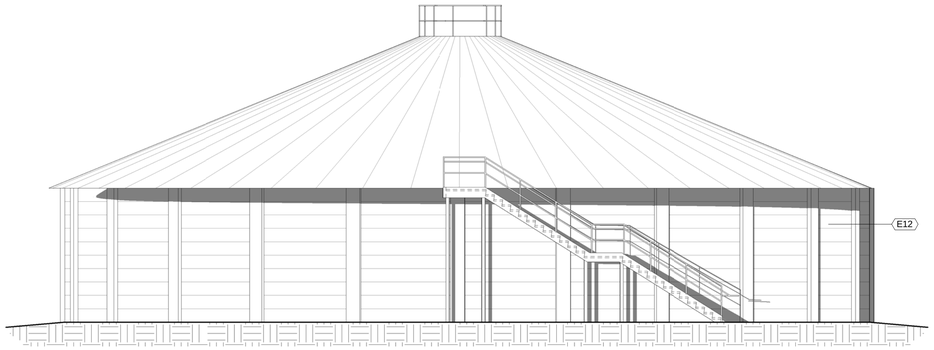
JOB NO.
50079191

SHEET
11 OF 15

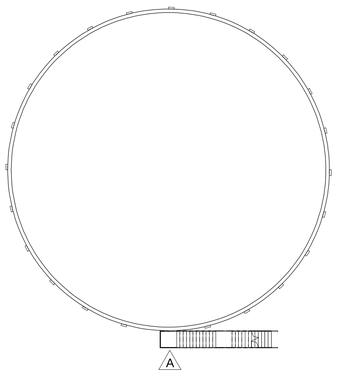
LOCATION AND EXTENT
PROSPER WASTEWATER TREATMENT PLANT

LOT 1, BLOCK 1, PROSPER WWTP SUBDIVISION EXEMPTION
COUNTY OF ARAPAHOE, STATE OF COLORADO

ELEVATION KEYED NOTES	
NOTE	DESCRIPTION
E1	LAPPED SIDING PANELS
E2	CORRUGATED METAL PANELS
E3	STACKED STONE
E4	METAL FASCIA
E5	ALUMINUM STOREFRONT
E6	HOLLOW METAL DOOR & FRAME
E7	FACE BRICK
E8	CMU - 8X16
E9	CMU - 8X8
E10	OVERHEAD COILING DOOR
E11	EQUIPMENT SCREEN
E12	METAL CLADDING



A AEROBIC DIGESTER ELEVATION
Scale: 1/8" = 1'-0"



CASE NO L16-002

8/24/2016
4:02:38 PM

Dewberry
Dewberry Engineers Inc.
990 S. BROADWAY, SUITE 400
Denver, Colorado 80209
(303) 825-1802

Know what's below. Call before you dig. 811

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR DEMOLISH FOR THE MARKING OF UNDERGROUND FACILITIES.

CONSULTANT IS NO RESPONSIBILITY FOR EXISTING UTILITY LOCATION (HORIZONTAL AND VERTICAL). THE EXISTING UTILITIES SHOWN ON THE DRAWING HAVE BEEN PLOTTED FROM THE BEST DATA AVAILABLE. IT IS NOT THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.

REVISIONS

#	DESCRIPTION	DATE	BY
B	INITIAL COUNTY REVIEW COMMENTS	05/09/16	WL
C	COUNTY REVIEW COMMENTS-ROUND 2	07/07/16	WL

PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT
PROSPER, COLORADO
WASTEWATER TREATMENT PLANT
A-8100 AEROBIC DIGESTERS

INITIAL PLAN
RELEASE: 2013.05.01
DESIGNED BY:
DRAWN BY: WL
CHECKED BY:

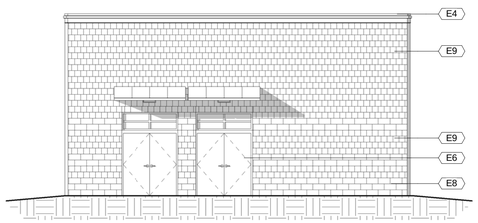
JOB NO.
50079191

SHEET
12 OF 15

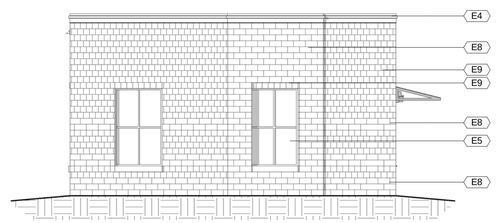
LOCATION AND EXTENT
PROSPER WASTEWATER TREATMENT PLANT

LOT 1, BLOCK 1, PROSPER WWTP SUBDIVISION EXEMPTION
COUNTY OF ARAPAHOE, STATE OF COLORADO

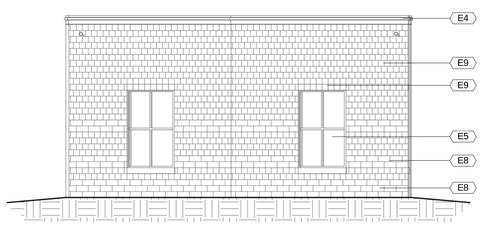
ELEVATION KEYED NOTES	
NOTE	DESCRIPTION
E1	LAPPED SIDING PANELS
E2	CORRUGATED METAL PANELS
E3	STACKED STONE
E4	METAL FASCIA
E5	ALUMINUM STOREFRONT
E6	HOLLOW METAL DOOR & FRAME
E7	FACE BRICK
E8	CMU - 8X16
E9	CMU - 8X8
E10	OVERHEAD COILING DOOR
E11	EQUIPMENT SCREEN
E12	METAL CLADDING



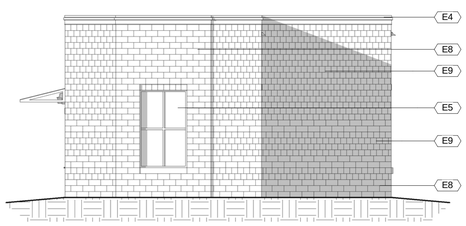
A WEST ELEVATION
Scale: 1/8" = 1'-0"



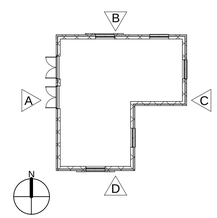
B NORTH ELEVATION
Scale: 1/8" = 1'-0"



C EAST ELEVATION
Scale: 1/8" = 1'-0"



D SOUTH ELEVATION
Scale: 1/8" = 1'-0"



CASE NO L16-002

8/24/2016
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REVISIONS

#	DESCRIPTION	DATE	BY
B	INITIAL COUNTY REVIEW COMMENTS	05/20/16	WL
C	COUNTY REVIEW COMMENTS--ROUND 2	07/07/16	WL

PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT
PROSPER, COLORADO
WASTEWATER TREATMENT PLANT
A-8500 SOLIDS HANDLING BUILDING

INITIAL PLAN
RELEASE: 2013.05.01
DESIGNED BY:
DRAWN BY: WL
CHECKED BY:

JOB NO.
50079191

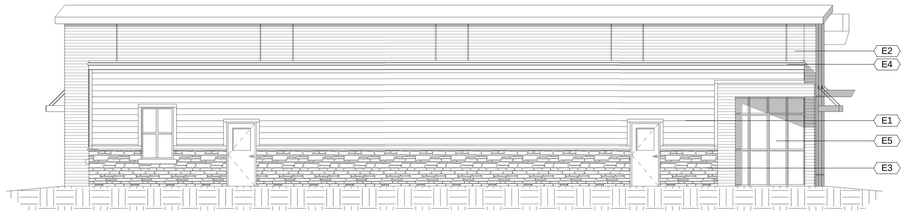
SHEET
13 OF 15

LOCATION AND EXTENT
PROSPER WASTEWATER TREATMENT PLANT

LOT 1, BLOCK 1, PROSPER WWTP SUBDIVISION EXEMPTION
COUNTY OF ARAPAHOE, STATE OF COLORADO

ELEVATION KEYED NOTES	
NOTE	DESCRIPTION
E1	LAPPED SIDING PANELS
E2	CORRUGATED METAL PANELS
E3	STACKED STONE
E4	METAL FASCIA
E5	ALUMINUM STOREFRONT
E6	HOLLOW METAL DOOR & FRAME
E7	FACE BRICK
E8	CMU - 8X16
E9	CMU - 8X8
E10	OVERHEAD COILING DOOR
E11	EQUIPMENT SCREEN
E12	METAL CLADDING

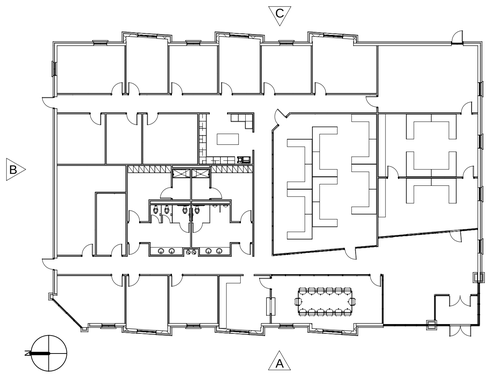
A WEST ELEVATION
Scale: 1/8" = 1'-0"



B SOUTH ELEVATION
Scale: 1/8" = 1'-0"

C EAST ELEVATION
Scale: 1/8" = 1'-0"

D EAST ELEVATION
Scale: 1/8" = 1'-0"



CASE NO L16-002

8/24/2016
4:09:11 PM

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REVISIONS

#	DESCRIPTION	DATE	BY
B	INITIAL COUNTY REVIEW COMMENTS	05/20/16	WL
C	COUNTY REVIEW COMMENTS-ROUND 2	07/07/16	WL

PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT
PROSPER, COLORADO
WASTEWATER TREATMENT PLANT
A-9000 ADMINISTRATION BUILDING

INITIAL PLAN
RELEASE: 2013.05.01
DESIGNED BY:
DRAWN BY: WL
CHECKED BY:

JOB NO.
50079191

SHEET
14 OF 15

LOCATION AND EXTENT
PROSPER WASTEWATER TREATMENT PLANT

LOT 1, BLOCK 1, PROSPER WWTP SUBDIVISION EXEMPTION
COUNTY OF ARAPAHOE, STATE OF COLORADO

ELEVATION KEYED NOTES	
NOTE	DESCRIPTION
E1	LAPPED SIDING PANELS
E2	CORRUGATED METAL PANELS
E3	STACKED STONE
E4	METAL FASCIA
E5	ALUMINUM STOREFRONT
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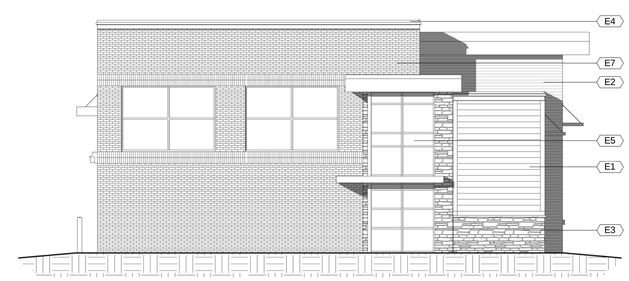
E10	OVERHEAD COILING DOOR
E11	EQUIPMENT SCREEN
E12	METAL CLADDING

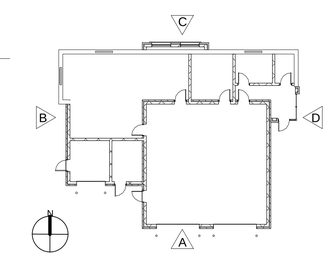
A SOUTH ELEVATION
Scale: 1/8" = 1'-0"

B WEST ELEVATION
Scale: 1/8" = 1'-0"

C NORTH ELEVATION
Scale: 1/8" = 1'-0"



D EAST ELEVATION
Scale: 1/8" = 1'-0"



CASE NO L16-002

8/24/2016
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REVISIONS

#	DESCRIPTION	DATE	BY
B	FINAL COUNTY REVIEW COMMENTS	03/04/16	WL
C	COUNTY REVIEW COMMENTS-ROUND 2	07/01/16	WL

PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT
PROSPER, COLORADO
WASTEWATER TREATMENT PLANT
A-9500 MAINTENANCE SHOP

INITIAL PLAN
RELEASE: 2013.05.01
DESIGNED BY:
DRAWN BY: WL
CHECKED BY:

JOB NO.
50079191

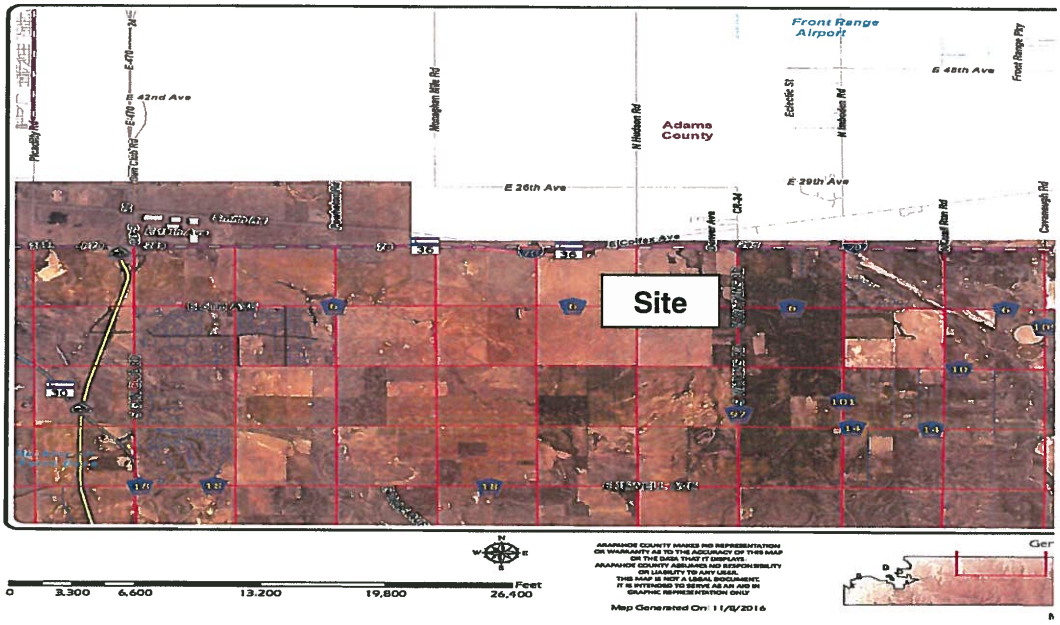
SHEET
15 OF 15

ARAPAHOE COUNTY PLANNING COMMISSION
PUBLIC HEARING
November 22, 2016
6:30 PM

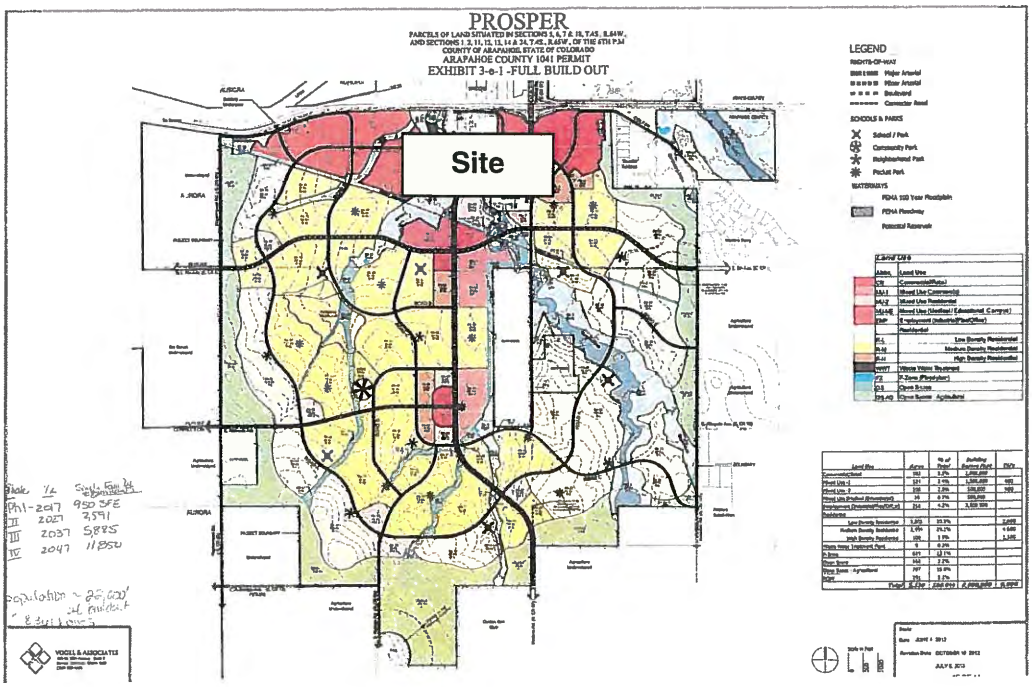
SUBJECT: ASI16-001 – 1041 PERMIT: PROSPER WASTEWATER TREATMENT PLANT.

J. SHERMAN FEHER, SENIOR PLANNER **November 10, 2016**

VICINITY: This proposal is in Commissioner's District #3. The site is located south of I-70 and approximately 2000 feet west of Watkins Road.



Vicinity Map



Zoning Map

ADJACENT SUBDIVISIONS, ZONING, AND LAND USES (IN ARAPAHOE COUNTY:

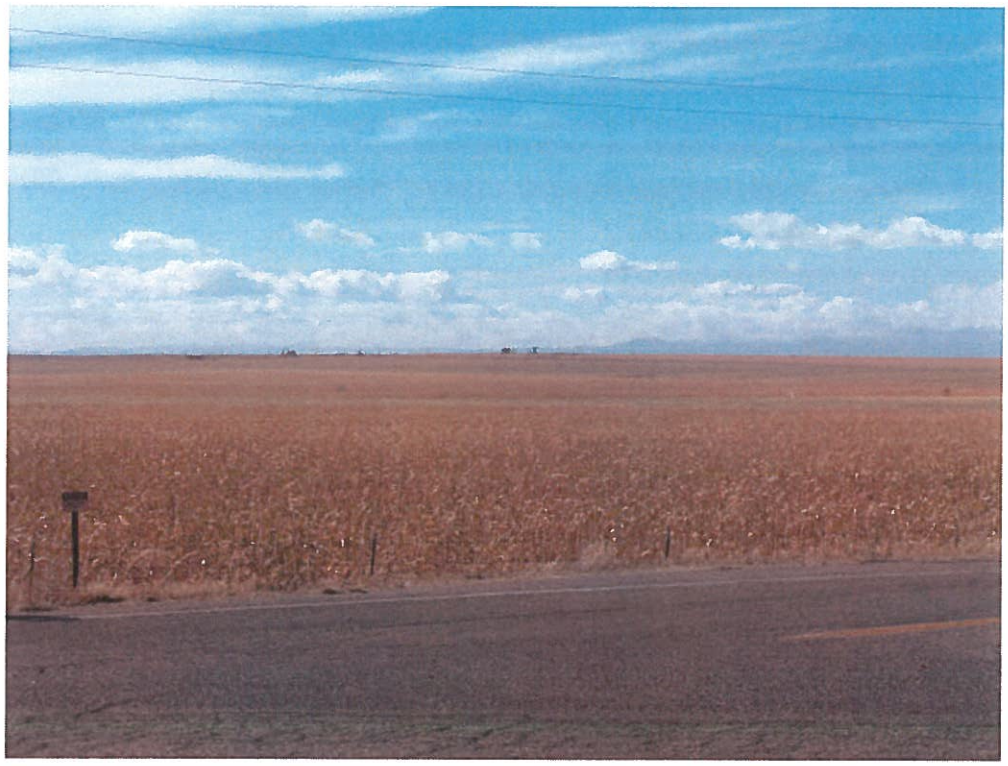
North - None; MU-PUD; Agriculture

South - None; MU-PUD; Agriculture

East - None; MU_PUD; Agriculture

West - None; MU_PUD; Agriculture

Looking South Over WWTP Site



Looking SW Over WWTP Site

PROPOSAL:

The applicant, Prosper Regional Water and Sanitation Service Metropolitan District, is requesting approval for a 1041 Permit known as the Prosper Wastewater Treatment Plant. The applicant desires to construct a wastewater treatment plant to serve the Prosper development.

This 1041 Permit case for "Site selection and construction of major new.....sewage treatment systems" is being done in conjunction with a Location and Extent (L&E) case. Both of these cases will be heard by the Planning Commission. The Planning Commission will make the final decision on the L&E case and make a recommendation to the BOCC for the 1041 Permit case. The BOCC will make the final decision on the 1041 Permit case. The Location and Extent case primarily reviews the general location and overall extent of the project. The 1041 Permit case reviews environmental and socio-economic factors that are related to the project. There is also a Subdivision Exemption case for the property where the wastewater treatment plant will be located. The Subdivision Exemption case will be heard by the BOCC.

RECOMMENDATIONS AND FINDINGS:

Staff: Staff recommends that the 1041 Permit application be APPROVED, subject to the findings and conditions of approval outlined herein.

I. BACKGROUND

The current zoning for the Prosper development is MU-PUD. The Prosper PDP identifies the proposed site for the wastewater treatment plant as the location for the wastewater treatment plant.

II. DISCUSSION

Comprehensive Plan:

The Comprehensive Plan designation for this area is in Tier 1 of the Planning Reserve. The Planning Reserve is creating a reserve of vacant land to accommodate future uses/development. Tier 1 is envisioned as the first area of development along the I-70 Corridor. One of the goals for Public Facilities and Services is Goal PFS1 IS TO "Plan for Adequate Public Facilities and Service in Growth Areas." As such, this proposed wastewater treatment plant is allowed by the Comprehensive Plan land use designation of Tier 1 of the Planning Reserve and is supported by the Goal for adequate public facilities.

1041 Permit Submittal Requirements:

The applicant has complied with all of the submittal requirements outlined in Section IIIC and IIIE in the 1041 regulations.

Referral Comments:

The following are referral comments, as well as the applicant's response to the comments (in italics).

Engineering Services	-	Comments on Engineering studies, Subdivision Improvement Agreement, and Urban Drainage comments. *The applicant has addressed or will address these comments. The remaining items will be conditions of approval.*
Mapping	-	No comments.
Zoning Administrator	-	Comments on landscaping. *Applicant has addressed or will address comments.*
Open Spaces	-	No response.
Weed Control		No response.
Sheriff's Department		No comments.
Bennett Fire District	-	Comments regarding fire suppression, roads, hazardous materials, Knox key access etc. *Applicant responded to referral comments; see applicant's comments that are part of this Planning Commission packet.*
City of Aurora		Comment on Prosper Development, floodplain mapping and Metro Wastewater Reclamation District. *Applicant responded to referral comments; see applicant's comments that are part of this Planning Commission packet.*
Colorado Parks & Wildlife	-	No response.
Army Corps of Engineers	-	No response.
Assessor's Office	-	No response.
West Arapahoe Conservation District		No response.
Tri-County Health	-	Comment on site application and utility plan, floodplains, dust and odor, and setbacks etc. *Applicant responded to referral comments; see applicant's comments that are part of this Planning Commission packet.*

REAP		No comments.
Xcel Energy	-	Add utility easements to Preliminary and Final Plats. *Comments noted.*
East End Advisory Committee	-	Janet Cook had "No comments"; No response from other members.
Urban Drainage		Comments on drainage issues and concerns. *The applicant has addressed or will address these comments. The remaining items will be conditions of approval.*

Approval Criteria

The 1041 Permit approval criteria for a Wastewater Treatment Plant/Sewage Plant shall comply with the criteria set forth in the 1041 Regulations, Part V, Sections A and B, along with Appendix A. All of these criteria shall be used in determining whether such 1041 Permit should be approved.

Ordinance Review and Additional Background Information

A permit may be approved if the proposed activity complies with the following general criteria. In determining whether the proposed activity complies with the criteria, the Planning Commission and Board of County Commissioners may take into consideration, the construction, operation and cumulative impacts of the proposed activity.

A. General Approval Criteria [See applicant's response to approval criteria in page 3 of the 1041 application report. Staff response to approval criteria in italics below]

1. Documentation that prior to site disturbance associated with the Proposed Project, the applicant can and will obtain all necessary property rights, permits and approvals. The Board may, at its discretion, defer making a final decision on the application until outstanding property rights, permits and approvals are obtained.

   The applicant can and will obtain all necessary property rights, permits and approvals prior to construction.

2. The Proposed Project considers the relevant provisions of the regional water quality plans.

   There are no regional water quality plans for this area.

3. The applicant has the necessary expertise and financial capability to develop and operate the Proposed Project consistent with all requirements and conditions.

   The applicant has provided the Planning Division with some general information that shows that Prosper Water and Wastewater District has the expertise and the financial capability to develop the Proposed Project.

4. The Proposed Project is technically and financially feasible.

   The applicant has conducted studies that indicate that the Proposed Project is technically and financially feasible.

5. The Proposed Project is not subject to significant risk from natural hazards.

   The applicant will design the Proposed Project to minimize the risks from natural hazards, such as high winds and floods.

6. The Proposed Project is in general conformity with the applicable comprehensive plans.

   The Proposed Project is in general conformity with the Arapahoe County Comprehensive Plan which allows for Public Facilities and Services in "Tier 1/Planning Reserve" designated areas of the County.

7. The Proposed Project will not have a significant adverse effect on the capability of local government to provide services or exceed the capacity of service delivery systems.

   This Proposed Project is anticipated to have minimal impacts on provision of services from Arapahoe County and other special districts.

8. The Proposed Project will not create an undue financial burden on existing or future residents of the County.

   This Proposed Project will be financed as part of the metro district and will have minimal demand for public services in Arapahoe County.

9. The Proposed Project will not significantly degrade any substantial sector of the local economy.

   The Proposed Project has been designed to minimize the effects on the agricultural sector.

10. The Proposed Project will not unduly degrade the quality or quantity of recreational opportunities and experience.

The Proposed Project will not unduly degrade the quality or quantity of recreational opportunities and experience in the area because it covers a relatively small area of the Prosper development which has other areas that are designated for recreation.

11. The planning, design and operation of the Proposed Project will reflect principles of resource conservation, energy efficiency and recycling or reuse.

    The Proposed Project is designed to minimize adverse impacts to resources.

12. The Proposed Project will not significantly degrade the environment. Appendix "A" includes the considerations that will be used to determine whether there will be significant degradation of the environment. For purposes of this section, the term environment shall include:
    a. Air quality.
    b. Visual quality.
    c. Surface water quality.
    d. Groundwater quality.
    e. Wetlands, flood plains, streambed meander limits, recharge areas, and riparian areas.
    f. Terrestrial and aquatic animal life.
    g. Terrestrial and aquatic plant life.
    h. Soils and geologic conditions.

    The analysis of the submitted application and referral comments has determined that the Proposed Project has no significant environmental impacts. The applicant has sited and designed the Project to minimize environmental impacts.

13. The Proposed Project will not cause a nuisance.

    The Proposed Project will not cause undue nuisances outside of the WWTP area.

14. The Proposed Project will not significantly degrade areas of paleontological, historic, or archaeological importance.

    The Proposed Project appears to not degrade any areas of paleontological, historic, or archaeological importance in the Project area.

15. The Proposed Project will not result in unreasonable risk of releases of hazardous materials. In making this determination as to such risk, the Board's consideration shall include:

a. Plans for compliance with Federal and State handling, storage, disposal and transportation requirements.

The applicant will comply with Federal and State hazardous materials regulations.

b. Use of waste minimization techniques.

The applicant will use waste minimization techniques.

c. Adequacy of spill prevention and response plans. The applicant intends to comply with all local, state, and federal laws and regulations related to hazardous materials, including spill prevention and response plans.

The applicant intends to comply with all regulations related to hazardous materials, including spill prevention and response plans.

16. The benefits accruing to the County and its citizens from the proposed activity outweigh the losses of any resources within the County, or the losses of opportunities to develop such resources.

This Proposed Project enhances the productive use of resources within the County.

17. The Proposed Project is the best alternative available based on consideration of need, existing technology, cost, impact and these regulations.

Per the discussion in the alternatives section of the applicant's 1041 application, the applicant has generally chosen the best overall alternative.

18. The Proposed Project will not unduly degrade the quality or quantity of agricultural activities.

The Proposed Project will not significantly degrade the quality or quantity of agricultural activities.

19. The Proposed Project will not significantly interfere with the preservation of cultural resources, including historical structures and sites, agricultural resources, the rural lifestyle and the opportunity for solitude in the natural environment.

The Proposed Project will not significantly interfere with any of the above-mentioned cultural resources criteria.

20. The Proposed Project will not cause significant degradation of land-use patterns in the area around the Proposed Project.

    The Proposed Project will not cause significant degradation of land-use patterns in the area.

21. The applicant has complied with all applicable provisions of these regulations and has paid all applicable fees.

    The applicant has sought to comply with all applicable 1041 Permit regulations and has paid a deposit that will apply towards the fees.

B. <u>Additional Criteria Applicable to Wastewater Treatment Plant/Sewage Plant</u>

In addition to the general criteria set forth in Section V, Part A of the 1041 Permit Regulations, above, the following additional criteria shall apply to major water and sewer projects.

1. To the extent practicable, Domestic Water and Wastewater Treatment Systems shall be consolidated with existing facilities within the area. The determination of whether consolidation is practicable shall include but not be limited to the following considerations:
    a. Distance to and capacity of nearest Domestic Water or Wastewater Treatment System.
    b. Technical, legal, managerial and financial feasibility of connecting to existing Domestic Water or Wastewater Treatment System.
    c. Scope of the Service Area for existing Domestic Water or Wastewater Treatment.
    d. Projected growth and development in the Service Area of existing Domestic Water or Wastewater Treatment System.

    It does not appear that the Proposed Project can easily be consolidated with other existing facilities with the area based on the criteria provided above.

2. The Proposed project will not result in duplicative services within the County.

    The Proposed Project will not result in duplicative services in this area of the County.

3. The Proposed Project will be constructed in areas that will result in the proper utilization of existing treatment plants and the orderly development of domestic water and sewage treatment systems of adjacent communities.

   The Proposed Project will generally result in the proper utilization of existing treatment plants and the orderly development of treatment systems of adjacent communities.

4. If the Proposed Project is designed to serve areas within the County, it is necessary that the Proposed Project meet community development and population demands in those areas.

   The Proposed Project is designed to serve areas that will meet community development and population demands in those areas.

5. The Proposed Project shall emphasize the most efficient use of water, including, to the extent permissible under existing law, the recycling, reuse and conservation of water.

   The Proposed Project will emphasize the efficient use of water through recycling and conservation of water.

6. The Applicant shall demonstrate sufficient managerial expertise and capacity to operate the facility.

   The Applicant has generally demonstrated sufficient managerial expertise to operate the facility.

7. Major extensions of domestic water and sewage treatment systems shall be permitted in those areas in which the anticipated growth and development that may occur as the result of such extension can be accommodated within the financial and environmental capacity of the area to sustain such growth and development.

   The Proposed Project is not a major extension of domestic water and sewage treatment systems but is proposed to service only the Prosper development.

III. STAFF FINDINGS: 1041 PERMIT

Staff has visited the site and has reviewed the plans and supporting documentation and referral comments, as well as citizen input in response to this application. Based upon review of the Comprehensive Plan, development regulations, and analysis of referral comments, our findings include:

1. The proposed 1041 Permit application is in conformance with the Arapahoe County Comprehensive Plan, in that it provides for development of public facilities and services within the "Tier 1/Planning Reserve" Land Use Area.
2. The proposed 1041 Permit application appears to be consistent with Arapahoe County 1041 Permit Regulations.
3. This application appears to meet all of the approval criteria for this 1041 Permit application, provided all of the conditions of approval are met.
4. The Applicant needs to obtain a permit to construct and operate a wastewater treatment plant from the Colorado Department of Public Health and Environment.
5. There are a number of Engineering and Urban Drainage comments that need to be addressed.

IV. RECOMMENDATION FOR 1041 PERMIT:

Considering the findings and other information provided herein, staff recommends approval of the 1041 Permit, case number, ASI16-001, for the Prosper Wastewater Treatment Plant, subject to the following:

1. The applicant makes any modifications to plans, as requested by the Public Works & Development Department, prior to any construction is started on this project.
2. The applicant agrees to address all Engineering Services Division comments and concerns as identified within their staff reports, prior to construction.
3. The Applicant will obtain a permit to construct and operate a wastewater treatment plant from the Colorado Department of Public Health and Environment prior to construction of the wastewater treatment plant.
4. The applicant agrees to address comments issued by the Urban Drainage and Flood Control District (UDFCD).
5. The applicant will execute a Subdivision Improvement Agreement.

This is based upon:

- The proposal is in conformance with the Arapahoe County Comprehensive Plan.
- The proposal is in conformance with Arapahoe County Land Development Code, specifically the 1041 Permit Regulations.

V. DRAFT MOTIONS FOR 1041 PERMIT:

A. APPROVAL: In the case of ASI16-001 – Prosper Wastewater Treatment Plant case, we have read the staff report and received testimony at the public hearing. We find ourselves in agreement with staff findings for the 1041 Permit application including all plans and attachments as set forth in the staff report dated November 10, 2016, and recommend approval to the BOCC, subject to the following conditions:

1. The applicant makes any modifications to plans, as requested by the Public Works & Development Department, prior to any construction is started on this project.
2. The applicant agrees to address all Engineering Services Division comments and concerns as identified within their staff reports, prior to construction.
3. The Applicant will obtain a permit to construct and operate a wastewater treatment plant from the Colorado Department of Public Health and Environment prior to construction of the wastewater treatment plant.
4. The applicant agrees to address comments issued by the Urban Drainage and Flood Control District (UDFCD).
5. The applicant will execute a Subdivision Improvement Agreement.

B. DENIAL *(This recommendation would not be consistent with the Staff recommendation. Any alternate motion must include new findings and conditions in support of the motion for Approval where those differ from the Staff-recommended findings and conditions)*:

In the case of ASI16-001, Prosper Wastewater Treatment Plant 1041 Permit, we have read the staff report and received testimony at the public hearing. We find ourselves not in agreement with staff findings regarding the draft plan and attachments as set forth in the staff report dated November 10, 2016, and recommend the Board of County Commissioners DENY the request for approval of the 1041 Permit.

Findings:

1. *State new or amended findings to support Planning Commission recommendation of "Denial" as part of the motion.*
2.

C. CONTINUE: In the case of ASI16-0001, Prosper Wastewater Treatment Plant 1041 Permit, I move to continue the decision on this request to [DATE], 2016, date certain, at 6:30 p.m., at this same location [to receive further information] [to further consider information presented during the hearing].

Attachments
Application, for 1041 Permit
Referral Comments
Engineering Staff Report

Arapahoe County Colorado's First	Public Works and Development 6924 S. Lima Street Centennial, Colorado 80112 Phone: 720-874-6650 www.arapahoegov.com	**Land Development Application** Form must be complete Land Development Application materials received after 2pm shall be date stamped received the following working day

APPLICANT/REPRESENTATIVE: Vogel & Associates LLC	ADDRESS: 475 West 12th Ave, Suite E Denver, CO 80204 PHONE: 303.893.4288 FAX: 303.893.6792 EMAIL: jvogel@vogelassoc.com	SIGNATURE: NAME: Jeffrey B. Vogel Principal TITLE:
OWNER(S) OF RECORD: VREI, Inc.	ADDRESS: 5641 N Broadway Denver, CO 80215 PHONE: 303.566.8000 FAX: 303.566.8099 EMAIL:	SIGNATURE: NAME: Greg Ruegsegger Vice President TITLE:
ENGINEERING FIRM: Dewberry Engineers Inc.	ADDRESS: 990 S Broadway, Suite 400, Denver, CO 80209 PHONE: 303.951.0614 FAX: 303.825.2322 EMAIL: apratt@dewberry.com	CONTACT PERSON: Alan Pratt, PE

Pre-Submittal Case Number: Q15-103 Pre-Submittal Planner: Sherman Fehrer Pre-Submittal Engineer: Sarah Whit

Parcel ID no. (AIN no.)	1977-00-0-00-418
Parcel Address or Cross Streets:	Interstate 70 and Watkins Road
Subdivision Name & Filing No.:	None
Related Case Numbers: (Preliminary/Final Development Plan, Rezoning, and / or Plat)	Latest Approved Zoning - Z12-010 also, Z12-100 & S14-001

	EXISTING	PROPOSED
Zoning:	PUD - Waste Water Treatment	PUD - Wastewater Treatment Plant
Case/Project/Subdivision Name:	None	Prosper WWTP
Site Area (Acres):		8.22
Floor Area Ratio (FAR):		0.18
Density (Dwelling Units/Acre):		N/A
Building Square Footage:		66.450 (includes basins)
Disturbed Area (Acres):		

CASE TYPE (Administrative Case types are shaded in Gray)

☐ Preliminary Development Plan or Major Amendment ☐	☐ Location & Extent or Major Amendment ☐	☐ Administrative Site Plan	☐ Preliminary Plat
☐ Master Development Plan or Major Amendment ☐	☐ Rezoning - Conventional	☐ Administrative Amendment to _____(PDP, FDP, etc.)	☐ Final Plat
☐ Final Development Plan or Major Amendment ☐	☐ Land Development Code Amendment	☐ Technical Amendment to _____(PDP, FDP, etc.)	☐ Minor Subdivision
☐ Planned Sign Program or Major Amendment ☐	☐ Use by Special Review or Major Amendment ☐	☐ Commercial Mobile Radio Service (CMRS/cellular antennas)	☐ Subdivision Exemption
☐ Vacation of Right of Way/Easement/Plat	☐ Use by Special Review – Oil and Gas	☐ Plat Correction	☐ Replat (Major)
☑ 1041 – Areas & Activities of State Interest – Use by Special Review ☐	☐ Special District Title 30 ☐ Title 32 ☐	☐ Administrative Oil & Gas Use by Special Review (AOGUSR)	☐ Administrative Replat
☐ Comprehensive Plan	☐ Rural Cluster	☐ Street Name Change	☐ _____

THIS SECTION FOR OFFICE USE ONLY

Case No:		Planning Manager:		Engineering Manager:	

Planning Fee:	Y	N	$	Engineering Fee:	Y	N	$	TCHD Fee? ☐	$

This application shall be submitted with all applicable application fees. Submittal of this application does not establish a vested property right in accordance with C.R.S. 24-68-105(1). Processing and review of this application may require the submittal of additional information, subsequent reviews, and/or meetings, as outlined in the Arapahoe County Land Development Code.

Dewberry

Dewberry Engineers Inc.
990 South Broadway, Suite 400
Denver, CO 80209

303.825.1802
303.825.2322 fax
www.dewberry.com

December 21, 2015

Arapahoe County Public Works & Development
Planning Division
6924 S Lima Street
Centennial, CO 80112

Re: Prosper Development Wastewater Treatment Facility Letter of Intent

Dear Public Works & Development:

Our company, Dewberry Engineers Inc., on behalf of the property owner, Prosper Farms Investment LLC, is proposing a project within unincorporated Arapahoe County. The project is located in between Hayesmount Road and N Watkins Road just south of interstate 70 in the north portion of parcel #035150836. This project includes 8.22 acres and is currently zoned Prosper PDP WWTP.

As referenced in the Prosper Preliminary Development Plan (PDP) and 1041 Permit, the intent is to construct a Waste Water Treatment Plant (WWTP) to serve the Prosper community. The WWTP will be located within Planning Area 71 of the Prosper PDP. The proposed building structures include an administration/lab, headworks, pumping station, UV/reuse water, digester blower, solids handling, and maintenance shop.

Based on previous discussions, it is our understanding that a 1041 Permit and Location and Extents application will have to be processed and approved. It is the intent to schedule a pre-submittal meeting to discuss and review in greater detail the process and respective submittal requirements.

Developer contact information:
Vogel & Associates
Jeff Vogel, AICP, Principal
475 W 12th Ave, Suite E
Denver, CO 80204
Phone: (303) 893-4288
Email: jvogel@vogelassoc.com

Sincerely,
Dewberry Engineers Inc.

Patrick Radabaugh, PE
Project Manager

ARAPAHOE COUNTY
COLORADO'S FIRST

Planning Commission
Engineering Summary Report

Date: November 10, 2016

To: Arapahoe County Planning Commissioners

Via: Sherman Feher, Planning Division

From: Sarah White, Engineering Services Division

Re: **Prosper Wastewater Treatment Plant (WWTP)**
ASI16-001 1041 Permit
L16-002 Location & Extent
X16-001 Subdivision Exemption

Purpose and Recommendation

The purpose of this report is to provide the Engineering Services Division Staff findings, comments, and recommendations regarding the above-referenced land use application(s).

Scope/Location:

Dewberry Engineers Inc., on behalf of owners VREI, Inc., is requesting approval of the 1041, Location & Extent and Subdivision Exemption for the development of the Prosper Wastewater Treatment Plant (WWTP). The proposed development is generally located within the area known as 'Prosper', south of Interstate 70, east of N. Watkins Road and north of E 6th Avenue. The proposal is for a wastewater treatment plant on approximately 9 acres. The site is proposed to be built in 4 phases based on the future development of Prosper.

The site is located within the Box Elder Creek drainage basin. Phase I development will utilize a temporary access road (reference Arapahoe County Case No. E16-029) until the permanent public road is built out as per the Prosper PDP (case no. Z12-100).

Referenced Referral Items

1041
L&E Exhibit
Subdivision Exemption
Drainage Report
Construction Drawings
O&M Manual
GESC Plans and Report

Cc: Chuck Haskins, Engineering Services Division, Division Manager
Case Files ASI16-001, L16-002, X16-001

Engineering Services Division Staff (Staff) has reviewed the referenced land use application(s) and has the following findings and comments:

Findings:

1. Engineering review and approval fees are included with the planning fee for the 1041 and L&E, with the exclusion of the easements that will need to be prepared by separate document(s). Fees for the Subdivision Exemption are paid.
2. This site lies within Coyote Run-Box Elder Creek watershed basin. Basin fees are still being established for this area, but are not yet determined.
3. This development lies within the boundaries of the Urban Drainage and Flood Control District (UDFCD).
4. Urban Drainage and Flood Control District (UDFCD) has been included as a referral agency. Their comments will need to be addressed prior to final approval
5. Construction activities that disturb one or more acres are required by the Environmental Protection Agency (EPA) to obtain a Construction Stormwater Permit.
6. The subdivision exemption process requires a permanent roadway or an access easement to be established. The permanent roadway as propose din the Prosper Preliminary Development Plan (PDP) is not yet constructed. Once the development around the Waste Water Treatment Plant (WWTP) begins, a permanent road will be constructed that allows access to the WWTP. In the interim, access to WWTP will be via private access road. Easement recordation information will need to be noted on the Subdivision Exemption exhibit. Engineering Case E16-029 has been submitted and is under review for the Access Road construction.
7. The WWTP will have a limited on-site staff, and generates very minimal traffic, as such a Traffic Impact Study was waived for this development.
8. Drainage easements for each detention pond outfalls will need to be dedicated to Arapahoe County via separate document.
9. Waste water treatment plants are exempt from specific critical facility regulations established by the Colorado Water Conservation Board. However, applicant in encouraged to minimize potential hazards from floodwaters. County would recommend have lowest floor elevation a minimum of 2 feet above 100-year water surface elevation, ensure on-site waste disposal is located such that outside but adjacent to 100 year floodplain - are there any additional mitigation measures needed? County discourages critical facilities within the 500 year floodplain, since these drainage ways have not been mapped for 500 yr flooding, recommend additional provisions may be needed - flood proofing bldg or elevation of facility to be at 2 ft above BFE (LDC section 12-2007.09)
10. All applicable public and private improvements (i.e., storm sewer systems, detention ponds, roadways appurtenances, etc.) associated with this development proposal shall be guaranteed within a Subdivision Improvements Agreement (SIA). The applicant will be required to enter into a Subdivision Improvement Agreement (SIA) to guarantee onsite and offsite improvements related to this development. Subdivision Improvement Agreement will be prepared by County Staff with finalization of costs.

Recommendations:

The Division of Engineering Services recommends this case favorably subject to the following conditions:

1. The applicant agrees to address the Division of Engineering Services' comments and concerns as identified within the ESD Staff Report.
2. The applicant agrees to address comments issued by the Urban Drainage and Flood Control District (UDFCD).
3. The applicant executes a Subdivision Improvement Agreement.

URBAN DRAINAGE AND FLOOD CONTROL DISTRICT

Paul A. Hindman, Executive Director
2480 W. 26th Avenue, Suite 156B
Denver, CO 80211-5304

Telephone 303-455-6277
Fax 303-455-7880
www.udfcd.org

September 30, 2016

UDFCD Maintenance Eligibility Program
Referral Review Comments

To: **Sarah L. White, Arapahoe County**
Project: **Prosper Farms WWTP**
Stream: **Coyote Run and Rat Run**
UDFCD MEP Phase: **Design**
UD MEP ID: **106341/10000720**

Dear Sarah,

This letter is in response to the request for our comments concerning the referenced project. We appreciate the opportunity to review this proposal. We have reviewed this proposal only as it relates to major drainage features, in this case:

- Coyote Run and Rat Run

We have the following comments to offer:

1. The Phase III Drainage Report states that the existing 100-yr floodplains for Coyote Run and Rat Run establish constraints from a layout and elevation standpoint. We agree with this assessment and recommend that the 100-year flood elevations for the adjacent major drainageways be confirmed relative to the grading and elevations of the site and treatment plant.

2. The proposed private access road is the sole access in and out of the proposed WWTP. The road is proposed to cross Rat Run. The design of the Rat Run roadway crossing should be designed for long term sustainability, with consideration of the 100-year discharge (2,500 cfs), stream channel stability and floodplain impacts. A hydraulic analysis should be conducted for the crossing. According to the Phase III Report, a future High Density Residential Land use is designated for property to the south of the WTP site. With regard to this future upstream land use, consideration should be given to installation of a stabilization check structure with the crossing. The need for additional check structures can be evaluated as future development is proposed upstream. A Floodplain Development Permit application should be submitted, with certification by the Engineer of no adverse impact to 100-year flood elevations.

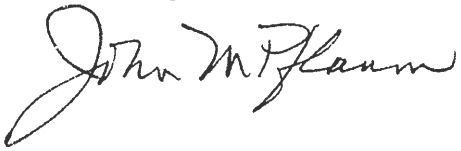
3. Two storm drain outfalls to Rat Run are proposed, one each from the North and West onsite detention ponds. It appears that the discharge is to the overbank zone of the major drainageway, so a low tailwater basin is the appropriate outfall protection, as it allows outflows to sheet flow to the main channel following dissipation at the pipe outfall. Calculations for the outfalls should be included in the Drainage Report. The pond outfall profiles on Sheets 4 and 5 should include the design flow, velocity and Froude Number at the outfall and should show the FES and outlet protection. Standard UDFCD details for a typical FES (Fig 9-29), Low Tailwater Basin (Fig 9-37, as appropriate) and Riprap/Soil Riprap (Fig 8-34) should be included.

4. The overflow spillways from each pond should have a concrete crest control wall.

5. The Drainage Plan at the end of the Phase III Report should include the 100-yr flood elevations along Rat Run as indicated on the 1995 FHAD or as may be updated by analysis of the access road crossing.

Please feel free to contact me with any questions or concerns.

Sincerely,
Urban Drainage and Flood Control District



John M. Pflaum, P.E.
Floodplain Management Program

Arapahoe County
Colorado's First

Public Works and Development
6924 S. Lima Street Centennial, Colorado 80112 Phone: 720-874-6650; FAX 720-874-6611
www.co.arapahoe.co.us

Planning Division

Phase II Referral Routing

Case Number / Case Name:	**ASI16-001, Prosper Wastewater Treatment Plant 1041 Permit / Areas of State Interest and L16-002, Prosper Wastewater Treatment Plant / Location and Extent and X16-001, Prosper Wastewater Treatment Plant/Subdivision Exemption**
Planner:	**Sherman Feher**
Engineer:	**Sarah L White**
Date:	**July 8, 2016**
Date to be returned:	**August 8, 2016**

	Arapahoe County Agencies				
☒	Assessor / Arapahoe County (Residential)	Karen Hart		**Citizen's Organizations**	
☐	Attorney / Arapahoe County	Robert Hill	☐	CCNA-Cherry Creek Neighborhoods Ass.	
☐	Building / Arapahoe County	Steve Byer	☐	CECON-(Within Centennial)	
☒	Engineering / Arapahoe County	Sarah L. White	☐	Four Square Mile Neighborhood	
☒	Mapping / Arapahoe County	Pat Hubert	☐	South Metro Chamber of Commerce	
☐	Oil & Gas / Arapahoe County	Diane Kocis		**Conservation District**	
☒	Open Space / Arapahoe County	Shannon Carter	☐	Deer Trail Conservation District	
☒	Planning / Arapahoe County	Sherman Feher	☒	West Arapahoe Conservation District	Tasha Chevarria
☒	Sheriff / Arapahoe County	1 to Brian McKnight 1 to Glenn Thompson		**Transportation**	
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	Referral Agencies		☐	RTD	Chris Quinn
☐	Architectural Review Committee		☐		
☐	Airport or Military Base			**Utilities: Gas, Electric & Phone**	
☐	CGS Colorado Geological Survey-Soils		☐	Centurylink/Phone	Charles Place
☒	City / Town	Aurora	☐	Conoco Phillips / Gas Pipeline	
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☐	County		☐	IREA	Brooks Kaufman
☐	DRCOG			**Water / Sanitation / Stormwater / Wetlands**	
☒	Bennett Fire Protection District	**Caleb Connor**	☐	ACWWA	
☐	Metro District		☒	U.S. Army Corp. of Engineer	Kiel Downing
☐	Post Office Growth Coordinator	J. Hernandez	☐	CCBWQA	
☒	Reap I-70 Regional Economic Advancement Partnership	Matt Reay and Jack Keever	☐	Colorado Division of Water Resources	Joanne Williams
☐	Recreation District / Park District (External)		☐	SEMSWA	Paul Danley
☐	Bennett School District #29J Aurora School District	Keith Yach	☐	ECCVW&S	Chris Douglass
☐	Special District		☒	Urban Drainage & Flood	David Mallory
☒	Tri-County Health Department	Sheila Lynch	☒	Other / 5 Sets East End Adv. Committee	
☐					

The enclosed case has been submitted to the Arapahoe County Planning Office for consideration. Because of the possible effect of the proposed development upon your area, the case is being referred for your comment. Please examine this request and, after review, check the appropriate line and return to the Arapahoe County Planning Office on or before the date indicated above.

	COMMENTS:	SIGNATURE
☐	Have NO Comments to make on the case as submitted	
☒	Have the following comments to make related to the case:	AJS 7-12-16
	SEE ATTACHED	

VOGEL AND ASSOCIATES
RESPONES 8-26-2016

002 PROSPER WASTEWATER TREATMENT PLANT

Note change to add language the the quantities must reflect the required number of plant material

PAGE 6: STANDARD NOTES: REMOVE LANGUAGE FROM #2 OR ADD QUANTITIES MUST MATCH NUMBER OF TREES AND SHRUBS PROVIDED IN LANDSCAPE SUMMARY TABLE

Note added for amendment, ratio, and tilling depth.

#3 - SOIL AMENDMENT TYPE + RATIO + TILLING DEPTH

LEGEND: SEED TYPES PROVIDED
SHRUB BED - TYPES/QUANTITIES ON PLAN
TREES - CALIPER SIZES, HGTS + TYPE BREAKDOWN ON PLAN ON CHART
SHRUBS - QUANTITIES ON PLAN W/ CONTAINER SIZES ON CHART PAGE 7

Caliper sizes, heights, and container sizes were added to plant schedule. Specific Types and quantities of plants were added to plans.

PAGE 7: PLANT SCHEDULE
ALL DECIDUOUS TREES NEED QUANTITY BREAKDOWN + CALIPER SIZE
ALL ORNAMENTAL TREES NEED QUANTITY BREAKDOWN + CALIPER SIZE
ALL EVERGREEN TREES NEED QUANTITY BREAKDOWN + TREE HEIGHT

Caliper sizes, heights, and container sizes were added to plant schedule. Specific Types and quantities of plants added to plant schedule.

ALL SHRUBS + GRASSES NEED QUANTITY BREAKDOWN + CONTAINER SIZES - 5GAL/1GAL.

Ornamental grasses were removed from plant schedule because none were shown on plan.

ARE 1GAL SHRUBS (GRASSES) BEING SUBSTITUTED FOR 5GAL SHRUBS?

Detail shows dimension of 8'-0" for height and 8' ft. is in the detail description for the fence.

NO HEIGHT FOR SECURITY FENCING ON DETAIL 2

IS VINYL CLAD FABRIC ALLOWED AS A FENCE TYPE?

Vinyl clad fabric is the coating on the fence. No slats are proposed for the fence.

L16-002 Con't

PAGE 7 - ALL PINES SHOULD BE TRIPLED guyed/STAKED
REMOVE "UPLAND" FROM UPLAND EVERGREEN TREE

Detail revised to include tripled guyed/ staked. and "UPLAND" was removed from detail title.

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Planning Division

Phase II Referral Routing

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	Arapahoe County Agencies				
☒	Assessor / Arapahoe County (Residential)	Karen Hart		**Citizen's Organizations**	
☐	Attorney / Arapahoe County	Robert Hill	☐	CCNA-Cherry Creek Neighborhoods Ass.	
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☐	Architectural Review Committee		☐		
☐	Airport or Military Base			**Utilities: Gas, Electric & Phone**	
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☐	Metro District		☒	U.S. Army Corp. of Engineer	Kiel Downing
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☐	Special District		☒	Urban Drainage & Flood	David Mallory
☒	Tri-County Health Department	Sheila Lynch	☒	Other / 5 Sets East End Adv. Committee	
☐					

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	COMMENTS:	SIGNATURE
☒	Have NO Comments to make on the case as submitted	Gary W Duke
☐	Have the following comments to make related to the case:	

County
Colorado's First

Public Works and Development
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Planning Division

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The enclosed case has been submitted to the Arapahoe County Planning Office for consideration. Because of the possible effect of the proposed development upon your area, the case is being referred for your comment. Please examine this request and, after review, check the appropriate line and return to the Arapahoe County Planning Office on or before the date indicated above.

	COMMENTS:	SIGNATURE
☒	Have NO Comments to make on the case as submitted	Janet L Cook
☐	Have the following comments to make related to the case:	

Planning & Development Services

Planning Division
15151 E. Alameda Parkway, Ste. 2300
Aurora, Colorado 80012
303.739.7250

City of Aurora

Worth Discovering • auroragov.org

August 3, 2016

Ms. Nancy Doty, Chair
Arapahoe County Commission
5334 S. Prince Street
Littleton, CO 80120

Dear Chair Doty,

Thank you for the opportunity to comment on the referral for the Prosper Wastewater Treatment Plant application. The City of Aurora has reviewed the application and has the following comments:

1. **City Concerns Regarding The Prosper Development**
   Prosper and the adjacent Sky Ranch development do not conform to Metro Vision 2035, and, if approved, will have significant traffic, noise and water supply issues. Given these issues, the City of Aurora does not support these proposals. The applicant could seek annexation into Aurora. The annexation process includes mechanisms to address the traffic, land use, and water service issues that this development presents.

2. **Public Works Department**
   Floodplain mapping provided with the application package appears to present current effective FEMA mapping. UDFCD recently completed a FHAD study (Olsson, 2014) which included Coyote Run and appears to show a somewhat wider floodplain (especially just upstream of the I-70 crossing) and somewhat higher flood elevations. The County may want to consider if the more recent UDFCD study constitutes the "best available information" and require its use rather than the current FEMA mapping.

   The 2014 UDFCD FHAD did not include Rat Run and current effective FEMA mapping for this stream system upstream of I-70 and adjacent to the proposed WWTP site is Approximate Zone A. It is recommended as part of the WWTP design process (if not 1041 permitting) that the applicant carry out floodplain modeling to develop detailed floodplain limits and elevations for Rat Run.

   UDFCD recently completed an MDP that includes Coyote Run (Olsson, 2014) and recommended "floodplain preservation" with no structural improvements for the channel reach adjacent to the proposed WWTP. It appears that the proposed site plan is adhering to this UDFCD conceptual design and the City would recommend this approach be maintained when/if updated FHAD mapping is utilized for Coyote Run and detailed floodplain information is developed for Rat Run.

The UDFCD MDP (Olsson, 2014) indicates that the Coyote Run channel slope is on the order of 0.6% in the reach adjacent to the proposed WWTP and recommends no channel check structures. A slope of 0.6% is relatively high for a developed watershed and the introduction of WWTP and urban runoff base flows into a previously intermittent stream system has the potential to significantly impact channel invert and bank stability. UDFCD has recently changed its recommended channel design slopes for urbanized watersheds to be substantially lower than 0.6%. It is recommended that the applicant address the potential need for channel checks and/or grade controls.

WWTP's are typically considered "critical facilities" and as such, it is recommended that an enhanced level of flood protection (> than the 100yr event) be considered. The COA standard for critical facilities is 2 feet above the 100-yr floodplain. Draft federal guidance for EO 13690 has similar requirements.

3. **Metro Wastewater Reclamation District**
In reviewing the maps in our records, it appears that the Prosper area is partially within our "expected service area", however that is only relevant to Special Connectors and expansion of their service area. Prosper is not within the corporate boundaries of Aurora so they are not obligated to send that flow to the District.

In the event Aurora were to annex the Prosper development in the future, the treatment plant that the developer is proposing could not be expanded, or that area would have to be excluded from the District under 32-4-515 and Board Policy Exclusion-Service Area. Even though the proposed treatment plant may be within our expected service area, unless it is within the boundaries of Aurora or they choose to serve it (Service Contract section 303), it is District staff's opinion that there is no requirement that it connects to the District's system and it would not violate our competing system prohibitions.

Cordially,

Bob Watkins
Interim Planning and Development Services Director
City of Aurora

Cc: Members of City Council
George Noe, City Manager
Nancy Freed, Deputy City Manager
Jason Batchelor, Deputy City Manager

City of Aurora Comments and Responses

1.City Concerns Regarding

The Prosper Development Prosper and the adjacent Sky Ranch development do not conform to Metro Vision 2035, and, if approved, will have significant traffic, noise and water supply issues. Given these issues, the City of Aurora does not support these proposals. The applicant could seek annexation into Aurora. The annexation process includes mechanisms to address the traffic, land use, and water service issues that this development presents.

Response: The proposed WWTP is consistent with the approved Prosper Preliminary Development Plan. It is the applicant's intent to develop the property in Arapahoe County consistent with the approved Preliminary Development Plan. The approved Preliminary Development Plan addresses issues related to land use, drainage, water service and other planning considerations.

2. Public Works Department

Floodplain mapping provided with the application package appears to present current effective FEMA mapping. UDFCD recently completed a FHAD study (Olsson, 2014) which included Coyote Run and appears to show a somewhat wider floodplain (especially just upstream of the I- 70 crossing) and somewhat higher flood elevations. The County may want to consider if the more recent UDFCD study constitutes the "best available information" and require its use rather than the current FEMA mapping.

The 2014 UDFCD FHAD did not include Rat Run and current effective FEMA mapping for this stream system upstream of I-70 and adjacent to the proposed WWTP site is Approximate Zone A. It is recommended as part of the WWTP design process (if not 1041 permitting) that the applicant carry out floodplain modeling to develop detailed floodplain limits and elevations for Rat Run.

Response: We feel an obligation to continue to show the current FEMA mapping, until such time as it is updated by the more current 2014 UDFCD FHAD. We have provided (to Arapahoe County) our 100 yr modeling of Rat Run and its tributary known as Rat 1-D (or known as stream 120), for the purpose of identifying the existing conditions 100 yr flood limits, utilizing the match elevation determined from the 2014 FHAD right at the south side of Interstate 70.

UDFCD recently completed an MDP that includes Coyote Run (Olsson, 2014) and recommended "floodplain preservation" with no structural improvements for the channel reach adjacent to the proposed WWTP. It appears that the proposed site plan is adhering to this UDFCD conceptual design and the City would recommend this approach be maintained when/if updated FHAD mapping is utilized for Coyote Run and detailed floodplain information is developed for Rat Run. The UDFCD MDP (Olsson, 2014) indicates that the Coyote Run channel slope is on the order of 0.6% in the reach adjacent to the proposed WWTP and recommends no channel check structures. A slope of 0.6% is relatively high for a developed watershed and the introduction of WWTP and urban runoff base flows into a previously intermittent stream system has the potential to significantly impact channel invert and bank stability. UDFCD has recently changed its recommended channel design slopes for urbanized watersheds to be substantially lower than 0.6%. It is recommended that the applicant address the potential need for channel checks and/or grade controls.

Response: We have been directed by the County to adhere to the MDP, which we believe we have done. As stated in your comment there are no requirements for stabilization facilities in this area.

WWTP's are typically considered "critical facilities" and as such, it is recommended that an enhanced level of flood protection (> than the 100yr event) be considered. The COA standard for critical facilities is 2 feet above the 100-yr floodplain. Draft federal guidance for EO 13690 has similar requirements.

Response: Per the County, the WWTP is not considered a Critical Facility, though we do note that the proposed facilities are 2' or more above the 100 yr water surface as determined on Coyote Run (East side of site) from the 2014 FHAD, AND as determined for Rat Run (West side of site) from analysis/modeling by our firm for this project. Reference can be made to sht 3 of the CD set of plans which identifies the BFE's (100 yr Base Flood Elevations) for both Coyote Run and for Rat Run.

3. Metro Wastewater Reclamation District

In reviewing the maps in our records, it appears that the Prosper area is partially within our "expected service area", however that is only relevant to Special Connectors and expansion of their service area. Prosper is not within the corporate boundaries of Aurora so they are not obligated to send that flow to the District.

In the event Aurora were to annex the Prosper development in the future, the treatment plant that the developer is proposing could not be expanded, or that area would have to be excluded from the District under 32-4-515 and Board Policy Exclusion Service Area. Even though the proposed treatment plant may be within our expected service area, unless it is within the boundaries of Aurora or they choose to serve it (Service Contract section 303), it is District staff' s opinion that there is no requirement that it connects to the District's system and it would not violate our competing system prohibitions.

Response: The intent is to develop Prosper within Arapahoe County and per the approved Preliminary Development Plan that includes the proposed WWTP site. There is not a requirement that Prosper connect to the Metro Wastewater Reclamation District.

Xcel Energy℠
PUBLIC SERVICE COMPANY

Right of Way & Permits

1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: **303.571.3306**
Facsimile: 303. 571.3284
donna.l.george@xcelenergy.com

August 3, 2016

Arapahoe County Public Works and Development
6924 South Lima Street
Centennial, CO 80112

Attn: Sherman Feher

Re: Prosper Wastewater Treatment Plant, Case # ASI16-001

Public Service Company of Colorado's (PSCo) Right of Way & Permits Referral Desk has reviewed the plans and subdivision exemption plat for **Prosper Wastewater Treatment Plant**. As always, thank you for the opportunity to take part in the review process. To ensure that adequate utility easements are available within this development, PSCo requests that the following language or plat note be placed on the preliminary and final plats for the subdivision:

> *Minimum ten-foot (10') wide dry utility easements are hereby dedicated on private property abutting all public streets, and around the perimeter of each commercial/ industrial lot in the subdivision or platted area. These easements are dedicated to Arapahoe County for the benefit of the applicable utility providers for the installation, maintenance, and replacement of electric, gas, television, cable, and telecommunications facilities (Dry Utilities). Utility easements shall also be granted within any access easements and private streets in the subdivision. Permanent structures, improvements, objects, buildings, wells, water meters and other objects that may interfere with the utility facilities or use thereof (Interfering Objects) shall not be permitted within said utility easements and the utility providers, as grantees, may remove any Interfering Objects at no cost to such grantees, including, without limitation, vegetation. Public Service Company of Colorado (PSCo) and its successors reserve the right to require additional easements and to require the property owner to grant PSCo an easement on its standard form.*

Public Service Company also requests that **all utility easements be depicted graphically on the preliminary and final plats.** While these easements may accommodate certain utilities to be installed in the subdivision, some additional easements may be required as planning and building progresses.

In addition, 31-23-214 (3), C.R.S., requires the subdivider, at the time of subdivision platting, to provide for major utility facilities such as electric substation sites, gas or electric transmission line easements and gas regulator/meter station sites as deemed necessary by PSCo. While this provision will not be required on every plat, when necessary, PSCo will work with the subdivider to identify appropriate locations. This statute also requires the subdivider to submit a letter of agreement to the municipal/county commission that adequate provision of electrical and/or gas service has been provided to the subdivisions.

The property owner/developer/contractor must contact the **Builder's Call Line** at 1-800-628-2121 or https://xcelenergy.force.com/FastApp (Register so you can track your application) and complete the application process for any new electric service. It is then the responsibility of the developer to contact the

Designer assigned to the project for approval of design details. Additional easements may need to be acquired by separate document for new facilities.

As a safety precaution, PSCo would like to remind the developer to call the **Utility Notification Center** at 1-800-922-1987 for utility locates prior to construction.

If you have any questions about this referral response, please contact me at (303) 571-3306.

Donna George
Contract Right-of-Way Referral Processor
Public Service Company of Colorado

Xcel Energy Comments and Responses

Public Service Company of Colorado's (PSCO) Right of Way & Permits Referral Desk has reviewed the plans and subdivision exemption plat for Prosper Wastewater Treatment Plant. As always, thank you for the opportunity to take part in the review process. To ensure that adequate utility easements are available within this development, PSCo requests that the following language or plat note be placed on the preliminary and final plats for the subdivision:

> Minimum ten-foot (10) wide dry utility easements are hereby dedicated on private property abutting all public streets. and around the perimeter of each commercial/ industrial lot in the subdivision or platted area. These easements are dedicated to Arapahoe County for the benefit of the applicable utility providers for the installation, maintenance, and replacement of electric, gas, television, cable, and telecommunications facilities (Dry Utilities). Utility easements shall also be granted within any access easements and private streets in the subdivision. Permanent structures, improvements, objects, buildings, wells, water meters and other objects that may interfere with the utility facilities or use thereof (Interfering Objects) shall not be permitted within said utility easements and the utility providers, as grantees, may remove any interfering Objects at no cost to such grantees, including, without limitation, vegetation. Public Service Company of Colorado (PSCo) and its successors reserve the right to require additional easements and to require the property owner to grant PSCo an easement on its standard form.

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Designer assigned to the project for approval of design details. Additional easements may need to be acquired by separate document for new facilities.

As a safety precaution, PSCo would like to remind the developer to call the Utility Notification Center at 1-800-922-1987 for utility locates prior to construction.

Response: The requirements and development standards outlined above have been noted in our files.

BENNETT FIRE PROTECTION DISTRICT #7

DISTRICT OFFICE: 303-644-3572 FAX: 303-644-3401
EMAIL: LIFESAFETY@BENNETTFIRERESCUE.ORG
"Striving to Preserve Life and Property"

July 21st, 2016
Sherman Feher
Arapahoe County Public Works & Development
6924 S. Lima Street
Centennial, CO 80112

Re: AS116-001, Prosper Wastewater Treatment Plant 1041 Permit / Areas of State Interest and L 16-002, Prosper Wastewater Treatment Plant/ Location and Extent and X16-001, Prosper Wastewater Treatment Plant/Subdivision Exemption

Planner Feher,

In regards case AS116-001, Prosper Wastewater Treatment Plant 1041 Permit / Areas of State Interest and L 16-002, Prosper Wastewater Treatment Plant/ Location and Extent and X16-001, Prosper Wastewater Treatment Plant/Subdivision Exemption, Bennett Fire Protection District has the following comments and considerations:

- Bennett Fire Protection District currently serves this location as it falls within our Fire Protection District and has no objections to the proposed development.

- The applicant shall consult with Bennett Fire Protection District to ensure all aspects of the project conform to the District's adopted fire code (2012 IFC).

- The developer shall ensure that the proposed water systems pertaining to hydrant distribution for fire suppression is adequate to protect the proposed development as well as meet the design criteria of both Arapahoe County and the Bennett Fire Protection District. Considerations for design requirements shall include adopted codes and standards as well as ISO distribution and fire flow requirements.

- Bennett Fire Protection District will accept the proposed temporary road guidelines contained in the referral. All temporary and permanent roads constructed for any part of the development shall conform to IFC fire apparatus access requirements.

- As the proposed temporary access road will serve as the interim sole means of providing emergency services to the facility, the proposed temporary access road shall be maintained at all times during its service life of the facility. This includes, grading, maintenance, and snow removal. If at any times Bennett Fire Protection District deems the road inadequate for the provision of emergency services, the applicant shall work with the Fire District to make necessary improvements.

- The internal access road design includes roads which are 20ft in width. The current IFC standard for fire apparatus access roads with a fire hydrant is 26ft in width at the point of the hydrant. The applicant may need to make minor revisions at the hydrant locations to meet this width.

- The processing of waste water often involves the storage and use of hazardous materials. This information shall be provided to Bennett Fire Protection District to be reviewed and approved.

- Facilities which store or use hazardous materials are often classified as "H" occupancies, which require fire sprinkler suppression or special electrical considerations. Applicant shall ensure the facility design meets the District's adopted fire code requirements.

- KNOX Fire Department Key access hardware shall be provided for all vehicle access gates as well as each building on site.

Thank You

Caleb J. Connor
Fire Marshal
Life Safety Division
Bennett Fire Protection District
303-644-3572 - Headquarters / 303-532-7733 - Direct
www.BennettFireRescue.org

Bennett Fire Protection District Comments and Responses

In regards case AS116-001, Prosper Wastewater Treatment Plant 1041 Permit / Areas of State Interest and L 16-002, Prosper Wastewater Treatment Plant/ Location and Extent and X16-001, Prosper Wastewater Treatment Plant/Subdivision Exemption, Bennett Fire Protection District has the following comments and considerations:

• Bennett Fire Protection District currently serves this location as it falls within our Fire Protection District and has no objections to the proposed development.

• The applicant shall consult with Bennett Fire Protection District to ensure all aspects of the project conform to the District's adopted fire code (2012 IFC).

Response: The applicant will coordinate aspects with the Fire Code and District.

• The developer shall ensure that the proposed water systems pertaining to hydrant distribution for fire suppression is adequate to protect the proposed development as well as meet the design criteria of both Arapahoe County and the Bennett Fire Protection District. Considerations for design requirements shall include adopted codes and standards as well as ISO distribution and fire flow requirements.

Response: Fire hydrant distribution and required fire suppression will be incorporated into the final construction drawings for the site and buildings/facilities.

• Bennett Fire Protection District will accept the proposed temporary road guidelines contained in the referral. All temporary and permanent roads constructed for any part of the development shall conform to IFC fire apparatus access requirements.

Response: Access roads will meet IFC requirements for access.

• As the proposed temporary access road will serve as the interim sole means of providing emergency services to the facility, the proposed temporary access road shall be maintained at all times during its service life of the facility. This includes, grading, maintenance, and snow removal. If at any times Bennett Fire Protection District deems the road inadequate for the provision of emergency services, the applicant shall work with the Fire District to make necessary improvements.

Response: The temporary road will be maintained to provide all-season access.

• The internal access road design includes roads which are 20ft in width. The current IFC standard for fire apparatus access roads with a fire hydrant is 26ft in width at the point of the hydrant. The applicant may need to make minor revisions at the hydrant locations to meet this width.

Response: Some hydrant locations moved to intersection and other locations the road has been widened to 26' per IFC.

• The processing of waste water often involves the storage and use of hazardous materials. This information shall be provided to Bennett Fire Protection District to be reviewed and approved.

Response: Hazardous materials including the storage will be reviewed with the Bennett Fire Protection District.

• Facilities which store or use hazardous materials are often classified as "H" occupancies, which require fire sprinkler suppression or special electrical considerations. Applicant shall ensure the facility design meets the District's adopted fire code requirements.

Response: The Applicant will ensure the facility design meets the District's adopted fire code requirements including NFPA 820 requirements for Fire Protection in Wastewater Treatment and Collection Facilities.

• KNOX Fire Department Key access hardware shall be provided for all vehicle access gates as well as each building on site.

Response: A KNOX Box will be provided for the gate.

Tri-County Health Department

August 9, 2016

Sherman Feher.
Arapahoe County Planning Department
6924 S. Lima Street
Centennial, CO 80112

RE: ASI 116-001, Prosper Wastewater Treatment Plant 1041 Permit/Areas of State Interest
L16-002, Prosper Wastewater Treatment Plant/Location and Extent
X16-001, Prosper Wastewater Treatment Plant/Subdivision Exemption
Prosper Wastewater Treatment Plant
TCHD Case No. 3993

Dear Mr. Feher:

Thank you for the opportunity to review and comment on the 1041 Permit/Areas of State Interest, Location and Extent, and Subdivision Exemption for the proposed Prosper Wastewater Treatment Plant (WWTP). Tri-County Health Department (TCHD) staff has reviewed the application for compliance with applicable public and environmental health regulations. After reviewing the application, TCHD has the following comments.

The Site Application and Utility Plan for the WWTP indicate that the recommended WWTP is a Membrane Bioreactor (MBR). Section 7 b. of the Application Submittal states: "This plant will include modern wastewater treatment facilities with biological nutrient removal (BNR) and filtration for the production of reuse water. The Location and Extent drawings depicting the WWTP (Sheets 1-15) are typical of a Biological Nutrient Removal (BNR) System. TCHD recommends that the drawings be revised to reflect the preferred alternative of an MBR.

Sheet 5 of the drawings indicates that the WWTP site is bounded on the east by a floodway and on the west by floodplain. The Location and Extent Plan shows an access road to the site across the Rat Run Drainageway. Construction of the road may alter the floodplain, and future flood events may impede or prevent access to the site. TCHD recommends that the applicant address any applicable regulatory and technical issues associated with the floodplain alteration and also site access.

Section 10, Dust and Odor: The second sentence states: Odor control equipment will be installed at the influent lift station and at the Headworks Building of the WWTP. These facilities are typically the source of the majority of odors at WWTP's. The Location and Extent drawings indicate that the WWTP is in close proximity to future residences. TCHD is concerned that odors will also be produced from the aeration basins, resulting in complaints from nearby residents. Consequently, TCHD recommends that the aeration basins be covered. The Water Quality Control Division

(WQCD) also has requirements for setbacks from residential areas. Please describe how the proposed facilities will comply with the WQCD's setback polices.

TCHD has submitted comments regarding the WWTP Site Application and Utility Plan that are relevant to the subject case I have included our comment letter as an enclosure to this letter.

Please feel free to contact me at (720) 200-1568 or wbrown@tchd.org if you have any questions regarding TCHD's comments.

Sincerely,

Warren S. Brown, P.E.
Senior Environmental Health Consultant

Enclosure

CC: Julio Iturreria, Larry Mugler, Arapahoe County
Bret Icenogle, P.E., David Kurz, P.E., CDPHE
Sheila Lynch, Steven Chevalier, TCHD

Tri-County Health Department Comments and Responses

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Response: The BNR system is presented in the Location and Extent (L&E) drawings as the largest footprint (worst case) treatment process alternative at full build-out of the WWTP (35-40 years from now). A note has been added to the L&E drawings under Specific Notes (1 of 15) and Phase Designations (2 of 15) describing the phasing in more detail. The MBR system is the selected treatment process alternative for the initial phase of the WWTP (2-5 years from now) and is described in detail in the Site Application/Utility Plan. A Site Plan has been included in the Utility Plan report to show that the Phase 1 (MBR) is an integral part of the WWTP at build-out. The Metropolitan Districts will need to determine the selected treatment process for future phases as the demand of the WWTP increases.

Sheet 5 of the drawings indicates that the WWTP site is bounded on the east by a floodway and on the west by floodplain. The Location and Extent Plan shows an access road to the site across the Rat Run Drainageway. Construction of the road may alter the floodplain, and future flood events may impede or prevent access to the site. TCHD recommends that the applicant address any applicable regulatory and technical issues associated with the floodplain alteration and also site access.
Response: We have determined that there is no alteration to the floodzone and the floodway on the east side of the property.

The proposed access road, located on the west side of the property has been designed to match the existing grade across the floodzones of Rat Run and of Rat 1-D (a tributary to Rat Run). By matching the existing grade across these drainages it is shown that the elevation of the 100 yr storm event within the drainages, will not increase, thus the roadway has no impact on the floodzones. We have provided analysis of these 2 drainages to Arapahoe County to confirm our findings. Arapahoe County is further requiring that a "No Rise Certificate" be provided by our office to confirm and document these findings.

The access roadway is comprised of a gravel surface, and is identified as temporary until such time as a future paved is completed in the area. There is no specific timetable for the future permanent roadway construction.

As the access road is placed at the natural ground elevation across the 2 drainageways, it will overflow and "flood" during storm events. Maximum flow depth at the 100 yr event has been determined to be 18" at the roadway crossings. Staff personal will be trained on use of

the roadway during pending and actual storm events. Standard vehicles may be required to be temporarily parked outside of the floodzone areas, with staff being transported into the site with all-terrain vehicles.

An ultimate emergency means of access is available to the site from I-70.

Bennett Fire Department has reviewed the site plan and accessibility route and have determined it to be sufficient.

Section 10, Dust and Odor: The second sentence states: Odor control equipment will be installed at the influent lift station and at the Headworks Building of the WWTP. These facilities are typically the source of the majority of odors at WWTP's. The Location and Extent drawings indicate that the WWTP is in close proximity to future residences. TCHD is concerned that odors will also be produced from the aeration basins, resulting in complaints from nearby residents. Consequently, TCHD recommends that the aeration basins be covered. The Water Quality Control Division (WQCD) also has requirements for setbacks from residential areas. Please describe how the proposed facilities will comply with the WQCD's setback polices.
Response: The WQCD's setback distances are not met thus odor mitigating elements will be incorporated into the design including aeration system failure alarms, covering or enclosing the digester and process basins, and providing odor control systems for the influent lift station and headworks building.

Arapahoe County
Colorado's First

Public Works and Development
6924 S. Lima Street Centennial, Colorado 80112 Phone: 720-874-6650; FAX 720-874-6611
www.co.arapahoe.co.us

Planning Division

Phase II Referral Routing

Case Number / Case Name:	**ASI16-001, Prosper Wastewater Treatment Plant 1041 Permit / Areas of State Interest and L16-002, Prosper Wastewater Treatment Plant / Location and Extent and X16-001, Prosper Wastewater Treatment Plant/Subdivision Exemption**
Planner:	**Sherman Feher**
Engineer:	**Sarah L White**
Date:	**July 8, 2016**
Date to be returned:	**August 8, 2016**

	Arapahoe County Agencies	
☒	Assessor / Arapahoe County (Residential)	Karen Hart
☐	Attorney / Arapahoe County	Robert Hill
☐	Building / Arapahoe County	Steve Byer
☒	Engineering / Arapahoe County	Sarah L. White
☒	Mapping / Arapahoe County	Pat Hubert
☐	Oil & Gas / Arapahoe County	Diane Kocis
☒	Open Space / Arapahoe County	Shannon Carter
☒	Planning / Arapahoe County	Sherman Feher
☒	Sheriff / Arapahoe County	1 to Brian McKnight 1 to Glenn Thompson
☒	Weed Control / Arapahoe County	Russell Johnson
☒	Zoning / Arapahoe County	Tammy King
	Referral Agencies	
☐	Architectural Review Committee	
☐	Airport or Military Base	
☐	CGS Colorado Geological Survey-Soils	
☒	City / Town	Aurora
☒	Colorado Parks and Wildlife	Travis Harris
☐	County	
☐	DRCOG	
☒	Bennett Fire Protection District	**Caleb Connor**
☐	Metro District	
☐	Post Office Growth Coordinator	J. Hernandez
☒	Reap I-70 Regional Economic Advancement Partnership	Matt Reay and Jack Keever
☐	Recreation District / Park District (External)	
☐	Bennett School District #29J Aurora School District	Keith Yach
☐	Special District	
☒	Tri-County Health Department	Sheila Lynch
☐		

	Citizen's Organizations	
☐	CCNA-Cherry Creek Neighborhoods Ass.	
☐	CECON-(Within Centennial)	
☐	Four Square Mile Neighborhood	
☐	South Metro Chamber of Commerce	
	Conservation District	
☐	Deer Trail Conservation District	
☒	West Arapahoe Conservation District	Tasha Chevarria
	Transportation	
☐	CDOT / State Highway Dept- Region 1	Rick Solomon
☐	E-470 Authority	Peggy Davenport
☐	RTD	Chris Quinn
☐		
	Utilities: Gas, Electric & Phone	
☐	Centurylink/Phone	Charles Place
☐	Conoco Phillips / Gas Pipeline	
☒	XCEL	Donna George
☐	IREA	Brooks Kaufman
	Water / Sanitation / Stormwater / Wetlands	
☐	ACWWA	
☒	U.S. Army Corp. of Engineer	Kiel Downing
☐	CCBWQA	
☐	Colorado Division of Water Resources	Joanne Williams
☐	SEMSWA	Paul Danley
☐	ECCVW&S	Chris Douglass
☒	Urban Drainage & Flood	David Mallory
☒	Other / 5 Sets East End Adv. Committee	

The enclosed case has been submitted to the Arapahoe County Planning Office for consideration. Because of the possible effect of the proposed development upon your area, the case is being referred for your comment. Please examine this request and, after review, check the appropriate line and return to the Arapahoe County Planning Office on or before the date indicated above.

	COMMENTS:	SIGNATURE
☒	Have NO Comments to make on the case as submitted	7/11/16
☐	Have the following comments to make related to the case:	

November 10, 2016

RUSH CREEK
345 KV TRANSMISSION LINE PROJECT

Application Submitted to Arapahoe County

For Areas and Activities of State Interest 1041 Permit-REV03

Prepared by:

POWER ENGINEERS

Xcel Energy®

Prosper Wastewater Treatment Plant

Arapahoe County 1041 Application Submittal Revision 3

August 2016

Prepared for:

Arapahoe County
Public Works Department
6294 S. Lima Street
Centennial, CO 80112

Arapahoe County Case No. ASI16-001

Prepared by:

Dewberry Engineers Inc.
990 South Broadway, Suite 400
Denver, CO 80209

Prosper Wastewater Treatment Plant

Arapahoe County 1041 Application Submittal Revision 3

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9. Environmental Impact Analysis

a. Description of Environmental Impact Analysis provided as Attachment D - Section 12

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a. Descriptions and maps showing the range of noise, glare, dust, fumes, vibration, and odor levels caused by the project, along with an indication of their significance

11. Areas of Cultural Importance

a. Map and Description of All Sites of Paleontological, Historic or Archaeological Interest
b. Description of the Impacts and Net Effect of the Project on Sites of Paleontological, Historic or Archaeological Interest

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a. Description of all hazardous, toxic, and explosive substances to be used, stored, transported, disturbed or produced in connection with the project, including the type and amount of such substances, their location, and the practices and procedures to be implemented to avoid accidental release and exposure, and any foreseeable impacts to the environment of such substances
b. Location of storage areas designated for equipment, fuel, lubricants, chemical and waste storage with an explanation of spill containment measures

13. Monitoring and Mitigation Plan

a. Description of all mitigation for the Project
b. Description of methodology used to measure impacts of the project and effectiveness of proposed mitigation measures
c. Description, location and intervals of proposed monitoring to ensure that mitigation will be effective

14. Engineering Studies

a. Under Separate Cover at the Request of Arapahoe County Engineering Services Division

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b. Consolidation Analysis
c. Effects on Adjacent Communities
d. Demand Projections
e. Reuse Water
f. Urban Development
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Attachments

A. Preliminary Plans
B. Title Commitment
C. CDPHE Request for PELs
D. Water Supply Plan
E. Prosper WWTP Environmental Impact Analysis
F. Approved Prosper Preliminary Development Plan
G. Sanitary Sewage Rates and Financial Statements

Section 1

Approval Criteria

a. General Approval Criteria

Documentation that prior to site disturbance associated with the proposed project, the applicant can and will obtain all necessary property rights, permits and approvals

Per the Title Commitment provided in **Attachment B**, Prosper Regional Water & Sanitation Service Metropolitan Districtcurrently owns the Wastewater Treatment Plant (WWTP) property that is included in this 1041 application. Any additional property rights that will be required shall be obtained prior to site disturbance.

Applicable Federal, State and Local permits shall be obtained prior to site disturbance. The following permits shall be obtained prior to site disturbance.

1. Arapahoe County Department of Public Works and Development – GESC, Public Improvement, Building, Floodplain (for outfall in a 100-year floodplain)
2. State of Colorado – Storm Water Management Plan
3. Environmental Protection Agency (EPA) – Construction Stormwater Permit
4. Colorado Department of Public Health and Environment (CDPHE) – Air Pollution Emission Notice and Emission Permit
5. CDPHE – Sewage Treatment (Wastewater Site Application and Process Design Report)
6. Tri-County Health Department

Required Arapahoe County planning and public works and CDPHE approvals will be obtained prior to site disturbance. These approvals shall include the following for the WWTP.

1. Arapahoe County 1041 Permit
2. Preliminary Development Plan
3. Final Development Plan
4. Preliminary Plat
5. Final Plat
6. Site Application – Section 22.4 of Regulation 22: New Domestic Wastewater Treatment Facility
7. Process Design Report – Required approval before construction can begin.
8. Wastewater Design Criteria Capacity Evaluation Form.

The proposed project considers the relevant provisions of the regional water quality plans

A comprehensive storm water and water quality management plan was prepared for the Prosper WWTP that is provided in the Location and Extent submittal. The Phase III storm drainage report incorporates standards and guidelines outlined by Arapahoe County and the Urban Drainage and Flood Control District.

The storm drainage and water quality plan for the Prosper WWTP will be implemented in one phase. As outlined in the phase III drainage report, the intent is to maintain the integrity of the natural drainages and patterns that currently exist on the property. Storm conveyance facilities, drainage crossings, detention and water quality ponds have been located and configured to integrate with the existing drainage patterns and topography.

The first phase of the Prosper development including the WWTP will be served by well water from the Denver Basin Aquifer wells. The Prosper development Water Supply Report is provided in **Attachment D**.

The applicant has the necessary expertise and financial capability to develop and operate the proposed project consistent with all requirements and conditions

Prosper is proposed to include eight metropolitan districts. Through one or more Intergovernmental Agreements the Districts will coordinate the planning; design; acquisition; financing; construction; operations and maintenance of road and transportation improvements; water; wastewater; sanitary sewer; storm drainage improvements; park and recreation improvements; and mosquito control services.

Two of the approved districts include the Prosper Regional Water & Sanitation Service Metropolitan District and the Prosper Water & Sanitation Financing Metropolitan District. These districts may be utilized to finance, construct and maintain the proposed wastewater treatment plant. It is estimated that six employees will be required to operate and maintain the WWTP. At a minimum, one operator will hold a Class A Wastewater Operator's License; the highest Class achievable.

The proposed project is technically and financially feasible

The Owner, Prosper Regional Water & Sanitation Service Metropolitan District, has extensive experience and financial resources to implement and maintain the project. As mentioned above, Prosper is proposed to include eight metropolitan districts. Through one or more Intergovernmental Agreements the Districts will coordinate the planning, design, financing, construction, and operations and maintenance of the WWTP. A fiscal impact report has been prepared for Prosper that includes a financial analysis and summary outlining the cost and benefit to the residents of Arapahoe County and is included in the approved Prosper Development 1041 Application.

The proposed project is not subject to significant risk from natural hazards

The Prosper WWTP is located within the Coyote Run and Rat Run drainage ways and outside of the 100- year FEMA floodplain.

Mostly Adena-Colby silt loam soils are found at the WWTP site that are highly susceptible to wind and water erosion. Therefore, Best Management Practices (BMPs) as outlined in the Arapahoe County Grading, Erosion and Sediment Control Manual (Arapahoe County, 2010) will be considered during the design phase to minimize wind and water erosion.

The proposed project is in general conformity with the applicable comprehensive plan

The approved Prosper Preliminary Development Plan is located within the western segment of the I-70 Planning Reserve Tier One area that is identified on the Comprehensive Plan update. Planning Area 71 which includes the proposed Wastewater Treatment facility is located within the approved Preliminary Development Plan.

As described in the Comprehensive Plan, "The Vision for Arapahoe County describes the County's values and aspirations in terms of what kind of place the County will be over the next 20 years." Outlined below are principles outlined in the Comprehensive Plan that support the Vision for Arapahoe County that have also been incorporated into Prosper and specifically the wastewater treatment plant.

Arapahoe County Comprehensive Plan Principles *(Section II, page 20)*

"Appropriate Land Use Patterns" *(Section II, page 20)*

In keeping with the approved Prosper Preliminary Development Plan and planning principles of Arapahoe County, the Prosper wastewater treatment is located within Planning Area 71 along the Interstate 70 (I-70) corridor. Open space buffers and

drainage corridors are located on the east, west and north side of Planning Area 71. Non-residential land uses are approved south of Planning Area 71.

"Adequate Public Facilities and Services" *(Section II, page 20)*

Public and community facilities for Prosper will include water, wastewater, fire protection, police protection, parks and other utilities.

A comprehensive water and wastewater plan has been prepared for Prosper. This plan includes utilizing a combination of ground water, renewable surface water and recycled water.

The proposed wastewater treatment plant is designed to process and create recycled water. This water will be utilized to address potable and non-potable requirements for the Prosper project.

"Resource Conservation and Environmental Quality" *(Section II, page 22)*

The proposed wastewater treatment plant utilizes modern technology to process and treat wastewater that will be generated within Prosper. This facility will include processing recycled water for potable and non-potable use.

Utilizing recycled water for potable and non-potable use will significantly reduce the demand for additional ground and renewable water. Utilizing treated non-potable water for specific landscape irrigation requirements also significantly reduces groundwater and renewable water requirements.

The proposed plant is designed to ensure efficient water use, recycling and the utilization of reuse technology. This plant will include modern wastewater treatment facilities with biological nutrient removal (BNR) and filtration for the production of reuse water. The treatment units will include a headworks (influent screening and grit removal), secondary aerobic biological treatment (nutrient reduction), ultraviolet disinfection for discharge to creek, aerobic sludge digestion, sludge handling facilities (thickening or cake production); effluent chemical addition, flocculation, clarification and filtration (Advanced Wastewater Treatment for reuse production), and chlorine disinfection for irrigation within the development. All residential and commercial facilities will include low flow water fixtures to reduce demands.

The proposed project will not have a significant adverse effect on the capability of local government to provide services or exceed the capacity of service delivery systems

The Prosper WWTP will not have a significant adverse effect on the capability of local government to provide services or exceed the capacity of service delivery systems, in fact the WWTP will provide a reliable treatment system that is vital to the Prosper community. The WWTP shall be designed and constructed to ensure efficient water use, recycling and the utilization of reuse technology. The community will include modern wastewater treatment facilities with biological nutrient removal (BNR) and filtration for the production of reuse water. The treatment units will include a headworks (influent screening and grit removal), secondary aerobic biological treatment (nutrient reduction), ultraviolet disinfection for discharge to creek, aerobic sludge digestion, sludge handling facilities (thickening or cake production); effluent chemical addition, flocculation, clarification and filtration (Advanced Wastewater Treatment for reuse production), and chlorine disinfection for irrigation within the development. All residential and commercial facilities will include low flow water fixtures to reduce demands.

The planning, design and operation of the proposed project will reflect principles of resource conservation, energy efficiency and recycling or reuse

The WWTP will be designed and constructed to ensure efficient water use, recycling and the utilization of reuse technology. The proposed biological nutrient removal process (BNR) recaptures oxygen released during denitrification which significantly

reduces the amount of energy required during the treatment process. The process design will also incorporate biological phosphorus removal which reduces both the amount of energy and chemicals required.

Disinfection of the treated wastewater will be accomplished with UV radiation, which reduces chemical consumption and the risks associated with chemicals spills and accidental releases.

Biosolids produced during the treatment process will be dewatered to minimize water loss. Once digested, the biosolids will be land applied to recapture their value as a natural fertilizer and soil amendment.

Beginning in Phase 2 of the project, treated wastewater will be captured and reused for landscape irrigation throughout the development as described in Section 5.c. and in accordance to Prosper's augmentation plan applied for in pending Case No. 13CW3143. The Case would provide legal approval to recapture and reuse up to 800 acre feet of the WWTP reusable effluent and has been carefully structured to assure that local alluvial groundwater appropriators will not be injured.

The proposed project will not significantly degrade the environment

A comprehensive environmental impact analysis has been prepared for the Prosper WWTP by McVehil-Monnett Associates, Inc. and is provided in **Attachment E.** The WWTP will discharge to Rat Run which is a tributary to Box Elder Creek and part of the South Platte Basin as defined by CDPHE. Rat Run is currently dry so it is not anticipated that the WWTP will have an effect on the surface water quality. The WWTP will also have strict effluent limits per Regualtion 85, Nutrients Management Control Regulation adopted by CDPHE in 2012, because it is a brand new treatment plant.

The proposed WWTP would impact 8.5 acres of a fallow wheat field, a terrestrial introduced habitat. It would not impact any wetland or riparian areas, or aquatic plant life. Furthermore, no wetlands or riparian areas occur along Rat Run and Coyote Run Creek in the area of the WWTP.

The proposed project will not cause a nuisance

Prosper is planned and designed to avoid or mitigate any potential nuisances. Considerations with regards to dust and odor, noise and light, land use, transportation, environmental impacts, cultural and economic implications, and airport influence area have been addressed as part of this planning and 1041 process.

Dust control Best Management Practices (BMPs) as outlined in the Arapahoe County Grading, Erosion and Sediment Control Manual (Arapahoe County, 2010) will be implemented during construction. These will include watering of disturbed areas to reduce dust, tracking pads at construction site entrance(s) to reduce the transfer of mud offsite to local roads, and pavement sweeping during dry periods to reduce dust. Odor control equipment will be installed at the influent lift station and at the Headworks Building of the WWTP.

Construction noise will be typical of that associated with the construction of a treatment facility. Noise will generally be associated with the use of outdoor construction equipment such as cranes, excavators, backhoes, compactors and delivery vehicles. The operation of the WWTP will not produce significant noise. Nighttime friendly LED fixtures and site lighting will be used at the WWTP.

The proposed project will not significantly degrade areas of paleontological, historic, or archaeological importance

An archaeological and cultural survey for the Prosper property was conducted by the Colorado Historical Society. The Planning Area 71 property does not include any cultural resources that are eligible to be listed on the National Register of Historic Places. A Colorado Historical Society search, provided in **Section 11**, outlines eight (8) sites and five (5) surveys that

have been conducted within and adjacent to the Prosper property. These sites are located in the northeast corner of Section 6 and the northwest corner of Section 5 within the Box Elder Creek corridor. The WWTP is located in the northwest portion of Section 1 and is approximately 1.6 miles west of the eight (8) sites mentioned above.

The proposed project will not result in unreasonable risk of releases of hazardous materials

The Prosper WWTP will utilize and store two chemicals, alum and sodium hypochlorite, onsite at the pumping station/blower building located next to the aeration basins. It is estimated that three 3,000 gallon FRP storage tanks will be required for Alum and two 300 gallon totes will be required for sodium hypochlorite. Alum will be used for backup phosphorus removal and sodium hypochlorite will be used for reuse water disinfection.

Both chemicals are classified as hazardous by OSHA when not stored, handled, or used properly. Federal regulations require that a material safety data sheet (MSDS) be posted on site. Operators must use the correct safety equipment and follow the safe handling procedures described in the MSDS. This would include using personal protective equipment such as face shields, eyewear, and protective clothing. Further, the plant will be adequately equipped with emergency eyewashes and showers and secondary containment structures for liquid chemical or solution systems.

Biosolids produced as a by-product of the WWTP process will be disposed of offsite by a certified contractor hauler that specializes in the safe removal and land application of municipal wastewater by-products. Similar services are used by many WWTP's in Colorado.

Emergency overflows will be incorporated into the critical process structures to ensure no sewage will overflow onto the WWTP property or inside any process buildings. If an emergency overflow occurs, the overflow will be recaptured back into the treatment process or storage basin and will not be discharged to Rat Run. The on-site lift station will have adequate storage time and bypass pumping capabilities to ensure no sewage overflow occurs.

The proposed project will not cause significant degradation of land use patterns in the area around the proposed project

The proposed Prosper WWTP is located within Planning Area 71 of the approved Prosper PDP. Planning Area 71 has been strategically located, configured and zoned to accommodate the proposed WWTP. The WWTP is located at one of the lowest elevation points within the Prosper PDP. The location of the Planning Area in conjunction with the vertical elevation achieves specific criteria with regards to allowing sanitary sewer to flow by gravity to the proposed facility.

Existing drainage corridors and flood plain boundaries are to be preserved in their existing state and modified as required for transportation and other infrastructure requirements. Modifications to the FEMA floodplain will not be required for the Prosper WWTP site.

The WWTP is located within the context of adjacent land uses that are comprised of existing Interstate 70, the Coyote Run drainage and the Rat Run drainage corridors. A natural grassland area is located directly north of the proposed facility. Non-residential land uses are approved and proposed to the south of Planning Area 71.

Planning Area 71 is currently undeveloped. Existing land uses included dry land wheat and corn fields.

Compliance with Regulations and Fees

Prosper Regional Water & Sanitation Service Metropolitan Districthas paid and will continue to pay applicable development fees as determined by Arapahoe County and agreed upon by the applicant.

b. Additional Criteria Applicable to Major Water and Sewer Projects

In additional to the Submittal Requirements mentioned above, the following additional requirements shall apply to Major Water and Sewer Projects:

Existing domestic water and wastewater treatment facilities in the vicinity of the project, including their capacity and existing service levels, location of intake and discharge points, discharge permit requirements, service fees and rates, debt structure and service plan boundaries and reasons for and against hooking on to those facilities

Existing WWTP facilities in the vicinity of Prosper are Metro Wastewater Reclamation District's facilities, the Coal Creek Water Reclamation Facility, and the individual facilities serving Foxridge Farms, the Arapahoe Racetrack, and Orica USA. Discharge permit requirements and discharge points were found for all the facilities. Rates are provided for Metro Wastewater Reclamation District, City of Denver, Aurora Water, and South Adams County Water and Sanitation District. Debt structure, and a service area map were only provide for the Metro Wastewater Reclamation District. This information was not available for the other treatment facilities due to their small size of the facilities and their service areas.

Each of the facilities was analyzed as an option for the Prosper development to consolidate with. The main reasons for not consolidating with existing facilities are infrastructure costs, capacity limitations, and the Prosper development would not have the opportunity to reuse their treated wastewater for irrigation purposes.

Other water and wastewater treatment management agencies in the project area and reasons for and against consolidation with those agencies

Existing wastewater management agencies were discussed concurrently with the existing wastewater treatment facilities they manage. It is not feasible to consolidate with any of the surround agencies because the logistics and cost of connecting the treatment facilities and because the other agencies (excluding Metro Wastewater Reclamation District) are too small to be able to manage the Prosper WWTP and sewer system. Consolidation would eliminate the opportunity for the Prosper Development to utilize their own reuse water.

How project may affect adjacent communities and users on wells

The Prosper WWTP will not affect adjacent communities and users on wells. The Prosper water supply plan was created to limit effects by pumping out of aquifers not used heavily by surrounding communities and users and by developing and relying on renewable sources as possible. The water supply plan can be found as part of **Attachment D**.

Demands that this project expects to meet and basis for projections of that demand

Demand projections follow the 30 year development timeline for the Prosper development. The projected demands, shown in **Table 16-6**, are based on the market and feasibility studies prepared by Arapahoe County for tier 1 of the growth corridor along I-70.

Efficient water use, recycling and reuse technology the project intends to use

Reuse water from the WWTP will be utilized directly and indirectly. At the WWTP site reuse water will be used for pump lubrication, irrigation, and yard hydrants. Reuse water will also be used throughout the community to irrigate public and commercial areas. A filter system and sodium hypochlorite disinfection will be used to ensure the reuse water meets the CDPHE criteria. Indirect reuse will occur by discharging treated wastewater to Box Elder Creek where it will be exchanged for water in the creek via alluvial wells. At buildout approximately 32% of the community's water is planned to be provided by reuse water.

How the project will affect urban development, urban densities, and site layout and design of stormwater and sanitation systems

The WWTP will be designed to minimize its visual impact by blending it with the surroundings. The WWTP project will not affect existing stormwater or sanitation systems as there are no existing systems in the area and these systems will be integrated concurrently with the new WWTP.

Map and description of other municipal and industrial water projects in the vicinity and a discussion of how the project will compete or duplicate those services in the County

The Sky Ranch development is the only wastewater project identified in the area. The possible variability in schedules of the two projects, the buildout size of each development, and the cost of transporting water and/or wastewater from one development to the other outweigh the benefits of combining the two systems.

Section 2

The Application

a. Application

The Land Development Application, Letter of Intent, and Pre-submittal notes are provided at the end of this Section.

b. 1041 Permit Review Fee

The 1041 permit fee, which has been paid by the applicant, is an initial $10,000 deposit that is drawn down based on the fully-loaded salaries of all County employees who are working on the case. This includes Planning, Engineering and other County staff. The applicant is willing per the 1041 Permit Regulations, Section III, C.1.c., to pay for any consultant that the County may need to retain to analyze, evaluate or provide information to the County regarding all or a portion of an application where City Staff does not have expertise.

c. Review Consultant Fees

There are no review consultant fees at this time.

Section 3

The Applicant

a. The Applicant Contact Information

Applicant/Owner(s) of Record

VREI, Inc.
5641 N. Broadway
Denver, CO 80215
Phone: (303) 566-8915
Fax: (303) 918-4216
Email: jvogel@vogelassoc.com
Contact: Jeffrey Vogel, AICP

Applicant Representative Contact Information

Vogel & Associates, LLC
475 W. 12th Avenue, Suite E
Denver, CO 80204
Phone: (303) 893-4288
Fax: (303) 893-6792
Email: jvogel@vogelassoc.com
Contact: Jeffrey Vogel, AICP

b. Design Team Contact Information

Prosper Planning Team

The Prosper WWTP is an integrated project that incorporates several engineers and planners to ensure the project's intent is achieved. This comprehensive and balanced approach is supported by a planning and development team comprised of several disciplines that have extensive experience with master planned communities.

The following is an outline of the planning team. This outline summarizes the professional expertise and experience of each respective discipline.

Planner and Landscape Architect
Vogel & Associates, LLC
475 W. 12th Avenue, Suite E
Denver, CO 80204
Phone: (303) 893-4288
Fax: (303) 893-6792
Email: jvogel@vogelassoc.com
Contact: Jeffrey Vogel, AICP

Vogel & Associates, LLC is the project planner and landscape architect for the Prosper WWTP. This planning role has included working on the Prosper project for that last eight years on issues related to property acquisition and monitoring local and

regional planning initiatives. Vogel & Associates is also responsible for preparing the required master plan and coordinating the PDP and 1041 review process.

By utilizing a small multi-disciplinary studio approach, in collaboration with nationally recognized design consultants and specialists, Vogel & Associates is able to provide services ranging from initial strategic consultation on land planning and development issues to long range comprehensive planning, design and project management.

The established team of Vogel & Associates has extensive experience in integrated planning and design as required to master plan, design and re-position projects in this new and evolving real estate market. Services include integrated land planning, urban design, landscape architecture, adaptive-reuse planning, energy efficient community design and real estate feasibility.

This diversity of professional experience, involving a variety of geographic locations, combined with the firm's holistic approach to the practice of planning and design, has resulted in numerous nationally recognized mixed use, residential, education, recreation and resort community projects. Our commitment to implementing the vision established for each project along with our high-level of service has resulted in several long-term community and client relationships.

Environmental Engineering

Dewberry Engineers Inc.
990 South Broadway, Suite 400
Denver, CO 80209
Phone: (303) 951-0614
Fax: (303) 825-2322
Email: apratt@dewberry.com
Contact: Alan Pratt, PE

Dewberry Engineers Inc. are the environmental engineers who will be designing the wastewater treatment process and site layout for the Prosper WWTP. For more than 20 years, the Dewberry staff has provided practical, innovative, and cost-effective engineering solutions to municipalities throughout Colorado from the Denver office. Combining a broad range of experience with the latest technical research and a flair for innovation, Dewberry develops solutions that are custom engineered to meet the requirements of each unique situation at an affordable cost.

Dewberry specializes in engineering and construction management services for municipal water and wastewater infrastructure facilities. In-house capabilities include civil, mechanical, structural, electrical, instrumentation and control, CAD, and GIS services. The Denver office currently has 46 professionals who live and work in Colorado and know the environmental, regulatory, and water resources issues that affect drinking water and wastewater systems throughout the state. Dewberry is also-well versed in local design and construction practices, and state and local approval processes. When necessary to meet specific client needs, the Denver office can draw on special expertise located in other Dewberry offices across the country.

Civil Engineering

CORE Consultants Inc.
1950 W. Littleton Blvd., Suite 109
Littleton, CO 80120
Phone: (303) 703-4444
Fax: (303) 703-4530
Contact: Scott Pease, PE

The project civil engineer is CORE Consultants Inc. (CCI). Engineering services for the Prosper WWTP project includes preparing preliminary utility, grading and drainage plans.

CORE Consultants Inc. (CCI) is a full service and schedule oriented company. CCI has established itself as one of the most reliable engineering firms in the area. We have distinguished ourselves as experts in single and multi-family residential projects, as well as commercial and industrial developments.

Today CCI is a full-service civil engineering company that provides all the expertise necessary to complete any size land development project on-schedule and within monetary constraints. Our services include, but are not limited to, grading plans, street improvement plans, sanitary and storm sewer design, area grading plans, water distribution system design and analysis, provision of major and minor drainage improvements, infrastructure master planning, and support during construction activities.

CCI has worked to gain project approval in every major city and county in the Denver area and strives to maintain its working relationships with design review engineers in every municipality. We also maintain close relationships with the project surveyors and contractors with whom we work. Our engineers are experts in doing what it takes to gain approval and achieve completion for each and every project.

CCI has performed work for three of the nation's ten largest home builders and many of Denver's largest and most reputable developers, and master planned communities including Highlands Ranch, Green Valley Ranch and the Meadows.

Environmental Analysis and Planning

Western Ecological Resource, Inc.
711 Walnut Street
Boulder, CO 80302
Phone: (303) 449-9009
Fax: (303) 449-9038
Contact: David Johnson

Western Ecological is the Prosper environmental team consultant. Environmental services include preparing the required environmental assessment for the PDP and 1041 submittal. This effort includes addressing issues related to vegetation, wildlife, air quality etc. The firm of Mcvehil-Monnett Associates, Inc. has been responsible for preparing the air quality analysis.

Western Ecological is an ecology consulting firm serving Colorado and the western United States. We offer a full range of professional ecological services from an interdisciplinary team of specialists. Western Ecological Resource provides services to a diversity of industries as well as local, state and federal agencies in Colorado and the western United States. Since establishment in 1978, their ecologists and associated natural resource scientists have provided consulting services to more than 500 clients. They are dedicated to helping our clients achieve their project goals in a timely and cost effective manner. More than 95% of our business is from existing clients.

Western Ecological provide expertise in the areas of vegetation, wetlands, weed management, forest health, wildfire hazards, wildlife and aquatic biology, threatened, endangered, and rare species, soil science, geology, reclamation/ecological restoration, stream restoration, NEPA compliance, permitting and project approvals, and project management. Their natural resource studies incorporate the latest technologies including GPS, CAD, GIS, and high-resolution aerial imagery, and we have in-house capabilities for the production of reports with presentation quality graphics.

Their work throughout Colorado and the Western United States has allowed us to develop a comprehensive understanding of the ecology of this diverse region and the ecological issues and concerns to state and federal land resource managers. Over the past 32 years, they have developed a thorough understanding of local, state and federal environmental regulations and laws, and have established positive working relationships with personnel in environmental regulatory agencies. They also have extensive experience with the environmental review, compliance and permitting process. They use their ecological and regulatory expertise to facilitate client compliance with environmental regulations and laws to quickly achieve their project goals. For more information on our experience and qualifications, please see their website at www.westerneco.com.

McVehil-Monnett Associates, Inc.

McVehil-Monnett Associates, Inc. is an experienced firm of atmospheric scientists, engineers, and environmental specialists providing air quality and environmental consulting services to industry and government clients. Since its inception in 1984, McVehil-Monnett Associates has completed more than 1,000 projects for hundreds of clients in the U.S. and abroad. Their services include air permitting; impact analyses; air quality modeling and monitoring; environmental regulatory compliance; and litigation support services. For additional details on McVehil-Monnett Associates, please refer to their website: www.mcvehil-monnett.com.

Wildlife Specialties, LLC

Wildlife Specialties, LLC provides innovative environmental consulting services throughout Colorado and the western United States. They are a private consulting firm specializing in wildlife related planning, baseline studies, inventories, habitat management, and research. Their expertise includes NEPA compliance; Endangered Species Act section 7 consultations; threatened and endangered species habitat assessments and surveys; impact analyses and wildlife mitigation plans; Migratory Bird Treaty Act compliance; and toxicology studies. Their biologists have considerable experience evaluating the potential impacts of transportation projects to wildlife, including the Canada lynx. Jerry Powell, the president of Wildlife Specialties, LLC, is a certified wildlife biologist with more than 18 years of professional experience. His expertise includes NEPA compliance, sensitive species surveys and habitat assessments, small mammal studies, avian surveys, and environmental impact assessments. For additional details on Wildlife Specialties, LLC and their services, please refer to their website: www.wildlifespecialtiesllc.com.

Buscher Soil & Environmental, Inc.

Buscher Soil & Environmental, Inc., owned by David Buscher, provides technical services in the fields of soils and geology. They are the premier firm in Colorado specializing in hydric soil identification for wetland delineations, and have extensive experience with wetlands throughout the state of Colorado. Mr. Buscher is a Certified Professional Soil Scientist, Ecological Engineer, and Professional Geologist with more than 27 years of experience. His expertise includes mapping and describing soils and geomorphic features, delineating wetlands, hydric soil identification, and evaluating geologic hazards for NEPA compliance documents.

Hydraulic and Water Resources

HRS Water Consultants, Inc.
8885 W. 14th Avenue
Lakewood, CO 80215
Phone: (303) 462-1111
Fax: (303) 462-3030
Contact: Mark R. Palumbo, Principal Hydrologist

HRS Water Consultants is the Prosper hydrologist and water resource specialist. These services have included analyzing and evaluating ground water, surface water and preparing water demand analysis for the Prosper project.

HRS Water Consultants, Inc. specializes in providing the complete range of services necessary for analysis and development of surface and ground water supplies. The HRS staff, which is composed of specialists in the disciplines of ground water hydrology, hydrogeology, geophysics, surface water hydrology, and water rights engineering, provides optimal solutions to difficult and unique water supply and water rights issues. The experience of the staff throughout the Rocky Mountain region, combined with state-of-the-art investigation techniques and evaluation methods, assures cost-effective and beneficial solutions.

The firm's clientele includes individual water users, municipalities, special districts, private owners and ventures, ditch and reservoir companies, irrigation districts, State and Federal agencies, residential and business-complex developers, mining companies, exploration and energy firms, and citizens' groups.

Transportation Engineer
Felsburg Holt and Ullevig
6300 S. Syracuse Way, Ste. 600
Centennial, CO 80111
Phone: (303) 721-1440
Fax: (303) 721-0832
Contact: Charles M. Buck, P.E., PTOE

Felsburg Holt and Ullevig (FHU) is the Prosper transportation engineer. Transportation services have included preparing a traffic demand analysis, coordinating with the Colorado Department of Transportation and preparing required Preliminary Development Plan and 1041 transportation reports.

Felsburg Holt & Ullevig is a consulting firm specializing in transportation planning, traffic engineering, civil engineering design, and environmental services. The philosophy of the firm is to provide high quality professional services on a wide range of transportation and design projects, with emphasis on developing creative, cost-effective and environmentally sensitive solutions. The strength of our firm comes from a group of Principals with many years of technical and management experience who are actively involved in projects to assure the highest level of customer satisfaction. The entire staff is committed to conceiving the best project for the client and the community. The company adheres to the multi-disciplinary team concept and has extensive experience in managing complex endeavors as well as serving as a sub-consultant.

Since its founding in 1984, the company's business plan has been to maintain a highly qualified professional and technical staff. Felsburg Holt & Ullevig has grown to a current full-time staff of nearly 90 people, including multi-modal transportation planners, traffic engineers, civil design engineers, structural engineers, environmental analysts, construction management specialists, GIS specialists, technicians, and graphic designers. Our award-winning staff includes almost 40 professional engineers registered in Colorado and several other states. Felsburg Holt & Ullevig has offices in Centennial and Colorado Springs, Colorado as well as Omaha and Lincoln, Nebraska, allowing us to serve both the Rocky Mountain region and the Midwest.

Our professional services encompass the spectrum of transportation and related civil engineering design. In addition to the technical and analytical skills necessary for successful project completion, we also provide supplementary support services essential for project implementation. Felsburg Holt & Ullevig provides community participation, public presentation, and governmental processing services as required by the project work program and the client's objectives.

Metropolitan Districts
McGeady Sisneros
450 E. 17th Avenue, Suite 400
Denver, CO 80203
Phone: (303) 592-4380
Fax: (303) 592-4385
Contact: MaryAnn McGeady, PC

McGeady Sisneros, P.C. has extensive experience in Arapahoe County and has been retained as part of the Prosper planning team as legal counsel for the formation of the Prosper Metropolitan Districts. The Firm's primary areas of practice are: Special Districts, Municipal Finance, Municipal Law, Real Estate, Real Estate Finance, and Construction Law.

Members of the Firm have been involved in all aspects of special district representation for over twenty-six (26) years, including, but not limited to, organization, construction and construction financing, right-of-way acquisition, intergovernmental agreements, public finance, and debt restructuring. In addition, the Firm has represented clients in evaluating the impact of property being included in a special district and evaluating the enforceability of liens and agreements with special districts.

The Firm serves as general counsel to over two hundred (200) special districts, including metropolitan districts, water and sanitation districts and fire protection districts. This representation includes the ongoing representation of these entities with regard to all matters, including, but not limited to agreement negotiation and drafting, financing, construction, operations, elections, right-of-way acquisition and intergovernmental agreements.

Members of the Firm have also represented a broad spectrum of clients in real estate matters: investors, developers, lenders, borrowers, landlords, tenants, covenant declarants, home builders, purchasers and sellers. Members of the Firm have organized and provided advice to real estate limited partnerships and have a broad base of experience in all phases of commercial real estate practice.

The Firm's experience includes the drafting and negotiating of contracts for the purchase and sale of real property. In the area of real property leasing, our attorneys have experience in both landlord and tenant representation for shopping centers, industrial parks, and office buildings. Their real estate department also has significant experience in the area of real estate financing, including participation agreements and purchases and sales of loans. They have experience in foreclosures (both public trustee and quiet title), deeds in lieu of foreclosure, wrap-around mortgages and deeds of trust, loan modifications and workouts.

c. Letter of Authorization

Provided at the end of Section 3.

d. Owner's Financial Ability

Prosper Regional Water & Sanitation Service Metropolitan District is the sole owner of the 8.22 acre parcel that is to be used for the Prosper WWTP site. The owners of Prosper Regional Water & Sanitation Service Metropolitan District have over 40 years of experience in the acquisition and development of raw land, including the design, construction, financing and operation of more than 100 real estate projects which has resulted in several multi-million dollar investments. The Prosper property that will include the Prosper WWTP was purchased for cash with assumed debt relating to only one parcel.

This extensive experience and real estate portfolio includes the acquisition, construction, and operation of commercial office, industrial, distribution and retail projects throughout the United States. Each project has required a unique approach to ensure that aesthetic, economic and environmental considerations are appropriately addressed and project goals are achieved.

The extensive experience of the owners and management team of Prosper Regional Water & Sanitation Service Metropolitan District includes constructing and operating sustainable and smart energy projects. This experience in conjunction with the commitment to sustainability and integrated planning remains a primary directive for each project including the Prosper WWTP.

Prosper is proposed to include eight metropolitan districts. Through one or more Intergovernmental Agreements the Districts will coordinate the planning; design; acquisition; financing; construction; operations and maintenance of road and transportation improvements; water; wastewater; sanitary sewer; storm drainage improvements; park and recreation improvements; and mosquito control services.

Two of the approved districts include the Prosper Regional Water & Sanitation Service Metropolitan District and the Prosper Water & Sanitation Financing Metropolitan District. These districts may be utilized to finance, construct and maintain the proposed wastewater treatment plant. It is estimated that six employees will be required to operate and maintain the WWTP. At a minimum, one operator will hold a Class A Wastewater Operator's License; the highest Class achievable.

Section 4

Project Description

a. Plans and Specifications

The preliminary plans for the Prosper WWTP are provided in **Attachment A**. Project specifications will be provided in the future after the project is more defined and the equipment has been selected. Preliminary plans include site layouts, drainage, utility lines, paving, landscaping, hydraulic profile, process flow schematic, design criteria, major building and structure plans and specifications, and architectural elevations.

b. Alternatives

The WWTP site was selected using best engineering judgment as it is the lowest point on the property and thus allows for optimal design of the sanitary sewer collection system and minimizes the need for pumping. Planning Area 71 and specifically the WWTP is a permitted land use in the approved Preliminary Development Plan.

c. Schedule

As shown in **Table 4-1,** County and State approval, design**,** and construction of the WWTP is estimated to have a duration of approximately 27 months.

Table 4-1 Estimated Project Duration

Item	Duration	Projected Completion
Start of Planning, County, and State Approval Process		January 2016
County and State Site Application Approval Complete	10 months	November 2016
60 Percent Design Complete (Submittal to State for Approval)	5 months	April 2017
Final Design Complete	2 months	June 2017
State Approval Complete – Cleared for Construction	N/A	July 2017
Permitting and Construction	9 months	April 2018
Startup and Commissioning (Phase 1 part of Construction)	N/A	April 2018
Total Project Duration	**27 months**	

Phase 1 construction is shown on drawing C-1 of the preliminary plans provided in **Attachment A**. Design and construction of Phase 2, 3, and 4 are estimated to begin in years 2026, 2036, and 2046 respectively.

d. Project Need

The WWTP is needed to serve the Prosper Development and will be upgraded concurrently with the development growth per the project phases described in **Section 16**, **Table 16-6**. Prosper is estimated to have a population of 22,344 at full build-out. Estimated households are 8,361 at full build-out. Prosper is estimated to generate 24,573 jobs at full build-out. A reliable wastewater system is vital to the health of the Prosper community. As described in **Section 16** it is not viable to consolidate with existing treatment facilities in the surrounding areas so that Prosper can take advantage of the reuse water produced by their own WWTP.

e. Conservation Techniques

In keeping with the goals and directives of Prosper, energy and natural resource conservation practices will be incorporated and applied at different scales and levels of the WWTP project. Smart energy and water wise principles will be incorporated within each respective component of planning, including architecture and landscape architecture.

The WWTP will be designed and constructed to ensure efficient water use, recycling and the utilization of reuse technology. The proposed biological nutrient removal process (BNR) recaptures oxygen released during denitrification which significantly reduces the amount of energy required during the treatment process. The process design will also incorporate biological phosphorus removal which reduces both the amount of energy and chemicals required.

Disinfection of the treated wastewater will be accomplished with UV radiation, which reduces chemical consumption and the risks associated with chemicals spills and accidental releases.

Biosolids produced during the treatment process will be dewatered to minimize water loss. Once digested, the biosolids will be land applied to recapture their value as a natural fertilizer and soil amendment.

Beginning in Phase 2 of the project, treated wastewater will be captured and reused for landscape irrigation throughout the development as described in Section 5.c. and in accordance to Prosper's augmentation plan applied for in pending Case No. 13CW3143. The Case would provide legal approval to recapture and reuse up to 800 acre feet of the WWTP reusable effluent and has been carefully structured to assure that local alluvial groundwater appropriators will not be injured.

All residential and commercial facilities will include low flow water fixtures to reduce demands.

Section 5

Property Rights, Permits and other Approvals

a. Property Ownership, Land Use Approvals, & Permits

Property Owner

The Prosper WWTP is 8.5 acres and is owned by one entity which is Prosper Regional Water & Sanitation Service Metropolitan District The applicant is currently evaluating alternatives for operating and maintaining the WWTP and therefore has elected not to transfer the ownership to the Prosper Metropolitan Districts. The current title policy is provided in **Attachment B**.

Land Use Approvals

The following Arapahoe County land use and development application approvals will be required for Prosper:

1. Regulations Governing Areas and Activities of State Interest in Arapahoe County (1041) Application.
2. Preliminary Development Plan
3. Preliminary Plat
4. Final Development Plan
5. Final Plat
6. Metro District Service Plan
7. Large Land Activities and Applicable Reservoir Permits

State Approvals

The following CDPHE design and construction approvals will be required for Prosper WWTP:

1. Site Application – Section 22.4 of Regulation 22: New Domestic Wastewater Treatment Facility
2. Process Design Report – Required approval before construction can begin.
3. Wastewater Design Criteria Capacity Evaluation Form.

Permits

The following permits that may be required for the Prosper WWTP project:

1. Arapahoe County Department of Public Works and Development – GESC, Public Improvement, Building, Floodplain (for outfall in a 100-year floodplain)
2. State of Colorado – Storm Water Management Plan
3. Environmental Protection Agency (EPA) – Construction Stormwater Permit
4. Colorado Department of Public Health and Environment (CDPHE) – Air Pollution Emission Notice and Emission Permit
5. CDPHE – Sewage Treatment (Wastewater Site Application and Process Design Report)
6. Tri-County Health Department

b. Federal, State, and Local Authorities Correspondences

The request for preliminary effluent limits from CDPHE for the Prosper WWTP is provided in **Attachment C**.

c. Description of Water and Water Supply Plan

The physical sources of Prosper's proposed water supply of 5,986 af/yr are shown in **Table 5-1**. The build-out water supply is met with: (a) Denver Basin ground water, (b) renewable surface water, (c) reclaimed wastewater, and (d) lawn irrigation return flow ("LIRF"). S.B. 1141 (C.R.S. § 29-20-302(2)) states that applicant is not required to own or have acquired the proposed water supply or infrastructure that is the subject of its S.B. 1141 water supply report. Nevertheless, Prosper does have a decree for over 5,400 af/yr of nontributary and not nontributary Denver Basin ground water underlying the project. Under this water supply plan, Prosper will use 1,595 af/yr of its nontributary Denver Basin groundwater. This amount represents 27 percent of the total demand for the Prosper development at full build-out and only 49 percent of Prosper's nontributary water (3,250.6 af/yr) available under its decree. Prosper proposes to meet 33 percent of the total supply, or 2,085 af/yr, with renewable surface water.

At buildout the indoor demand is 2,369 af/yr, approximately 40 percent of the total demand, which is estimated to go through the WWTP. Of the indoor demand amount approximately 57 percent or 1,350 af/yr will be from renewable water and approximately 43 percent or 1,019 af/yr will be Denver Basin ground water.

Table 5-1 Average Annual Water Supply

Prosper Water Supply	Volume (af/yr)	Percentage
Denver Basin Aquifer Ground Water (nontributary)	1,595	27
Renewable Surface Water	2,085	35
Reclaimed Wastewater	1,913	32
Lawn Irrigation Return Flow	392	7
Total	**5,986**	**100**

Reclaimed water in the form of reclaimed wastewater and LIRF is 39 percent of the total supply. Reclaimed wastewater is 1,913 af/yr and LIRF is 392 af/yr. Nontributary Denver Basin ground water and the renewable surface water are reusable water supplies. The return flow from the application of these waters to indoor and outdoor uses will be diverted, treated, and used as a water supply. Approximately 95 percent of indoor use water and approximately 15 percent of irrigation water will return to the surface water system as return flow and be reused. Current plans call for the diversion of reclaimed wastewater, either through direct non-potable reuse for irrigation, or by indirect reuse through underground storage or as recaptured by Box Elder Creek alluvial wells located in the northeastern portion of the development.

Reclaimed Wastewater

The proposed Prosper water supply includes 1,913 af/yr of reclaimed wastewater. This volume of water represents 32 percent of the project's water supply. Renewable surface water and nontributary Denver Basin ground water are reusable water supplies. Only two percent of nontributary Denver Basin ground water that is produced must be relinquished to the surface water system. The remainder of the nontributary Denver Basin ground water, 98 percent, can be reused to extinction.

The Prosper WWTP which will treat all return flows accruing from indoor use of Prosper's reusable surface water and reusable Denver Basin supplies. 1,913 af/yr of these treated return flows will then be recaptured and reused by Prosper. Prosper proposes to reuse this water by delivering the reusable wastewater/treated effluent to the Box Elder Creek drainage and/or to alluvial aquifer storage, and recapturing the water with wells located in the northeast portion of the development. Alternatively, Prosper will deliver the treated return flows to a raw water irrigation system. A detailed discussion of the Box Elder Creek alluvial aquifer is included in the Prosper Water Supply Plan Report provided in **Attachment D** and is incorporated herein by reference.

Indirect Reuse of Wastewater from the Box Elder Creek Alluvial Aquifer. For the indirect reuse of up to 800 acre-feet per year of the indoor-use return flows, Prosper intends to pipe treated wastewater from the Prosper sewer treatment plant discharge to an upgradient location on Box Elder Creek. The treated wastewater will infiltrate into the Box Elder Creek alluvial aquifer; and an equal amount of water would then be diverted from the Box Elder Creek alluvial aquifer through alluvial wells. This water may be delivered into Prosper's on-site water treatment plant and treated to potable standards (indirect potable reuse) or will be used for irrigation only (direct non-potable reuse). In Phase 1 and 2 the water supply plan does not contemplate directly treating wastewater to potable standards. In Phase 2, water will be treated to the appropriate potable standard with appropriate water treatment methodologies. Treatment beyond the conventional approaches of coagulation, sedimentation, filtration and disinfection is not anticipated. Of the approximately 1,913 af/yr of effluent generated at full build out, approximately 343 af/yr, may be used as indirect potable supply in the manner described above, and up to 1,570 af/yr may be delivered to a raw water irrigation system. Recapturing the water via wells located down gradient of the discharge into the Box Elder Creek will be accomplished through a Water Court-approved augmentation plan decree. This augmentation plan is pending as Case No. 13CW3143. The proposed decree in this case is included as **Attachment D - Appendix I**.

The reclaimed water supply is derived from return flows from the first use of reusable water for indoor purposes. 2,369 af/yr is the estimated indoor demand. Indoor use is estimated to be five percent consumptive. Therefore, Prosper anticipates approximately 2,251 af/yr of reusable return flows to be produced from the first use of its 2,369 af/yr reusable indoor-use supplies. From this 2,369 af/yr of return flows, we have conservatively estimated that approximately 15 percent is lost during the wastewater treatment process and from other potential system losses. This leaves 1,913 af/yr available to be recaptured and reused.

Direct Reuse of Wastewater for Irrigation. As previously discussed, the non-potable irrigation demand is 1,570 af/yr. Therefore, it is anticipated that a large portion of the reusable wastewater supply of 1,913 af/yr will be used in a direct reuse non-potable irrigation system. The direct use of wastewater for irrigation is included in Regulation No. 84 of the Colorado Department of Public Health and Environment Water Quality Control Commission. For the direct reuse of the indoor-use return flows, Prosper effluent would be treated to appropriate standards and delivered into the non-potable irrigation system, or, alternatively, delivered from the wastewater treatment plant to storage for subsequent irrigation application. The level of required wastewater treatment for direct reuse of wastewater for irrigation under Regulation No. 84 is less than the level of wastewater treatment required to produce potable water. Under Regulation No. 84 filtration and chlorination is required. A central WWTP will be constructed in Phase 1. The conceptual level master plan for the wastewater system includes 800 af of reuse irrigation storage. The current conceptual plan does not include storage sites outside the Prosper area.

Section 6

Regional Water Quality Management Plan

a. Storm Water and Water Quality

A comprehensive storm water and water quality management plan was prepared for the Prosper WWTP that is provided in the Location and Extent submittal. The Phase III storm drainage report incorporates standards and guidelines outlined by Arapahoe County and the Urban Drainage and Flood Control District.

The storm drainage and water quality plan for the Prosper WWTP will be implemented in one phase. As outlined in the phase III drainage report, the intent is to maintain the integrity of the natural drainages and patterns that currently exist on the property. Storm conveyance facilities, drainage crossings, detention and water quality ponds have been located and configured to integrate with the existing drainage patterns and topography.

b. Domestic Water

Prosper is committed to providing a comprehensive sustainable water supply system. This water system is to be implemented in phases as the community develops. The central water system will utilize a combination of existing groundwater rights, renewable surface water sources and recycled water.

A comprehensive water analysis and report has been prepared for Prosper and is provided in **Attachment D** of this application. The report includes a supply and demand analysis. Existing and proposed ground water wells are also evaluated along with the net effect. The first phase of the Prosper development including the WWTP will be served by well water from the Denver Basin Aquifer wells.

Section 7

Land Use

The proposed Prosper WWTP is located within Planning Area 71 of the approved Prosper PDP. Planning Area 71 has been strategically located, configured and zoned to accommodate the proposed WWTP.

This proposed WWTP planning area is located at one of the lowest elevation points within the Prosper PDP. The location of the Planning Area in conjunction with the vertical elevation achieves specific criteria with regards to allowing sanitary sewer to flow by gravity to the proposed facility.

Existing drainage corridors and flood plain boundaries are to be preserved in their existing state and modified as required for transportation and other infrastructure requirements. Modifications to the FEMA floodplain will not be required for the Prosper WWTP site.

a. Existing and Adjacent Land Uses

Adjacent Land Uses

The WWTP is located within the context of adjacent land uses that are comprised of existing Interstate 70, the Coyote Run drainage and the Rat Run drainage corridors. A natural grassland area is located directly north of the proposed facility. Non-residential land uses are approved and proposed to the south of Planning Area 71.

Existing Land Uses

Planning Area 71 is currently undeveloped. Existing land uses included dry land wheat and corn fields.

The Coyote Run drainage corridor defines the east side of the parcel and is used to convey surface drainage. Located on the west side of Planning Area 71 is the Rat Run drainage corridor that is currently being utilized for dry land farming and surface drainage.

b. Compliance with Arapahoe County Comprehensive Plan

The approved Prosper Preliminary Development Plan is located within the western segment of the I-70 Planning Reserve Tier One area that is identified on the Comprehensive Plan update. Planning Area 71 which includes the proposed Wastewater Treatment facility is located within the approved Preliminary Development Plan.

This Comprehensive Land Use Plan Update illustrates the desired concentration of future urban development in this Planning Reserve classification. Planning Reserve Areas are proposed in the Comprehensive Plan to contain a greater mix of uses and higher densities than what is typically developed today, and will provide employment opportunities near the places where citizens reside.

The concentration of future development and greater mix of uses requires that specific infrastructure be implemented to support higher densities. This includes implementing central water and wastewater treatment services to support the mix of uses.

As described in the Comprehensive Plan, “The Vision for Arapahoe County describes the County’s values and aspirations in terms of what kind of place the County will be over the next 20 years.” Outlined below are principles outlined in the

Comprehensive Plan that support the Vision for Arapahoe County that have also been incorporated into Prosper and specifically the wastewater treatment plant.

Arapahoe County Comprehensive Plan Principles *(Section II, page 20)*

"Appropriate Land Use Patterns" *(Section II, page 20)*

In keeping with the approved Prosper Preliminary Development Plan and planning principles of Arapahoe County, the Prosper wastewater treatment is located within Planning Area 71 along the Interstate 70 (I-70) corridor. Open space buffers and drainage corridors are located on the east, west and north side of Planning Area 71. Non-residential land uses are approved south of Planning Area 71.

"Adequate Public Facilities and Services" *(Section II, page 20)*

Public and community facilities for Prosper will include water, wastewater, fire protection, police protection, parks and other utilities.

A comprehensive water and wastewater plan has been prepared for Prosper. This plan includes utilizing a combination of ground water, renewable surface water and recycled water.

The proposed wastewater treatment plant is designed to process and create recycled water. This water will be utilized to address potable and non-potable requirements for the Prosper project.

"Resource Conservation and Environmental Quality" *(Section II, page 22)*

The proposed wastewater treatment plant utilizes modern technology to process and treat wastewater that will be generated within Prosper. This facility will include processing recycled water for potable and non-potable use.

Utilizing recycled water for potable and non-potable use will significantly reduce the demand for additional ground and renewable water. Utilizing treated non-potable water for specific landscape irrigation requirements also significantly reduces groundwater and renewable water requirements.

The proposed plant is designed to ensure efficient water use, recycling and the utilization of reuse technology. This plant will include modern wastewater treatment facilities with biological nutrient removal (BNR) and filtration for the production of reuse water. The treatment units will include a headworks (influent screening and grit removal), secondary aerobic biological treatment (nutrient reduction), ultraviolet disinfection for discharge to creek, aerobic sludge digestion, sludge handling facilities (thickening or cake production); effluent chemical addition, flocculation, clarification and filtration (Advanced Wastewater Treatment for reuse production), and chlorine disinfection for irrigation within the development. All residential and commercial facilities will include low flow water fixtures to reduce demands.

c. Impacts and Net Effects on Land Use Patterns

The proposed Prosper WWTP is located within Planning Area 71 which is zoned specifically to accommodate a WWTP. Open space and drainage corridors are located on the north, east and west side of the proposed facility. Outside of the Prosper Development, Interstate 70 is located to the north and a Church is located to the east of the Prosper WWTP site. There will be no adverse impacts on the land use of these adjacent parcels.

In addition to the building setbacks, these open space areas will further provide a buffer around the proposed facility. The proposed WWTP is consistent with the land use patterns that are depicted on the approved Prosper PDP.

Section 8

Local Government Services

Public Services

The Prosper Wastewater Treatment Plant is located within the following Districts and service areas.

Tri-County Health Department and Colorado Department of Public Health and Environment

The WWTP planning and design process will be coordinated with the Tri-County Health Department and CDPHE before final design and construction of WWTP beings. Facility approval is required under the Colorado Water Quality Control Act.

A request for Preliminary Effluent Limits (PELs) has been sent to CDPHE to determine the estimated Water Quality Based Effluent Limits (WQBELs) required for the WWTP. The WQBELs are the estimated discharge permit requirements for the new WWTP and are used in the design of the WWTP. Next, a Site Application will be completed per the Water Quality Control Division of CDPHE and Regulation 22, Site Location and Design Approval Regulations for Domestic Wastewater Treatment Works. The Tri-County Health Department and Arapahoe County will review the Site Application and approve the WWTP site location and treatment objectives before submitting to CDPHE.

After the Site Application has been approved by CDPHE, a Process Design Report including WWTP design drawings will be submitted to CDPHE for review and approval before construction of the WWTP can begin. The WWTP design will follow the state standards set forth in WPC-DR-1, Design Criteria for Domestic Wastewater Treatment Works and will meet all discharge effluent requirements required by the CDPHE Water Quality Control Division.

Arapahoe County

The permanent streets leading to the WWTP are proposed to be public streets maintained by the County. At buildout of the WWTP, the plant would be operated by a maximum of six employees; thus, the traffic impacts of the wastewater treatment plant and the public streets would be minimal. The access road would carry only about 15 to 20 trips per day. Impacts to traffic operations at the STOP sign controlled intersection at US 36 and N Hayesmount Road would also be negligible, with only about six trips during either peak hour.

Prosper Metropolitan Districts

Prosper includes eight metropolitan districts. The Districts will coordinate the planning, design, acquisition, financing construction and operations and maintenance of specific transportation improvements, water, sanitary sewer and storm drainage improvements, park and recreation improvements, and mosquito control services.

Two of the approved districts include the Prosper Regional Water & Sanitation Service Metropolitan District and the Prosper Water and Sanitation Financing Metropolitan District. These districts may be utilized to finance, construct and maintain the proposed wastewater treatment plant.

Fire Department

Prosper is located within the Bennett Fire Protection District. The Bennett Fire Protection District has a station located northeast of the project on Highway 36. The District has indicated that the existing district facilities have the capacity to serve the initial development phases including the wastewater treatment plant.

WWTP's typically coordinate with local fire departments in developing emergency response plans including plans to address hazardous materials spills. Also, coordination and cooperation is needed to ensure that responding fire department personnel are trained and equipped to addressed the particular hazards associated with WWTPs including chemical storage, confined space procedures and high voltage electrical hazards.

School Districts

Approximately 3,930 acres of the Prosper property is located within the Bennett School District. The southwest portion of the property that is approximately 1,200 acres is located within the Aurora School District. Based on the projected density at full build-out, Prosper is estimated to include approximately 5,450 students.

Prosper is master planned to include six (6) joint use school/park sites that can accommodate an elementary or kindergarten through eighth grade school. The master plan also includes one (1) high school. A planning area has been incorporated into the plan that permits other private or public educational facilities such as a community college or technological institute.

As each school facility is programmed and designed, specific considerations with regards to wastewater treatment requirements including capacity will be coordinated with the owner and operator of the wastewater treatment plant. Shared school/park facility requirements including outdoor irrigation considerations will be coordinated with the owner and operator of the wastewater treatment plant. The WWTP may offer educational tours to school groups on a by-request basis.

Law Enforcement

Prosper is located within the Arapahoe County Law Enforcement Authority. Design of specific WWTP site facilities and security practices will be reviewed and coordinated with the Arapahoe County Law Enforcement Authority. The WWTP is to be located within a secured perimeter fence. Exterior lighting will also be provided for maintenance and security.

Section 9

Environmental Impact Analysis

A comprehensive environmental impact analysis has been prepared for the Prosper WWTP by McVehil-Monnett Associates, Inc. and is provided in **Attachment E**. This analysis addresses surface water quality, wetlands and riparian areas, terrestrial & aquatic animals, terrestrial & aquatic plant life, soils, geologic conditions and natural hazards.

The WWTP will discharge to Rat Run which is a tributary to Box Elder Creek and part of the South Platte Basin as defined by CDPHE. Rat Run is currently dry so it is not anticipated that the WWTP will have an effect on the surface water quality. The WWTP will also have strict effluent limits per Regulation 85, Nutrients Management Control Regulation adopted by CDPHE in 2012, because it is a brand new treatment plant.

The proposed WWTP would impact 8.5 acres of a fallow wheat field, a terrestrial introduced habitat. It would not impact any wetland or riparian areas, or aquatic plant life. Furthermore, no wetlands or riparian areas occur along Rat Run and Coyote Run Creek in the area of the WWTP.

The WWTP is outside of the 100-year floodplain.

The fallow wheat field to be impacted has a very limited potential to support terrestrial wildlife, as it lacks vegetation. The WWTP site does not provide habitat for any federally listed species or Species of State Concern. Furthermore, there would be no impact to prairie dogs, burrowing owls, raptors, or mule deer ranges.

The Adena-Colby silt loam soils at the proposed WWTP site are highly susceptible to wind and water erosion. Therefore, Best Management Practices (BMPs) as outlined in the Arapahoe County Grading, Erosion and Sediment Control Manual (Arapahoe County, 2010) should be considered during the design phase to minimize wind and water erosion.

There are no shrink-swell soils or unstable slopes at the site of the proposed WWTP. Further geotechnical investigations will be performed before construction of the WWTP begins.

The environmental impact analysis that describes and summarizes in greater detail the environmental considerations outlined above is provided in **Attachment E**.

Section 10

Nuisances

Prosper is planned and designed to avoid or mitigate any potential nuisances. The proposed Prosper WWTP is contemplated within the approved Prosper 1041 Permit for New Communities and the PDP. Considerations with regards to dust and odor, noise and light, land use, transportation, environmental impacts, cultural and economic implications, and airport influence area have been addressed as part of the planning and 1041 process.

Dust and Odor

Dust control Best Management Practices (BMPs) as outlined in the Arapahoe County Grading, Erosion and Sediment Control Manual (Arapahoe County, 2010) will be implemented during construction. These will include watering of disturbed areas to reduce dust, tracking pads at construction site entrance(s) to reduce the transfer of mud offsite to local roads, and pavement sweeping during dry periods to reduce dust.

Odor control equipment will be installed at the influent lift station and at the Headworks Building of the WWTP. These facilities are typically the source of the majority of odors at WWTP's.

Noise and Light

Construction noise will be typical of that associated with the construction of a treatment facility. Noise will generally be associated with the use of outdoor construction equipment such as cranes, excavators, backhoes, compactors and delivery vehicles. Other noise sources will include powered hand tools. No unusual noise sources are anticipated, the noise that is generated is a necessary part of the work of constructing the WWTP.

The operation of the WWTP will not produce significant noise. The primary noise sources are blowers that provide aeration air to the process tanks and these are housed inside structures such that outside noise levels are low. The other source of noise is the required backup generator. The generator is enclosed in a noise reducing housing and is only used in the event of an emergency or for maintenance of the generator itself.

Nighttime friendly LED fixtures and site lighting will be used at the WWTP. The lighting will be warmer in color per the recommendation of the Dark Sky Initiative. Furthermore, the up-lighting will be non-existent and 80 to 90 degree photometric is minimal. The majority of the building mounted fixtures will be forward lighting, which will yield a decreased reflection off of the wall.

Land Use

Land uses including the Prosper proposed WWTP are proposed that will be compatible with adjacent uses and facilities. Non-residential land uses in the proposed WWTP have been located along Interstate 70 and the Watkins Road interchange to maximize economic potential while also reducing potential noise impacts. Existing drainage corridors and flood plain boundaries are to be preserved in their existing state and modified as required for transportation and other infrastructure requirements.

Transportation

A comprehensive transportation plan has been prepared and approved for Prosper that is consistent with the Arapahoe County 2035 plan and the approved Prosper Traffic Impact Study. This transportation plan contemplates the proposed WWTP to ensure that the street network operates at an acceptable level of service. At buildout of the WWTP, the plant would be

operated by a maximum of six employees; thus, the traffic impacts of the WWTP and the public streets would be minimal. The access road would carry only about 15 to 20 trips per day. Impacts to traffic operations at the STOP sign controlled intersection at US 36 would also be negligible, with only about six trips during either peak hour.

Environmental

A comprehensive environmental analysis has been completed for the Prosper WWTP. Prosper incorporates an "Avoidance" approach to ensure that natural drainage ways and riparian zones remain in their existing state with minimal disturbance. Land use planning areas have been planned to respect existing drainage corridors and floodplain boundaries.

A sustainable water supply plan has been prepared to minimize impacts to existing Denver Basin aquifers and adjacent residential wells. This sustainable water supply plan incorporates a reuse system and conservation practices.

Surface and storm water shall comply with all State, County and Urban Drainage & Flood Control District standards and practices. Prosper includes a master drainage plan that includes appropriate storm water, water quality and conveyance facilities. Applicable Best Management Practices will be incorporated into each phase of the project to reduce erosion or siltation within and adjacent to Planning Area 71.

The Prosper WWTP will comply with all Environmental Protection Agency, Colorado and Arapahoe County air pollution regulations and standards.

Cultural and Historical

An archaeological and cultural survey for the Prosper property was conducted by the Colorado Historical Society. The WWTP property does not include any cultural resources that are eligible to be listed on the National Register of Historic Places.

The Colorado Historical Society search outlines eight (8) sites and five (5) surveys that have been conducted within and adjacent to the Prosper property. These sites are located in the northeast corner of Section 6 and the northwest corner of Section 5 within the Box Elder Creek corridor. This corridor is to be preserved with no proposed development with the exception of permitted recreational land uses.

Planning Area 71 is located west of the site and surveys outlined above. Disturbance to any potential sites will not occur with this application.

Airport Influence Area

The northwestern portion of Prosper within Section 2 is located within the Denver International Airport Influence zone 55 LDN designation. The Prosper WWTP is located in Section 1, east of Section 2, and outside any airport influent area as shown on the following figure.

Section 11

Areas of Cultural Importance

An archaeological and cultural survey for the Prosper property was conducted by the Colorado Historical Society. The Planning Area 71 property does not include any cultural resources that are eligible to be listed on the National Register of Historic Places.

The following Colorado Historical Society search outlines eight (8) sites and five (5) surveys that have been conducted within and adjacent to the Prosper property and is provided to show that the WWTP is located outside of these sites. These sites are located in the northeast corner of Section 6 and the northwest corner of Section 5 within the Box Elder Creek corridor. The WWTP is located in the northwest portion of Section 1 and is approximately 1.6 miles west of the eight (8) sites mentioned above.

As outlined on the following search matrix, the sites are designated as “Field not Eligible” and are not eligible to be listed on the National Register of Historic Places. This designation or assessment does not require that avoidance or mitigation procedures be implemented.

Section 12

Hazardous Materials

The Prosper property currently does not contain any land uses or facilities that would result in the release of hazardous materials. Land uses are proposed for Prosper that may contain hazardous materials such as fuel stations, medical facilities and light manufacturing facilities. Solid or hazardous waste facilities or sites are not proposed within Prosper.

The Prosper WWTP will utilize and store two chemicals, alum and sodium hypochlorite, onsite at the pumping station/blower building located next to the aeration basins. It is estimated that three 3,000 gallon FRP storage tanks will be required for Alum and two 300 gallon totes will be required for sodium hypochlorite. Alum will be used for backup phosphorus removal and sodium hypochlorite will be used for reuse water disinfection.

Both chemicals are classified as hazardous by OSHA when not stored, handled, or used properly. Federal regulations require that a material safety data sheet (MSDS) be posted on site. Operators must use the correct safety equipment and follow the safe handling procedures described in the MSDS. This would include using personal protective equipment such as face shields, eyewear, and protective clothing. Further, the plant will be adequately equipped with emergency eyewashes and showers and secondary containment structures for liquid chemical or solution systems.

Biosolids produced as a by-product of the WWTP process will be disposed of offsite by a certified contractor hauler that specializes in the safe removal and land application of municipal wastewater by-products. Similar services are used by many WWTP's in Colorado.

Emergency overflows will be incorporated into the critical process structures to ensure no sewage will overflow onto the WWTP property or inside any process buildings. If an emergency overflow occurs, the overflow will be recaptured back into the treatment process or storage basin and will not be discharged to Rat Run. The on-site lift station will have adequate storage time and bypass pumping capabilities to ensure no sewage overflow occurs.

Proposed land uses within Prosper that may include hazardous materials shall comply with Federal and State handling, storage, disposal and transportation requirements. Waste and minimization standards and practices shall be utilized for all hazardous materials. Land uses or facilities that may contain hazardous waste material shall include spill prevention and response plans.

Section 13

Monitoring and Mitigation Plan

The Prosper WWTP property is comprised of predominantly Adena-Colby silt loam soils that are highly susceptible to wind and water erosion. Therefore, Best Management Practices (BMPs) as outlined in the Arapahoe County Grading, Erosion and Sediment Control Manual (Arapahoe County, 2010) should be considered during the design phase to minimize wind and water erosion. The enclosed environmental impact analysis provides additional details regarding the soil composition.

The 100-year floodplain of the WWTP is proposed to remain unchanged as the open space surrounding the WWTP minimizes potential impacts. Any potential disturbance to these areas will comply with the mitigation procedures outlined in the analysis.

There are no potential wetland areas located adjacent to the WWTP. Mitigation procedures will be implemented should any disturbance be required.

There is very limited vegetation with regard to trees on the WWTP site as a majority of the Prosper property has been utilized for dry land and wheat farming.

Other considerations related to ground water, air and noise are also evaluated within the report. The analysis concludes that Prosper WWTP will not adversely impact ground water since the intent is to utilize a renewable and reusable water supply system for 75% of the total water required for the Prosper development.

With regards to ambient air quality, the Prosper WWTP shall comply with all Colorado Ambient Air Quality Standards. Air quality impacts would result from airborne particulates (fugitive dust) arising from earthwork during site preparation and construction. Fugitive dust and emissions resulting from construction activities proposed for the project site would be intermittent, and would not be expected to exceed ambient air quality standards or substantially impact regional air quality attainment status or progress. The Prosper WWTP will be subject to the standards of a Fugitive Dust Control Plan.

Colorado air pollution regulations also address stationary sources of air pollution. The only stationary source of air pollution proposed is the generator located at the WWTP, the generator will only operate during emergency power outage. Emissions from the WWTP shall comply with Colorado and air pollution permitting regulations. Odor control equipment will be installed at the influent lift station and at the Headworks Building of the WWTP. These facilities are typically the source of the majority of odors at WWTP's.

The Prosper WWTP is located outside of the Front Range Airport influence area.

Per the Prosper Water Supply Plan, Prosper will implement a water wise certification program for all residential and non-residential projects to minimize indoor and outdoor water use. High efficiency fixtures and appliances will be required for the Prosper WWTP. The high efficiency components will include model specifications for all toilets, washing machines, dishwashers, kitchen and bath faucets and showerheads. The Prosper Water Conservation plan will include a monitoring and evaluation program. Technology and staff will be utilized to evaluate indoor and outdoor water consumption to ensure efficiency objectives are being achieved at the WWTP.

A comprehensive environmental impact analysis has been prepared for the Prosper WWTP. The fallow wheat field to be impacted has a very limited potential to support terrestrial wildlife, as it lacks vegetation. The WWTP site does not provide habitat for any federally listed species or Species of State Concern. Furthermore, there would be no impact to prairie dogs, burrowing owls, raptors, or mule deer ranges.

Section 14

Engineering Studies

The Phase III Drainage Study/Report and Grading, Erosion, & Sediment Control Report/Plan are provided attached under separate cover.

Per request from the Arapahoe County Engineering Department, a formal transportation study was not completed. Before construction and during operation of the WWTP Phase 1, a private temporary access road will serve the site and is planned to extend along the south side of I-70, connecting the facility with the existing grade separation under I-70. This underpass provides connectivity to US 36 and the regional roadway network.

At buildout, the plant would be operated by a maximum of six employees; thus, the traffic impacts of the wastewater treatment plant would be minimal. The temporary access road would be replaced with a permanent access to PA 71 along the west connector road. The traffic impacts of PA 71 included in the Prosper Traffic Impact Study, dated July 11, 2014.

Section 15

Outside Agencies Referrals and Responses

The outside agencies referrals and responses are provided at the end of this section.

Arapahoe County
Colorado's First

Public Works and Development
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Planning Division

Phase II Referral Routing

Case Number / Case Name:	**ASI16-001, Prosper Wastewater Treatment Plant 1041 Permit / Areas of State Interest and L16-002, Prosper Wastewater Treatment Plant / Location and Extent and X16-001, Prosper Wastewater Treatment Plant/Subdivision Exemption**
Planner:	**Sherman Feher**
Engineer:	**Sarah L White**
Date:	**July 8, 2016**
Date to be returned:	**August 8, 2016**

	Arapahoe County Agencies				
☒	Assessor / Arapahoe County (Residential)	Karen Hart		**Citizen's Organizations**	
☐	Attorney / Arapahoe County	Robert Hill	☐	CCNA-Cherry Creek Neighborhoods Ass.	
☐	Building / Arapahoe County	Steve Byer	☐	CECON-(Within Centennial)	
☒	Engineering / Arapahoe County	Sarah L. White	☐	Four Square Mile Neighborhood	
☒	Mapping / Arapahoe County	Pat Hubert	☐	South Metro Chamber of Commerce	
☐	Oil & Gas / Arapahoe County	Diane Kocis		**Conservation District**	
☒	Open Space / Arapahoe County	Shannon Carter	☐	Deer Trail Conservation District	
☒	Planning / Arapahoe County	Sherman Feher	☒	West Arapahoe Conservation District	Tasha Chevarria
☒	Sheriff / Arapahoe County	1 to Brian McKnight 1 to Glenn Thompson		**Transportation**	
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☐	Airport or Military Base			**Utilities: Gas, Electric & Phone**	
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☐	Special District		☒	Urban Drainage & Flood	David Mallory
☒	Tri-County Health Department	Sheila Lynch	☒	Other / 5 Sets East End Adv. Committee	
☐					

The enclosed case has been submitted to the Arapahoe County Planning Office for consideration. Because of the possible effect of the proposed development upon your area, the case is being referred for your comment. Please examine this request and, after review, check the appropriate line and return to the Arapahoe County Planning Office on or before the date indicated above.

	COMMENTS:	SIGNATURE
☐	Have NO Comments to make on the case as submitted	
☒	Have the following comments to make related to the case:	AJS 7-12-16
	SEE ATTACHED	

VOGEL AND ASSOCIATES
RESPONES 8-26-2016

Note change to add language the the quantities must reflect the required number of plant material

002 PROSPER WASTEWATER TREATMENT PLANT

PAGE 6: STANDARD NOTES: REMOVE LANGUAGE FROM #2 OR ADD QUANTITIES MUST MATCH NUMBER OF TREES AND SHRUBS PROVIDED IN LANDSCAPE SUMMARY TABLE

Note added for amendment, ratio, and tilling depth.

#3 - SOIL AMENDMENT TYPE + RATIO + TILLING DEPTH

LEGEND: SEED TYPES PROVIDED

SHRUB BED - TYPES/QUANTITIES ON PLAN

TREES - CALIPER SIZES, HGTS + TYPE BREAKDOWN ON PLAN OR CHART

SHRUBS - QUANTITIES ON PLAN W/ CONTAINER SIZES ON CHART PAGE 7

Caliper sizes, heights, and container sizes were added to plant schedule. Specific Types and quantities of plants were added to plans.

PAGE 7: PLANT SCHEDULE

ALL DECIDUOUS TREES NEED QUANTITY BREAKDOWN + CALIPER SIZE

ALL ORNAMENTAL TREES NEED QUANTITY BREAKDOWN + CALIPER SIZE

ALL EVERGREEN TREES NEED QUANTITY BREAKDOWN + TREE HEIGHT

Caliper sizes, heights, and container sizes were added to plant schedule. Specific Types and quantities of plants added to plant schedule.

ALL SHRUBS + GRASSES NEED QUANTITY BREAKDOWN + CONTAINER SIZES - 5GAL/1GAL.

Ornamental grasses were removed from plant schedule because none were shown on plan.

ARE 1GAL SHRUBS (GRASSES) BEING SUBSTITUTED FOR 5GAL SHRUBS?

NO HEIGHT FOR SECURITY FENCING ON DETAIL (2)

Detail shows dimension of 8'-0" for height and 8' ht. is in the detail description for the fence.

IS VINYL CLAD FABRIC ALLOWED AS A FENCE TYPE?

Vinyl clad fabric is the coating on the fence. No slats are proposed for the fence.

L16-002 Con't

PAGE 7 - ALL PINES SHOULD BE TRIPLED GUYED/STAKED
REMOVE "UPLAND" FROM UPLAND EVERGREEN TREE

Detail revised to include tripled guyed/ staked. and "UPLAND" was removed from detail title.

LOCATION AND EXTENT
PROSPER WASTEWATER TREATMENT PLANT

LOT 1, BLOCK 1, PROSPER WWTP SUBDIVISION EXEMPTION PLAT SITUATED IN THE NW 1/4 OF SECTION 1,
TOWNSHIP 4 SOUTH, RANGE 65 WEST, OF THE 6TH PRINCIPAL MERIDIAN,
COUNTY OF ARAPAHOE, STATE OF COLORADO

Caliper sizes, heights, and container sizes were added to plant schedule. Specific Types and quantities of plants were added to plans.

NOTES REVISED AND ADDED BASED ON COMMENTS.

SEED TYPES AND MIXES ADDED TO PLAN

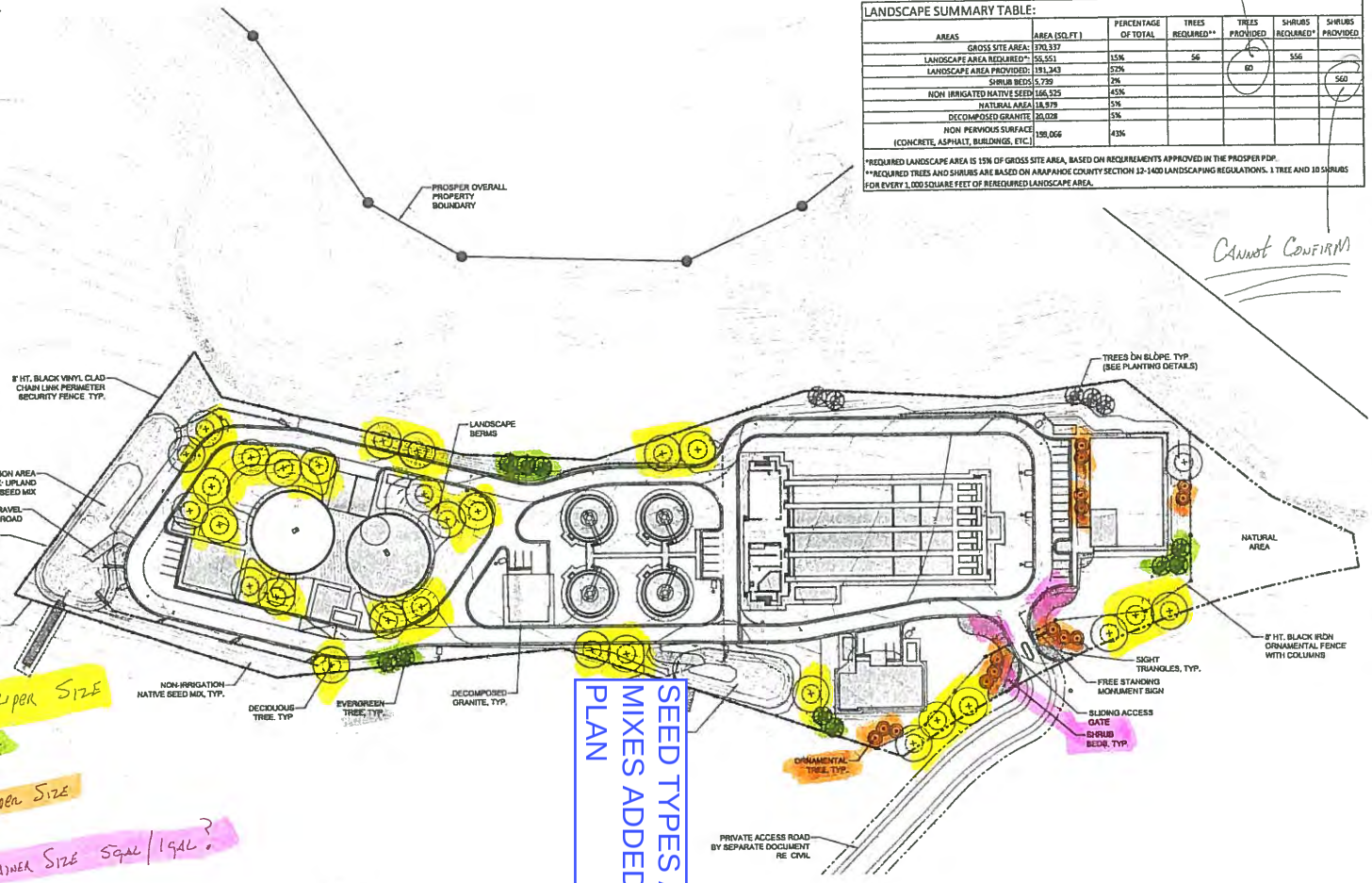
OK

LANDSCAPE SUMMARY TABLE:

AREAS	AREA (SQ.FT.)	PERCENTAGE OF TOTAL	TREES REQUIRED**	TREES PROVIDED	SHRUBS REQUIRED*	SHRUBS PROVIDED
GROSS SITE AREA:	370,337					
LANDSCAPE AREA REQUIRED*:	55,551	15%	56	60	556	560
LANDSCAPE AREA PROVIDED:	191,343	52%				
SHRUB BEDS	5,739	2%				
NON IRRIGATED NATIVE SEED	166,525	45%				
NATURAL AREA	18,979	5%				
DECOMPOSED GRANITE	20,028	5%				
NON PERVIOUS SURFACE (CONCRETE, ASPHALT, BUILDINGS, ETC.)	158,066	43%				

*REQUIRED LANDSCAPE AREA IS 15% OF GROSS SITE AREA, BASED ON REQUIREMENTS APPROVED IN THE PROSPER PDP.
**REQUIRED TREES AND SHRUBS ARE BASED ON ARAPAHOE COUNTY SECTION 12-1400 LANDSCAPING REGULATIONS. 1 TREE AND 10 SHRUBS FOR EVERY 1,000 SQUARE FEET OF REQUIRED LANDSCAPE AREA.

Cannot Confirm



TREE TYPES + Caliper Size

TREE Types + Hgt

TREE Types + Caliper Size

SHRUB Types + Container Size Sgal/1gal?

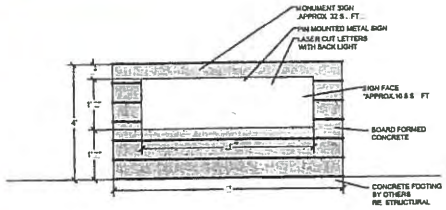
Remove Landscape from Mylar

Must match quantity listed in "Trees + Shrubs provided Table"

STANDARD NOTES

1. SQUARE FOOTAGES ARE ESTIMATED. FINAL LANDSCAPE AREA COVERAGE SHALL MEET OR EXCEED COVERAGE REPRESENTED IN THIS DRAWING AND SHALL CONFORM TO PROSPER [illegible]
2. QUANTITIES AND LOCATIONS OF PLANT MATERIALS ARE APPROXIMATED. FINAL QUANTITIES AND LOCATIONS WILL BE REFLECTED ON CONSTRUCTION DOCUMENTS.
3. DETENTION AREA NATIVE SEED MIX: UPLAND AREA SEED MIX-LOAMY TO CLAY SOILS APPROVED BY THE URBAN DRAINAGE AND FLOOD CONTROL DISTRICT. REFER TO UPLAND NATIVE SEED MIXES TABLE AT JANUARY 2012 URBAN STORM DRAINAGE CRITERIA MANUAL, VOLUME 3.

Ratio



1 FREE STANDING MONUMENT SIGN

NOT TO SCALE

Seed Type?

Types + Container Sizes

Size + Types?

LEGEND

- NON IRRIGATED NATIVE SEED MIX
- DETENTION AREA NATIVE SEED MIX, UPLAND AREA SEED MIX
- SHRUB BED
- DECOMPOSED GRANITE
- DECIDUOUS TREE
- ORNAMENTAL TREE
- EVERGREEN TREE
- 8' HT. BLACK IRON ORNAMENTAL FENCE WITH COLUMNS
- 8' HT. BLACK VINYL CLAD CHAIN LINK PERIMETER SECURITY FENCE

SCALE 1"=30'

0 30 60 120

VOGEL & ASSOCIATES
ARCHITECTS
DENVER, CO 80203
303-342-1

Dewberry®
Dewberry Engineers Inc.
999 18th Street, SUITE 400
Denver, Colorado 80202
(303) 828-1802

Call 2 Business Days in Advance before you dig, grade, or excavate for the marking of underground utilities. Contact the appropriate one-call system for the area in which the work is to be performed. Failure of any party to abide by the provisions of the Colorado Underground Damage Prevention Act may result in civil penalties and liability for damages and injuries to underground utilities. Colorado 811

VOGEL AND ASSOCIATES ASSUMES NO RESPONSIBILITY FOR DISTRIBUTION OF THIS DRAWING IN ELECTRONIC OR PAPER FORMAT. ALL ELECTRONIC DRAWINGS ARE SUBJECT TO THE SEAL AND SIGNATURE RULES OF THE STATE OF COLORADO. ANY ALTERATIONS TO THE FIELD VERIFIED PLAN SET SHALL BE AUTHORIZED FROM THE CONSTRUCTION DOCUMENT SET.

REVISIONS

#	DESCRIPTION	DATE	BY
1	INITIAL COUNTY REVIEW COMMENTS	8/10/09	MM
2	COUNTY REVIEW COMMENTS	9/24/09	MM
			MM
			MM

VREI, INC.
PROSPER, COLORADO
WASTEWATER TREATMENT PLANT
LANDSCAPE PLAN

INITIAL PLAN RELEASE: _/_/_
DESIGNED BY: _/_/_
DRAWN BY: _/_/_
CHECKED BY: _/_/_

JOB NO.

SHEET 6 OF 15

LOCATION AND EXTENT
PROSPER WASTEWATER TREATMENT PLANT

LOT 1, BLOCK 1, PROSPER WWTP SUBDIVISION EXEMPTION PLAT SITUATED IN THE NW 1/4 OF SECTION 1,
TOWNSHIP 1 SOUTH, RANGE 65 WEST, OF THE 6TH PRINCIPAL MERIDIAN,
COUNTY OF ARAPAHOE, STATE OF COLORADO

ANT SCHEDULE

MON NAME	SCIENTIFIC NAME	SIZE (MATURE HT. AND SPD.)	APPROXIMATE QUANTITIES**
IDUOUS TREES			
TERN HACKBERRY	CELTIS OCCIDENTALIS	60' HT 40' SPD	
NLEVEN LINDEN	TILIA CORDATA 'GLENLEVEN'	45' HT 30' SPD	
MOND LINDEN	TILIA AMERICAN 'REDMOND'	40' HT 25' SPD	
RIAL HONEYLOCUST	GLEDITSIA TRIANCANTHOS INERMIS 'IMPERIAL'	35' HT 25' SPD	
LINE HONEYLOCUST	GLEDITSIA TRIANCANTHOS INERMIS 'SKYLINE'	50' HT 30' SPD	
UMN BLAZE MAPLE	ACER X FREEMANII 'JEFFERSRED'	50' HT 40' SPD	
EN MOUNTAIN SUGAR MAPLE	ACER SACCHARUM 'GREEN MOUNTAIN'	40' HT 35' SPD	
OAK	QUERCUS MACROCARPA	70' HT 50' SPD	
MP WHITE OAK	QUERCUS BICOLOR	50' HT 40' SPD	
TE OAK	QUERCUS ALBA	45' HT 45' SPD	
AMENTAL TREES			
RIEFIRE CRABAPPLE	MALUS 'PRAIRIEFIRE'	20' HT 20' SPD	
NG SNOW CRABAPPLE	MALUS X 'SPRING SNOW'	20' HT 15' SPD	
JS DOGWOOD	CORNUS KOUSA X NUTALLI 'VENUS'	20' HT 20' SPD	
RNLESS COCKSPUR HAWTHORN	CRATAEGUS CRUS-GALLI 'INERMIS'	20' HT 15' SPD	
ALA MAPLE	ACER GINNALA	20' HT 10' SPD	
WINGS MAPLE	ACER TATARICUM 'GARANN'	25' HT 20' SPD	
UMN BRILLIANCE SERVICEBERRY	AMELANCHIER X GRANDIFLORA	15'-20' HT 10' SPD	
GREEN TREES			
ORADO BLUE SPRUCE	PICEA PUNGENS	60' HT 25' D	
RIAN PINE	PINUS NIGRA	50' HT 20' D	
N PINE	PINUS EDULIS	25' HT 15' D	
DUOUS SHRUBS			
MER WINE NINEBARK	PHYSOCARPUS OPULIFOLIUS 'SEWARD'	4' HT 4' SPD	
NG COTONEASTER	COTONEASTER ACUTIFOLIUS	10' HT 5' SPD	
ATOON SERVICEBERRY	AMELANCHIER ALNIFOLIA	10' HT 8' SPD	
TERN SANDCHERRY	PRUNUS BESSEYI	5' HT 5' SPD	
EN SWORD YUCCA	YUCCA FILAMENTOSA 'GOLDEN SWORD'	3-4' HT 5' SPD	
TERFLY BUSH	BUDDLEIA DAVIDII	5' HT 5' SPD	
K CHOKEBERRY	ARONIA MELANOCARPA	6' HT 4' SPD	
OW FLOWERING CURRANT	RIBES AUREUM	6' HT 6' SPD	
IBUSH	CHAMAEBATIARA MILLEFOLIUM	4' HT 4' SPD	
ISH GOLD BROOM	CYTISUS PURGAN 'SPANISH GOLD'	3-5' HT 4-6' SPD	
E SPIRE RUSSIAN SAGE	PEROVSKIA 'LITTLE SPIRE'	20-25" HT 20-25" SPD	
CHITO MANZANITA	ARCTOSTAPHYLOS 'PANCHITO'	2' HT 4' SPD	560
GREEN SHRUBS			
RRA JUNIPER	JUNIPERUS HORIZONTALIS 'YOUNGSTOWN'	18" HT 6' SPD	
ALO JUNIPER	JUNIPERUS SABINA 'BUFFALO'	12" HT 6' SPD	
AMENTAL GRASSES			
AVENA	HELICTOTRICHON SEMPEVIRENS	1-1.5' HT 2-3' SPD	
EGATED FEATHER REED GRASS	CALAMAGROSTIS ACUTIFLORA 'AVALANCHE'	4-5' HT 2' SPD	
Y FOUNTAIN GRASS	PENNISETUM ALOPECUROIDES 'HAMELN'	2-3' HT 2' SPD	
Y METAL SWITCHGRASS	PANICUM VIRGATUM 'HEAVY METAL'	3-4' HT 1-1.5' SPD	
E BLUESTEM	SCHIXACHYRIUM SCOPARIUM	3-4' HT 2' SPD	
IF MAIDEN GRASS	MISCANTHUS SINENSIS 'YAKU JIMA'	3-4' HT 2-3' SPD	

ANDSCAPE QUANTITIES ARE APPROXIMATE MAY VARY AT TIME OF CONSTRUCTION DOCUMENTS.
NT TYPES AND LOCATIONS ARE CONCEPTUAL AND MAY VARY AT TIME OF CONSTRUCTION DOCUMENTS.

NEED CALIPER SIZE 30

NEED CALIPER SIZE 15

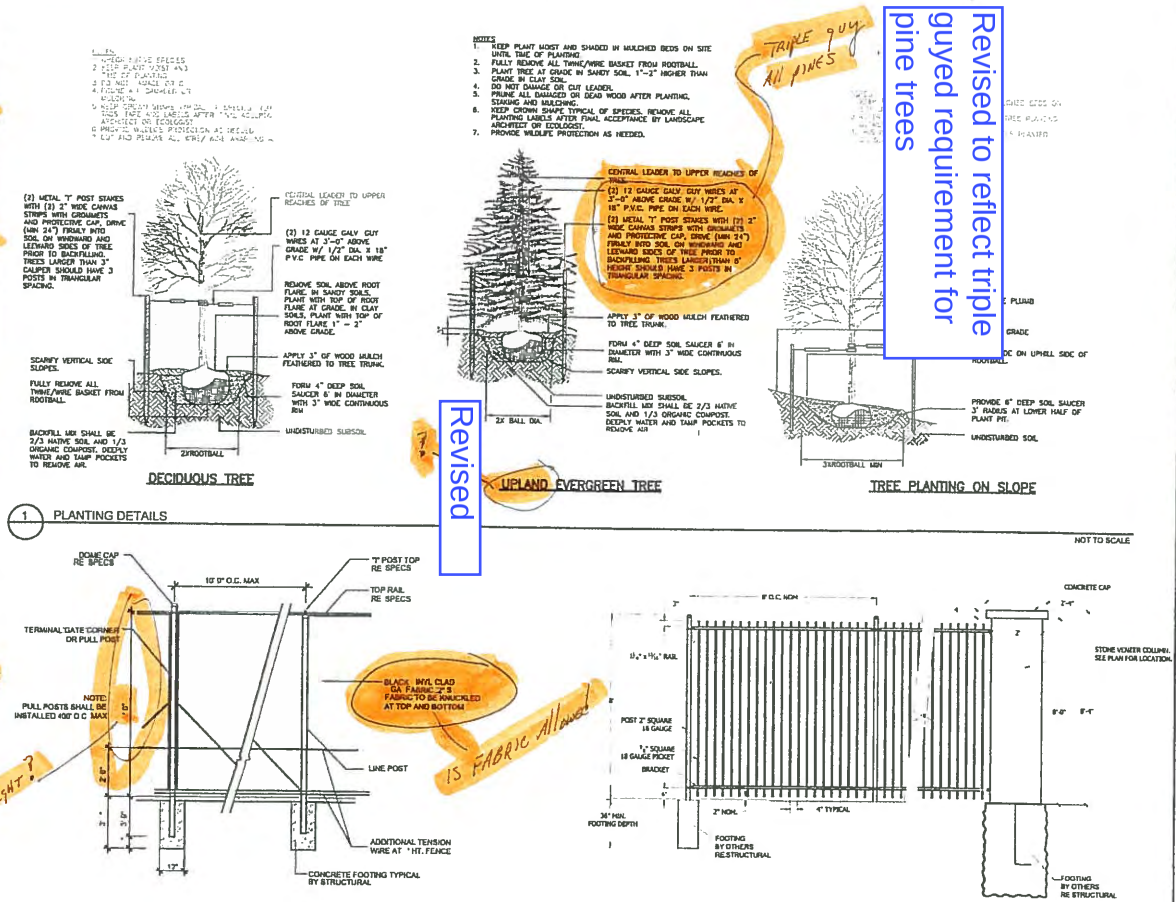
NEED HT 15

NEED CONTAINER SIZES + QUANTITY BREAKDOWN

REMOVE LANGUAGE FROM PLAN - TREE PLANT QUANTITIES, TYPES, CALIPER SIZE EVERGREEN HEIGHT + CONTAINER SIZES NEED MATCH NUMBERS ON PAGE 6 - # OF TREES + SHRUBS REQUIRED

Caliper sizes, heights, and container sizes were added to plant schedule. Specific Types and quantities of plants were added to plans.

Notes revised and added based on comments.



VOGEL & ASSOCIATES

Dewberry
Dewberry Engineers Inc.
990 S. BROADWAY, SUITE 400
Denver, Colorado 80209
(303) 623-1502

REVISIONS

#	DESCRIPTION	DATE	BY
B	INITIAL COUNTY REVIEW COMMENTS	05/12/14	HHH

VREI, INC.
PROSPER, COLORADO
WASTEWATER TREATMENT PLANT
LANDSCAPE PLAN DETAILS

INITIAL PLAN RELEASE:
DESIGNED BY:
DRAWN BY:
CHECKED BY:

JOB NO. L16-002

SHEET 7 OF 15

Arapahoe County
Colorado's First

Public Works and Development
6924 S. Lima Street Centennial, Colorado 80112 Phone: 720-874-6650; FAX 720-874-6611
www.co.arapahoe.co.us

Planning Division

Phase II Referral Routing

Case Number / Case Name:	**ASI16-001, Prosper Wastewater Treatment Plant 1041 Permit / Areas of State Interest and L16-002, Prosper Wastewater Treatment Plant / Location and Extent and X16-001, Prosper Wastewater Treatment Plant/Subdivision Exemption**
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Engineer:	**Sarah L White**
Date:	**July 8, 2016**
Date to be returned:	**August 8, 2016**

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	COMMENTS:	SIGNATURE
☒	Have NO Comments to make on the case as submitted	Gary W Duke
☐	Have the following comments to make related to the case:	

County
Colorado's First

Public Works and Development
6924 S. Lima Street Centennial, Colorado 80112 Phone: 720-874-6650; FAX 720-874-6611
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☐	CECON-(Within Centennial)	
☐	Four Square Mile Neighborhood	
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	Conservation District	
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	COMMENTS:	SIGNATURE
☒	Have NO Comments to make on the case as submitted	Janet L Cook
☐	Have the following comments to make related to the case:	

Planning & Development Services

Planning Division
15151 E. Alameda Parkway, Ste. 2300
Aurora, Colorado 80012
303.739.7250

City of Aurora

Worth Discovering • auroragov.org

August 3, 2016

Ms. Nancy Doty, Chair
Arapahoe County Commission
5334 S. Prince Street
Littleton, CO 80120

Dear Chair Doty,

Thank you for the opportunity to comment on the referral for the Prosper Wastewater Treatment Plant application. The City of Aurora has reviewed the application and has the following comments:

1. **City Concerns Regarding The Prosper Development**
   Prosper and the adjacent Sky Ranch development do not conform to Metro Vision 2035, and, if approved, will have significant traffic, noise and water supply issues. Given these issues, the City of Aurora does not support these proposals. The applicant could seek annexation into Aurora. The annexation process includes mechanisms to address the traffic, land use, and water service issues that this development presents.

2. **Public Works Department**
   Floodplain mapping provided with the application package appears to present current effective FEMA mapping. UDFCD recently completed a FHAD study (Olsson, 2014) which included Coyote Run and appears to show a somewhat wider floodplain (especially just upstream of the I-70 crossing) and somewhat higher flood elevations. The County may want to consider if the more recent UDFCD study constitutes the "best available information" and require its use rather than the current FEMA mapping.

   The 2014 UDFCD FHAD did not include Rat Run and current effective FEMA mapping for this stream system upstream of I-70 and adjacent to the proposed WWTP site is Approximate Zone A. It is recommended as part of the WWTP design process (if not 1041 permitting) that the applicant carry out floodplain modeling to develop detailed floodplain limits and elevations for Rat Run.

   UDFCD recently completed an MDP that includes Coyote Run (Olsson, 2014) and recommended "floodplain preservation" with no structural improvements for the channel reach adjacent to the proposed WWTP. It appears that the proposed site plan is adhering to this UDFCD conceptual design and the City would recommend this approach be maintained when/if updated FHAD mapping is utilized for Coyote Run and detailed floodplain information is developed for Rat Run.

The UDFCD MDP (Olsson, 2014) indicates that the Coyote Run channel slope is on the order of 0.6% in the reach adjacent to the proposed WWTP and recommends no channel check structures. A slope of 0.6% is relatively high for a developed watershed and the introduction of WWTP and urban runoff base flows into a previously intermittent stream system has the potential to significantly impact channel invert and bank stability. UDFCD has recently changed its recommended channel design slopes for urbanized watersheds to be substantially lower than 0.6%. It is recommended that the applicant address the potential need for channel checks and/or grade controls.

WWTP's are typically considered "critical facilities" and as such, it is recommended that an enhanced level of flood protection (> than the 100yr event) be considered. The COA standard for critical facilities is 2 feet above the 100-yr floodplain. Draft federal guidance for EO 13690 has similar requirements.

3. **Metro Wastewater Reclamation District**
In reviewing the maps in our records, it appears that the Prosper area is partially within our "expected service area", however that is only relevant to Special Connectors and expansion of their service area. Prosper is not within the corporate boundaries of Aurora so they are not obligated to send that flow to the District.

In the event Aurora were to annex the Prosper development in the future, the treatment plant that the developer is proposing could not be expanded, or that area would have to be excluded from the District under 32-4-515 and Board Policy Exclusion-Service Area. Even though the proposed treatment plant may be within our expected service area, unless it is within the boundaries of Aurora or they choose to serve it (Service Contract section 303), it is District staff's opinion that there is no requirement that it connects to the District's system and it would not violate our competing system prohibitions.

Cordially,

Bob Watkins
Interim Planning and Development Services Director
City of Aurora

Cc: Members of City Council
George Noe, City Manager
Nancy Freed, Deputy City Manager
Jason Batchelor, Deputy City Manager

City of Aurora Comments and Responses

1.City Concerns Regarding

The Prosper Development Prosper and the adjacent Sky Ranch development do not conform to Metro Vision 2035, and, if approved, will have significant traffic, noise and water supply issues. Given these issues, the City of Aurora does not support these proposals. The applicant could seek annexation into Aurora. The annexation process includes mechanisms to address the traffic, land use, and water service issues that this development presents.

Response: The proposed WWTP is consistent with the approved Prosper Preliminary Development Plan. It is the applicant's intent to develop the property in Arapahoe County consistent with the approved Preliminary Development Plan. The approved Preliminary Development Plan addresses issues related to land use, drainage, water service and other planning considerations.

2. Public Works Department

Floodplain mapping provided with the application package appears to present current effective FEMA mapping. UDFCD recently completed a FHAD study (Olsson, 2014) which included Coyote Run and appears to show a somewhat wider floodplain (especially just upstream of the I- 70 crossing) and somewhat higher flood elevations. The County may want to consider if the more recent UDFCD study constitutes the "best available information" and require its use rather than the current FEMA mapping.

The 2014 UDFCD FHAD did not include Rat Run and current effective FEMA mapping for this stream system upstream of I-70 and adjacent to the proposed WWTP site is Approximate Zone A. It is recommended as part of the WWTP design process (if not 1041 permitting) that the applicant carry out floodplain modeling to develop detailed floodplain limits and elevations for Rat Run.

Response: We feel an obligation to continue to show the current FEMA mapping, until such time as it is updated by the more current 2014 UDFCD FHAD. We have provided (to Arapahoe County) our 100 yr modeling of Rat Run and its tributary known as Rat 1-D (or known as stream 120), for the purpose of identifying the existing conditions 100 yr flood limits, utilizing the match elevation determined from the 2014 FHAD right at the south side of Interstate 70.

UDFCD recently completed an MDP that includes Coyote Run (Olsson, 2014) and recommended "floodplain preservation" with no structural improvements for the channel reach adjacent to the proposed WWTP. It appears that the proposed site plan is adhering to this UDFCD conceptual design and the City would recommend this approach be maintained when/if updated FHAD mapping is utilized for Coyote Run and detailed floodplain information is developed for Rat Run. The UDFCD MDP (Olsson, 2014) indicates that the Coyote Run channel slope is on the order of 0.6% in the reach adjacent to the proposed WWTP and recommends no channel check structures. A slope of 0.6% is relatively high for a developed watershed and the introduction of WWTP and urban runoff base flows into a previously intermittent stream system has the potential to significantly impact channel invert and bank stability. UDFCD has recently changed its recommended channel design slopes for urbanized watersheds to be substantially lower than 0.6%. It is recommended that the applicant address the potential need for channel checks and/or grade controls.

Response: We have been directed by the County to adhere to the MDP, which we believe we have done. As stated in your comment there are no requirements for stabilization facilities in this area.

WWTP's are typically considered "critical facilities" and as such, it is recommended that an enhanced level of flood protection (> than the 100yr event) be considered. The COA standard for critical facilities is 2 feet above the 100-yr floodplain. Draft federal guidance for EO 13690 has similar requirements.

Response: Per the County, the WWTP is not considered a Critical Facility, though we do note that the proposed facilities are 2' or more above the 100 yr water surface as determined on Coyote Run (East side of site) from the 2014 FHAD, AND as determined for Rat Run (West side of site) from analysis/modeling by our firm for this project. Reference can be made to sht 3 of the CD set of plans which identifies the BFE's (100 yr Base Flood Elevations) for both Coyote Run and for Rat Run.

3. Metro Wastewater Reclamation District

In reviewing the maps in our records, it appears that the Prosper area is partially within our "expected service area", however that is only relevant to Special Connectors and expansion of their service area. Prosper is not within the corporate boundaries of Aurora so they are not obligated to send that flow to the District.

In the event Aurora were to annex the Prosper development in the future, the treatment plant that the developer is proposing could not be expanded, or that area would have to be excluded from the District under 32-4-515 and Board Policy Exclusion Service Area. Even though the proposed treatment plant may be within our expected service area, unless it is within the boundaries of Aurora or they choose to serve it (Service Contract section 303), it is District staff' s opinion that there is no requirement that it connects to the District's system and it would not violate our competing system prohibitions.

Response: The intent is to develop Prosper within Arapahoe County and per the approved Preliminary Development Plan that includes the proposed WWTP site. There is not a requirement that Prosper connect to the Metro Wastewater Reclamation District.

Xcel Energy℠
PUBLIC SERVICE COMPANY

Right of Way & Permits

1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: **303.571.3306**
Facsimile: 303. 571.3284
donna.l.george@xcelenergy.com

August 3, 2016

Arapahoe County Public Works and Development
6924 South Lima Street
Centennial, CO 80112

Attn: Sherman Feher

Re: Prosper Wastewater Treatment Plant, Case # ASI16-001

Public Service Company of Colorado's (PSCo) Right of Way & Permits Referral Desk has reviewed the plans and subdivision exemption plat for **Prosper Wastewater Treatment Plant**. As always, thank you for the opportunity to take part in the review process. To ensure that adequate utility easements are available within this development, PSCo requests that the following language or plat note be placed on the preliminary and final plats for the subdivision:

> *Minimum ten-foot (10') wide dry utility easements are hereby dedicated on private property abutting all public streets, and around the perimeter of each commercial/ industrial lot in the subdivision or platted area. These easements are dedicated to Arapahoe County for the benefit of the applicable utility providers for the installation, maintenance, and replacement of electric, gas, television, cable, and telecommunications facilities (Dry Utilities). Utility easements shall also be granted within any access easements and private streets in the subdivision. Permanent structures, improvements, objects, buildings, wells, water meters and other objects that may interfere with the utility facilities or use thereof (Interfering Objects) shall not be permitted within said utility easements and the utility providers, as grantees, may remove any Interfering Objects at no cost to such grantees, including, without limitation, vegetation. Public Service Company of Colorado (PSCo) and its successors reserve the right to require additional easements and to require the property owner to grant PSCo an easement on its standard form.*

Public Service Company also requests that **all utility easements be depicted graphically on the preliminary and final plats**. While these easements may accommodate certain utilities to be installed in the subdivision, some additional easements may be required as planning and building progresses.

In addition, 31-23-214 (3), C.R.S., requires the subdivider, at the time of subdivision platting, to provide for major utility facilities such as electric substation sites, gas or electric transmission line easements and gas regulator/meter station sites as deemed necessary by PSCo. While this provision will not be required on every plat, when necessary, PSCo will work with the subdivider to identify appropriate locations. This statute also requires the subdivider to submit a letter of agreement to the municipal/county commission that adequate provision of electrical and/or gas service has been provided to the subdivisions.

The property owner/developer/contractor must contact the **Builder's Call Line** at 1-800-628-2121 or https://xcelenergy.force.com/FastApp (Register so you can track your application) and complete the application process for any new electric service. It is then the responsibility of the developer to contact the

Designer assigned to the project for approval of design details. Additional easements may need to be acquired by separate document for new facilities.

As a safety precaution, PSCo would like to remind the developer to call the **Utility Notification Center** at 1-800-922-1987 for utility locates prior to construction.

If you have any questions about this referral response, please contact me at (303) 571-3306.

Donna George
Contract Right-of-Way Referral Processor
Public Service Company of Colorado

Xcel Energy Comments and Responses

Public Service Company of Colorado's (PSCO) Right of Way & Permits Referral Desk has reviewed the plans and subdivision exemption plat for Prosper Wastewater Treatment Plant. As always, thank you for the opportunity to take part in the review process. To ensure that adequate utility easements are available within this development, PSCo requests that the following language or plat note be placed on the preliminary and final plats for the subdivision:

> Minimum ten-foot (10) wide dry utility easements are hereby dedicated on private property abutting all public streets. and around the perimeter of each commercial/ industrial lot in the subdivision or platted area. These easements are dedicated to Arapahoe County for the benefit of the applicable utility providers for the installation, maintenance, and replacement of electric, gas, television, cable, and telecommunications facilities (Dry Utilities). Utility easements shall also be granted within any access easements and private streets in the subdivision. Permanent structures, improvements, objects, buildings, wells, water meters and other objects that may interfere with the utility facilities or use thereof (Interfering Objects) shall not be permitted within said utility easements and the utility providers, as grantees, may remove any interfering Objects at no cost to such grantees, including, without limitation, vegetation. Public Service Company of Colorado (PSCo) and its successors reserve the right to require additional easements and to require the property owner to grant PSCo an easement on its standard form.

Public Service Company also requests that all utility easements be depicted graphically on the preliminary and final plats. While these easements may accommodate certain utilities to be installed in the subdivision, some additional easements may be required as planning and building progresses.

In addition, 31-23-214 (3), C.R.S., requires the subdivider, at the time of subdivision platting, to provide for major utility facilities such as electric substation sites, gas or electric transmission line easements and gas regulator/meter station sites as deemed necessary by PSCo. While this provision will not be required on every plat, when necessary, PSCo will work with the subdivider to identify appropriate locations. This statute also requires the subdivider to submit a letter of agreement to the municipal/county commission that adequate provision of electrical and/or gas service has been provided to the subdivisions.

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Designer assigned to the project for approval of design details. Additional easements may need to be acquired by separate document for new facilities.

As a safety precaution, PSCo would like to remind the developer to call the Utility Notification Center at 1-800-922-1987 for utility locates prior to construction.

Response: The requirements and development standards outlined above have been noted in our files.

BENNETT FIRE PROTECTION DISTRICT #7

DISTRICT OFFICE: 303-644-3572 FAX: 303-644-3401
EMAIL: LIFESAFETY@BENNETTFIRERESCUE.ORG
"Striving to Preserve Life and Property"

July 21st, 2016
Sherman Feher
Arapahoe County Public Works & Development
6924 S. Lima Street
Centennial, CO 80112

Re: AS116-001, Prosper Wastewater Treatment Plant 1041 Permit / Areas of State Interest and L 16-002, Prosper Wastewater Treatment Plant/ Location and Extent and X16-001, Prosper Wastewater Treatment Plant/Subdivision Exemption

Planner Feher,

In regards case AS116-001, Prosper Wastewater Treatment Plant 1041 Permit / Areas of State Interest and L 16-002, Prosper Wastewater Treatment Plant/ Location and Extent and X16-001, Prosper Wastewater Treatment Plant/Subdivision Exemption, Bennett Fire Protection District has the following comments and considerations:

- Bennett Fire Protection District currently serves this location as it falls within our Fire Protection District and has no objections to the proposed development.

- The applicant shall consult with Bennett Fire Protection District to ensure all aspects of the project conform to the District's adopted fire code (2012 IFC).

- The developer shall ensure that the proposed water systems pertaining to hydrant distribution for fire suppression is adequate to protect the proposed development as well as meet the design criteria of both Arapahoe County and the Bennett Fire Protection District. Considerations for design requirements shall include adopted codes and standards as well as ISO distribution and fire flow requirements.

- Bennett Fire Protection District will accept the proposed temporary road guidelines contained in the referral. All temporary and permanent roads constructed for any part of the development shall conform to IFC fire apparatus access requirements.

- As the proposed temporary access road will serve as the interim sole means of providing emergency services to the facility, the proposed temporary access road shall be maintained at all times during its service life of the facility. This includes, grading, maintenance, and snow removal. If at any times Bennett Fire Protection District deems the road inadequate for the provision of emergency services, the applicant shall work with the Fire District to make necessary improvements.

- The internal access road design includes roads which are 20ft in width. The current IFC standard for fire apparatus access roads with a fire hydrant is 26ft in width at the point of the hydrant. The applicant may need to make minor revisions at the hydrant locations to meet this width.

- The processing of waste water often involves the storage and use of hazardous materials. This information shall be provided to Bennett Fire Protection District to be reviewed and approved.

- Facilities which store or use hazardous materials are often classified as "H" occupancies, which require fire sprinkler suppression or special electrical considerations. Applicant shall ensure the facility design meets the District's adopted fire code requirements.

- KNOX Fire Department Key access hardware shall be provided for all vehicle access gates as well as each building on site.

Thank You

Caleb J. Connor
Fire Marshal
Life Safety Division
Bennett Fire Protection District
303-644-3572 - Headquarters / 303-532-7733 - Direct
www.BennettFireRescue.org

Bennett Fire Protection District Comments and Responses

In regards case AS116-001, Prosper Wastewater Treatment Plant 1041 Permit / Areas of State Interest and L 16-002, Prosper Wastewater Treatment Plant/ Location and Extent and X16-001, Prosper Wastewater Treatment Plant/Subdivision Exemption, Bennett Fire Protection District has the following comments and considerations:

• Bennett Fire Protection District currently serves this location as it falls within our Fire Protection District and has no objections to the proposed development.

• The applicant shall consult with Bennett Fire Protection District to ensure all aspects of the project conform to the District's adopted fire code (2012 IFC).

Response: The applicant will coordinate aspects with the Fire Code and District.

• The developer shall ensure that the proposed water systems pertaining to hydrant distribution for fire suppression is adequate to protect the proposed development as well as meet the design criteria of both Arapahoe County and the Bennett Fire Protection District. Considerations for design requirements shall include adopted codes and standards as well as ISO distribution and fire flow requirements.

Response: Fire hydrant distribution and required fire suppression will be incorporated into the final construction drawings for the site and buildings/facilities.

• Bennett Fire Protection District will accept the proposed temporary road guidelines contained in the referral. All temporary and permanent roads constructed for any part of the development shall conform to IFC fire apparatus access requirements.

Response: Access roads will meet IFC requirements for access.

• As the proposed temporary access road will serve as the interim sole means of providing emergency services to the facility, the proposed temporary access road shall be maintained at all times during its service life of the facility. This includes, grading, maintenance, and snow removal. If at any times Bennett Fire Protection District deems the road inadequate for the provision of emergency services, the applicant shall work with the Fire District to make necessary improvements.

Response: The temporary road will be maintained to provide all-season access.

• The internal access road design includes roads which are 20ft in width. The current IFC standard for fire apparatus access roads with a fire hydrant is 26ft in width at the point of the hydrant. The applicant may need to make minor revisions at the hydrant locations to meet this width.

Response: Some hydrant locations moved to intersection and other locations the road has been widened to 26’ per IFC.

• The processing of waste water often involves the storage and use of hazardous materials. This information shall be provided to Bennett Fire Protection District to be reviewed and approved.

Response: Hazardous materials including the storage will be reviewed with the Bennett Fire Protection District.

• Facilities which store or use hazardous materials are often classified as ”H" occupancies, which require fire sprinkler suppression or special electrical considerations. Applicant shall ensure the facility design meets the District's adopted fire code requirements.

Response: The Applicant will ensure the facility design meets the District’s adopted fire code requirements including NFPA 820 requirements for Fire Protection in Wastewater Treatment and Collection Facilities.

• KNOX Fire Department Key access hardware shall be provided for all vehicle access gates as well as each building on site.

Response: A KNOX Box will be provided for the gate.

Arapahoe County
Colorado's First

Public Works and Development
6924 S. Lima Street Centennial, Colorado 80112 Phone: 720-874-6650; FAX 720-874-6611
www.co.arapahoe.co.us

Planning Division

Phase II Referral Routing

Case Number / Case Name:	**ASI16-001, Prosper Wastewater Treatment Plant 1041 Permit / Areas of State Interest and L16-002, Prosper Wastewater Treatment Plant / Location and Extent and X16-001, Prosper Wastewater Treatment Plant/Subdivision Exemption**
Planner:	**Sherman Feher**
Engineer:	**Sarah L White**
Date:	**July 8, 2016**
Date to be returned:	**August 8, 2016**

	Arapahoe County Agencies				
☒	Assessor / Arapahoe County (Residential)	Karen Hart		**Citizen's Organizations**	
☐	Attorney / Arapahoe County	Robert Hill	☐	CCNA-Cherry Creek Neighborhoods Ass.	
☐	Building / Arapahoe County	Steve Byer	☐	CECON-(Within Centennial)	
☒	Engineering / Arapahoe County	Sarah L. White	☐	Four Square Mile Neighborhood	
☒	Mapping / Arapahoe County	Pat Hubert	☐	South Metro Chamber of Commerce	
☐	Oil & Gas / Arapahoe County	Diane Kocis		**Conservation District**	
☒	Open Space / Arapahoe County	Shannon Carter	☐	Deer Trail Conservation District	
☒	Planning / Arapahoe County	Sherman Feher	☒	West Arapahoe Conservation District	Tasha Chevarria
☒	Sheriff / Arapahoe County	1 to Brian McKnight 1 to Glenn Thompson		**Transportation**	
☒	Weed Control / Arapahoe County	Russell Johnson	☐	CDOT / State Highway Dept- Region 1	Rick Solomon
☒	Zoning / Arapahoe County	Tammy King	☐	E-470 Authority	Peggy Davenport
	Referral Agencies		☐	RTD	Chris Quinn
☐	Architectural Review Committee		☐		
☐	Airport or Military Base			**Utilities: Gas, Electric & Phone**	
☐	CGS Colorado Geological Survey-Soils		☐	Centurylink/Phone	Charles Place
☒	City / Town	Aurora	☐	Conoco Phillips / Gas Pipeline	
☒	Colorado Parks and Wildlife	Travis Harris	☒	XCEL	Donna George
☐	County		☐	IREA	Brooks Kaufman
☐	DRCOG			**Water / Sanitation / Stormwater / Wetlands**	
☒	Bennett Fire Protection District	**Caleb Connor**	☐	ACWWA	
☐	Metro District		☒	U.S. Army Corp. of Engineer	Kiel Downing
☐	Post Office Growth Coordinator	J. Hernandez	☐	CCBWQA	
☒	Reap I-70 Regional Economic Advancement Partnership	Matt Reay and Jack Keever	☐	Colorado Division of Water Resources	Joanne Williams
☐	Recreation District / Park District (External)		☐	SEMSWA	Paul Danley
☐	Bennett School District #29J Aurora School District	Keith Yach	☐	ECCVW&S	Chris Douglass
☐	Special District		☒	Urban Drainage & Flood	David Mallory
☒	Tri-County Health Department	Sheila Lynch	☒	Other / 5 Sets East End Adv. Committee	
☐					

The enclosed case has been submitted to the Arapahoe County Planning Office for consideration. Because of the possible effect of the proposed development upon your area, the case is being referred for your comment. Please examine this request and, after review, check the appropriate line and return to the Arapahoe County Planning Office on or before the date indicated above.

	COMMENTS:	SIGNATURE
☒	Have NO Comments to make on the case as submitted	7/11/16
☐	Have the following comments to make related to the case:	

August 9, 2016

Sherman Feher.
Arapahoe County Planning Department
6924 S. Lima Street
Centennial, CO 80112

RE: ASI 116-001, Prosper Wastewater Treatment Plant 1041 Permit/Areas of State Interest
L16-002, Prosper Wastewater Treatment Plant/Location and Extent
X16-001, Prosper Wastewater Treatment Plant/Subdivision Exemption
Prosper Wastewater Treatment Plant
TCHD Case No. 3993

Dear Mr. Feher:

Thank you for the opportunity to review and comment on the 1041 Permit/Areas of State Interest, Location and Extent, and Subdivision Exemption for the proposed Prosper Wastewater Treatment Plant (WWTP). Tri-County Health Department (TCHD) staff has reviewed the application for compliance with applicable public and environmental health regulations. After reviewing the application, TCHD has the following comments.

The Site Application and Utility Plan for the WWTP indicate that the recommended WWTP is a Membrane Bioreactor (MBR). Section 7 b. of the Application Submittal states: "This plant will include modern wastewater treatment facilities with biological nutrient removal (BNR) and filtration for the production of reuse water. The Location and Extent drawings depicting the WWTP (Sheets 1-15) are typical of a Biological Nutrient Removal (BNR) System. TCHD recommends that the drawings be revised to reflect the preferred alternative of an MBR.

Sheet 5 of the drawings indicates that the WWTP site is bounded on the east by a floodway and on the west by floodplain. The Location and Extent Plan shows an access road to the site across the Rat Run Drainageway. Construction of the road may alter the floodplain, and future flood events may impede or prevent access to the site. TCHD recommends that the applicant address any applicable regulatory and technical issues associated with the floodplain alteration and also site access.

Section 10, Dust and Odor: The second sentence states: Odor control equipment will be installed at the influent lift station and at the Headworks Building of the WWTP. These facilities are typically the source of the majority of odors at WWTP's. The Location and Extent drawings indicate that the WWTP is in close proximity to future residences. TCHD is concerned that odors will also be produced from the aeration basins, resulting in complaints from nearby residents. Consequently, TCHD recommends that the aeration basins be covered. The Water Quality Control Division

(WQCD) also has requirements for setbacks from residential areas. Please describe how the proposed facilities will comply with the WQCD's setback polices.

TCHD has submitted comments regarding the WWTP Site Application and Utility Plan that are relevant to the subject case I have included our comment letter as an enclosure to this letter.

Please feel free to contact me at (720) 200-1568 or wbrown@tchd.org if you have any questions regarding TCHD's comments.

Sincerely,

Warren S. Brown, P.E.
Senior Environmental Health Consultant

Enclosure

CC: Julio Iturreria, Larry Mugler, Arapahoe County
Bret Icenogle, P.E., David Kurz, P.E., CDPHE
Sheila Lynch, Steven Chevalier, TCHD

Tri-County Health Department Comments and Responses

Thank you for the opportunity to review and comment on the 1041 Permit/Areas of State Interest, Location and Extent, and Subdivision Exemption for the proposed Prosper Wastewater Treatment Plant (WWTP). Tri-County Health Department (TCHD) staff has reviewed the application for compliance with applicable public and environmental health regulations. After reviewing the application, TCHD has the following comments.

The Site Application and Utility Plan for the WWTP indicate that the recommended WWTP is a Membrane Bioreactor (MBR). Section 7 b. of the Application Submittal states: "This plant will include modern wastewater treatment facilities with biological nutrient removal (BNR) and filtration for the production of reuse water. The Location and Extent drawings depicting the WWTP (Sheets 1-15) are typical of a Biological Nutrient Removal (BNR) System. TCHD recommends that the drawings be revised to reflect the preferred alternative of an MBR.
Response: The BNR system is presented in the Location and Extent (L&E) drawings as the largest footprint (worst case) treatment process alternative at full build-out of the WWTP (35-40 years from now). A note has been added to the L&E drawings under Specific Notes (1 of 15) and Phase Designations (2 of 15) describing the phasing in more detail. The MBR system is the selected treatment process alternative for the initial phase of the WWTP (2-5 years from now) and is described in detail in the Site Application/Utility Plan. A Site Plan has been included in the Utility Plan report to show that the Phase 1 (MBR) is an integral part of the WWTP at build-out. The Metropolitan Districts will need to determine the selected treatment process for future phases as the demand of the WWTP increases.

Sheet 5 of the drawings indicates that the WWTP site is bounded on the east by a floodway and on the west by floodplain. The Location and Extent Plan shows an access road to the site across the Rat Run Drainageway. Construction of the road may alter the floodplain, and future flood events may impede or prevent access to the site. TCHD recommends that the applicant address any applicable regulatory and technical issues associated with the floodplain alteration and also site access.
Response: We have determined that there is no alteration to the floodzone and the floodway on the east side of the property.

The proposed access road, located on the west side of the property has been designed to match the existing grade across the floodzones of Rat Run and of Rat 1-D (a tributary to Rat Run). By matching the existing grade across these drainages it is shown that the elevation of the 100 yr storm event within the drainages, will not increase, thus the roadway has no impact on the floodzones. We have provided analysis of these 2 drainages to Arapahoe County to confirm our findings. Arapahoe County is further requiring that a "No Rise Certificate" be provided by our office to confirm and document these findings.

The access roadway is comprised of a gravel surface, and is identified as temporary until such time as a future paved is completed in the area. There is no specific timetable for the future permanent roadway construction.

As the access road is placed at the natural ground elevation across the 2 drainageways, it will overflow and "flood" during storm events. Maximum flow depth at the 100 yr event has been determined to be 18" at the roadway crossings. Staff personal will be trained on use of

the roadway during pending and actual storm events. Standard vehicles may be required to be temporarily parked outside of the floodzone areas, with staff being transported into the site with all-terrain vehicles.

An ultimate emergency means of access is available to the site from I-70.

Bennett Fire Department has reviewed the site plan and accessibility route and have determined it to be sufficient.

Section 10, Dust and Odor: The second sentence states: Odor control equipment will be installed at the influent lift station and at the Headworks Building of the WWTP. These facilities are typically the source of the majority of odors at WWTP's. The Location and Extent drawings indicate that the WWTP is in close proximity to future residences. TCHD is concerned that odors will also be produced from the aeration basins, resulting in complaints from nearby residents. Consequently, TCHD recommends that the aeration basins be covered. The Water Quality Control Division (WQCD) also has requirements for setbacks from residential areas. Please describe how the proposed facilities will comply with the WQCD's setback polices.
Response: The WQCD's setback distances are not met thus odor mitigating elements will be incorporated into the design including aeration system failure alarms, covering or enclosing the digester and process basins, and providing odor control systems for the influent lift station and headworks building.

Section 16

Additional Submittal Requirements Applicable to Major Water and Sewer Projects

This report serves as the 1041 application submittal for the Prosper Wastewater Treatment Plant (WWTP) to be constructed on the Prosper Development property and to serve only the Prosper Community. The Prosper Development 1041 submitted on October 20, 2014 and the Prosper Preliminary Development Plan (PDP) dated November 10, 2015 have been approved by Arapahoe County and are referenced throughout this report. For reference, the approved PDP is provided in **Attachment F**.

The WWTP project is located between Hayesmount Road and N Watkins Road just south of interstate 70 in the north portion of parcel #035150836 and in Planning Area 71 of the Prosper PDP. This project includes 8.5 acres and is currently zoned Prosper PDP WWTP. The proposed building structures include an administration/lab, headworks/lift station, aeration basins, pumping station/blower building, secondary clarifiers, UV/reuse water, digester blower building, aerobic digesters, solids handling, and a maintenance shop. Additional facilities include a backup power diesel generator, site roads, parking areas, and drainage ponds and facilities.

a. Existing Wastewater Treatment Facilities

The descriptions of existing wastewater treatment facilities in the vicinity of the project are found below with their locations shown in **Figure 16-1**.

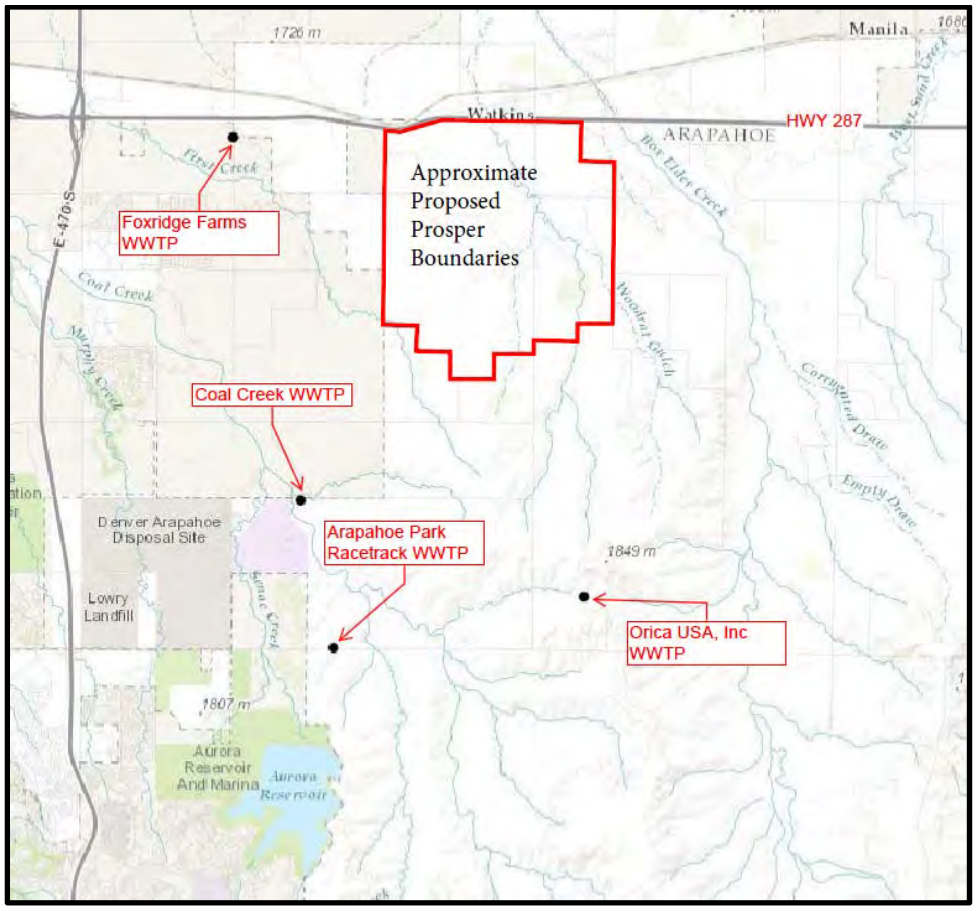


Figure 16-1 Existing Wastewater Treatment Facilities

Metro Wastewater Reclamation District

Wastewater from the area to the north and west of the proposed development along with the area to the east of the proposed development along I-70 is collected by Aurora Water and sent to the Metro Wastewater Reclamation District (MWWRD) for treatment, as shown in **Figure 16-2**. The MWWRD serves 1.7 million people within 60 local governments including Denver, Arvada, Aurora, Brighton, Lakewood, Thornton, Westminster, and parts of Adams and Arapahoe County.

The MWWRD operates two treatment facilities. The Robert W. Hite Treatment Facility currently treats an average of 130 million gallons per day (mgd) and has a peak capacity of 220 mgd. The Northern Treatment Plant, opening in 2016, will have an initial peak capacity of about 24 mgd with available room for expansion up to 60 mgd. The Robert W. Hite Treatment Facility is located at 6450 York Street and discharges to the Upper South Platte Segment 15 in two locations each of which is adjacent to its site. The North Treatment Facility is located at Highway 85 and 168th Avenue and will also discharge to the Upper South Platte Segment 15 adjacent to its site.

The discharge permit requirements for the Robert W. Hite Treatment Facility are provided in **Table 16-1**. Currently, there is not an approved permit for the North Treatment Facility but discharge requirements are expected to be similar to those for the Robert W. Hite Treatment Facility. MWWRD completed a water-quality modeling report dated April 7, 2014 to determine if the current effluent limits could be revised. The report is still under review, but may lead to changes in the discharge limits provided in **Table 16-1**.

Table 16-1 Effluent Discharge Limits for the Robert W. Hite Treatment Facility

Effluent Parameter	Discharge Limits - Maximum Concentrations		
	30-Day Average	7-Day Average	Daily Maximum
Flow, MGD			
Outfall 001C	220.0 a/	N/A	Report e/
Outfall 003A	Report a/	N/A	Report e/
5-day Carbonaceous Biochemical Oxygen Demand (CBOD5), mg/l			
Outfall 001C	17.0 a/	25.0 b/	N/A
Outfall 003A	25.0 a/	40.0 b/	N/A
Total Suspended Solids (TSS), mg/l			
Outfall 001C	30.0 a/	45.0 b/	N/A
Outfall 003A	30.0 a/	45.0 b/	N/A
E. Coli., Number/100 ml, Outfall 001C	126.0 c/	252.0 c/	N/A
Total Residual Chlorine, mg/l, g/, s/, t/			
Outfall 001C	0.011 a/	N/A	0.019 d/
pH, s.u. (minimum-maximum)			
Outfall 001C	N/A	N/A	6.0-9.0 d/
Outfall 003A	N/A	N/A	6.0-9.0 d/
Oil and Grease, mg/l			
Outfall 001C i/	N/A	N/A	10.0 d/
Outfall 003A i/	N/A	N/A	10.0 d/
Dissolved Oxygen (minimum), mg/l	N/A	5.0 b/	3.0 d/
Total Ammonia (as N), mg/l - Through 12/31/2014			
January through February	15.0 a/	N/A	30.0 e/
March	14.0 a/	N/A	26.6 e/
April	14.0 a/	N/A	25.6 e/
May	13.0 a/	N/A	25.9 e/

Table 16-1 Effluent Discharge Limits for the Robert W. Hite Treatment Facility

Effluent Parameter	Discharge Limits - Maximum Concentrations		
	30-Day Average	7-Day Average	Daily Maximum
June	13.0 a/	N/A	27.0 e/
July	10.0 a/	N/A	21.5 e/
August	9.7 a/	N/A	23.4 e/
September	10.0 a/	N/A	26.7 e/
October	10.0 a/	N/A	23.4 e/
November	14.0 a/	N/A	24.1 e/
December	15.0 a/	N/A	27.8 e/
Total Ammonia (as N) - Beginning 1/1/2015			
January	4.60 a/	N/A	6.31 e/
February	4.47 a/	N/A	6.17 e/
March	4.22 a/	N/A	8.29 e/
April	4.13 a/	N/A	9.21 e/
May	3.08 a/	N/A	11.21 e/
June	2.77 a/	N/A	12.67 e/
July	2.37 a/	2.00 b/	10.37 e/
August	2.04 a/	1.75 b/	10.13 e/
September	2.72 a/	2.23 b/	9.14 e/
October	3.34 a/	N/A	9.18 e/
November	3.54 a/	N/A	7.84 e/
December	4.64 a/	N/A	7.97 e/
Nitrate Plus Nitrite, mg/l as N	N/A	8.68 b/	N/A
Cadmium, PD, ug/l	Report a/	N/A	Report e/
Copper, PD, ug/l	Report a/	N/A	Report e/
Iron, PD, ug/l	Report a/	N/A	N/A
Mercury, PD, ug/l	Report a/	N/A	Report e/
Selenium, PD, ug/l	Report a/	N/A	Report e/
Cyanide, Weak Acid Dissociable, ug/l	Report a/	N/A	N/A
Tetrachloroethene (PERC), ug/l	5.06 a/	N/A	N/A
Diazinon, ug/l	Report a/	N/A	Report e/
Whole Effluent Toxicity, Chronic	N/A	N/A	Statistical Difference and IC25 < IWC=98.7%

The monthly service fee and rate charged to Aurora Water residential customers are $3.81 for 5/8 inch and 3/4 inch taps and $3.50 per 1,000 gallons. The rate remains the same for multifamily and commercial buildings, but the service fee varies based on tap size. The Denver, Aurora Water, and South Adams County Water & Sewer District sanitary sewer rates are provided in **Attachment G**.

The service area boundaries for MWWRD are shown in **Figure 16-2**. As of December 31st, 2014 MWWRD's long-term debt consisted of approximately $656.7 million in bonds payable. MWWRD's Moody's Investors Services and Standard & Poor's bond ratings are Aa1 and AAA, respectively. Additional information on the MWWRD's finances can be found in the "Metro Wastewater Reclamation District Basic Financial Statements and Supplementary Information December 31, 2014 and 2013", provided in **Attachment G**.

Miscellaneous Facilities

The Foxridge Farms community is located on I-70 approximately 3 miles west of the proposed Prosper development and treats wastewater from the Foxridge Farms community at an onsite facility. The facility is sized for a 0.13 mgd average day flow. The facility discharges treated effluent to First Creek (discharge point 001A) and has an internal discharge for BOD and TSS monitoring (discharge point 001B). Discharge limits are provided in **Table 16-2.**

Table 16-2 Effluent Discharge Limits for the Foxridge Farms Treatment Facility Outfall 001A (and 001B where noted)

Effluent Parameter	Discharge Limits - Maximum Concentrations		
	30-Day Average	7-Day Average	Daily Maximum
Flow, MGD			
Outfall 001A	0.13	N/A	Report
pH, su (minimum-maximum)	N/A	N/A	6.5-9
E. Coli., Number/100 ml	126.0	252.0	N/A
Total Residual Chlorine, mg/l	0.011	N/A	N/A
Total Ammonia (as N), mg/l			
January	3.7	N/A	15.2
February	3.4	N/A	12.8
March	3.4	N/A	14.6
April	3.2	N/A	14.1
May	2.7	N/A	13.7
June	2.5	N/A	16.1
July	2.2	N/A	16.4
August	1.9	N/A	13.4
September	2.1	N/A	14.1
October	2.2	N/A	12.3
November	3.0	N/A	14.2
December	3.2	N/A	13.2
BOD5, effluent, mg/l (Outfall 001B)	30	45	N/A
BOD5, % removal (Outfall 001B)	85 (min)	N/A	N/A
TSS, effluent, mg/l (Outfall 001B)	30	45	N/A
TSS, % removal (Outfall 001B)	85 (mIn)	N/A	N/A
Oil and Grease, visual	N/A	N/A	Report
Oil and Grease, mg/l	N/A	N/A	10
Arsenic, TR, ug/l	Report	N/A	ug/l
Cadmium, PD, ug/l	Report	N/A	Report
Chromium 3+, PD, ug/l	Report	N/A	Report
Chromium 6+, DIS, ug/l	11	N/A	Report
Copper, PD, ug/l	29	N/A	50
Copernicium, WAD, ug/l	N/A	N/A	5
Iron, TR, ug/l	Report	N/A	N/A
Lead, PD, ug/l	Report	N/A	Report
Manganese, PD, ug/l	Report	N/A	Report
Mercury, TOT, ug/l, Until 9/30/2018	Report	N/A	Report
Mercury, TOT, ug/l, Beginning 10/1/2018	0.01	N/A	N/A
Nickel, PD, ug/l	Report	N/A	Report
Selenium, PD, ug/l	Report	N/A	Report
Silver, PD, ug/l	Report	N/A	Report

Table 16-2 Effluent Discharge Limits for the Foxridge Farms Treatment Facility Outfall 001A (and 001B where noted)

Effluent Parameter	Discharge Limits - Maximum Concentrations		
	30-Day Average	7-Day Average	Daily Maximum
Zinc, PD, ug/l	Report	N/A	Report
WET, Chronic Until 12/31/2017			
Static Renewal 7 Day Chronic Pimephales Promelas	N/A	N/A	Report
WET, Chronic Beginning 1/1/2018			
Static Renewal 7 Day Chronic Pimephales Promelas	N/A	N/A	NOEC or IC25 > IWC
Static Renewal 7 Day Chronic Ceriodaphnia Dubia	N/A	N/A	NOEC or IC25 > IWC

The area to the south and east of the proposed development is minimally populated. However, there are separate facilities serving the Arapahoe Park Racetrack and Orica USA Inc. facilities. These treatment facilities are sized to treat wastewater from these entities only and could not treat an additional inflow from the Prosper development.

The Arapahoe Park Racetrack Treatment Facility is rated for 0.03 mgd and discharges to a ditch that is tributary to Murphy Creek. Discharge limits for the Arapahoe Park Racetrack are provided in **Table 16-3.**

Table 16-3 Effluent Discharge Limits for the Arapahoe Park Racetrack Treatment Facility Outfall 001A

Effluent Parameter	Discharge Limits - Maximum Concentrations		
	30-Day Average	7-Day Average	Daily Maximum
Flow, MGD	0.03	N/A	Report
BOD5, mg/l	30	45	N/A
BOD5, % removal	85 (min)	N/A	N/A
Total Suspended Solids, mg/l			
Aerated Lagoons	75	110	N/A
Total Residual Chlorine, mg/l	0.011	N/A	0.019
pH, su (minimum-maximum)	N/A	N/A	6.5-9
Oil and Grease, visual	N/A	N/A	Report
Oil and Grease, mg/l	N/A	N/A	10
E. Coli., Number/100 ml	126.0	252.0	N/A
Potentially Dissolved Selenium, ug/l	Report	N/A	Report
Total Ammonia (as N), mg/l			
January	5.1	N/A	13
February	4.7	N/A	11
March	3.2	N/A	7.3
April	1.9	N/A	6.1
May	2.4	N/A	7.9
June	3.0	N/A	10
July	2.3	N/A	9.7
August	1.9	N/A	7.9
September	2.3	N/A	8.7
October	3.4	N/A	11
November	3.7	N/A	11
December	3.7	N/A	8.9

The Orica USA Treatment Facility is rated for 0.012 mgd and discharges to an unidentified creek. Discharge limits for the Orica USA Facility are provided in **Table 16-4.**

Table 16-4 Effluent Discharge Limits for the Orica USA Treatment Facility Outfall 001A

Effluent Parameter	Discharge Limits - Maximum Concentrations		
	30-Day Average	7-Day Average	Daily Maximum
Flow, MGD	0.012	N/A	Report
BOD5, mg/l	30	45	N/A
BOD5, % removal	85 (min)	N/A	N/A
TSS, effluent, mg/l	30	45	N/A
TSS, % removal	85 (min)	N/A	N/A
Total Residual Chlorine, mg/l	0.011	N/A	0.019
pH, su (minimum-maximum)	N/A	N/A	6.5-9
Oil and Grease, visual	N/A	N/A	Report
Oil and Grease, mg/l	N/A	N/A	10
E. Coli., Number/100 ml	126.0	252.0	N/A
Total Ammonia (as N), mg/l			
January	7.1	N/A	24
February	6.9	N/A	22
March	7.1	N/A	26
April	4.9	N/A	25
May	4.9	N/A	25
June	5.2	N/A	29
July	4.4	N/A	26
August	4.5	N/A	27
September	5	N/A	30
October	5.8	N/A	30
November	6	N/A	25
December	7.4	N/A	28

The Coal Creek Wastewater Reclamation Facility, is managed by the Rangeview Metropolitan District/Pure Cycle and serves or will serve approximately 40 square mile of the Lowry Range and other areas by contract, including the Arapahoe County Fairgrounds and Front Range Airport. The Coal Creek Wastewater Reclamation Facility has a treatment capacity of 0.13 mgd and discharges to Coal Creek. Discharge limits for the Coal Creek Reclamation Facility are provided in **Table 16-5.**

Table 16-5 Effluent Discharge Limits for the Coal Creek Reclamation Facility Outfall 001A

Effluent Parameter	Discharge Limits - Maximum Concentrations		
	30-Day Average	7-Day Average	Daily Maximum
Flow, MGD	0.13	N/A	Report
CBOD5, mg/l	25	40	N/A
CBOD5, % removal	85 (min)	N/A	N/A
TSS, effluent, mg/l	75	110	N/A
TSS, % removal	Report	N/A	0.5
Total Residual Chlorine, mg/l	0.011	N/A	0.019
pH, su (minimum-maximum)	N/A	N/A	6.5-9
Oil and Grease, visual	N/A	N/A	Report

Table 16-5 Effluent Discharge Limits for the Coal Creek Reclamation Facility Outfall 001A

Effluent Parameter	Discharge Limits - Maximum Concentrations		
	30-Day Average	7-Day Average	Daily Maximum
Oil and Grease, mg/l	N/A	N/A	10
E. Coli., Number/100 ml	205	410	N/A
Total Ammonia (as N), mg/l			
January	3.5	N/A	8.5
February	3.1	N/A	7.5
March	2.2	N/A	4.9
April	1.9	N/A	4.1
May	2.4	N/A	5.3
June	3.0	N/A	7.1
July	2.3	N/A	6.4
August	1.9	N/A	5.3
September	2.3	N/A	5.8
October	3.1	N/A	7.4
November	3.1	N/A	7.4
December	2.6	N/A	6.0

b. Consolidation Analysis

Metro Wastewater Reclamation District

Although the MWWRD treatment facility is large and already constructed, the current MWWRD service boundaries do not encompass all of the Prosper development. It is assumed the MWWRD facilities were not sized to accommodate wastewater flows outside of their current service boundary. Additionally, if the Prosper development sent their wastewater to MWWRD for treatment they would not be able to utilize reuse water benefits from having their own WWTP. As described in the January 2014 Water Supply Plan Report by HRS Water Consultants provided in **Attachment D**, reuse water will contribute to approximately 32% of the total water supply for the development at buildout.

Miscellaneous Facilities

The Fox Ridge Farms, Arapahoe Race Track, Orica USA Inc., and Coal Creek Wastewater Reclamation facilities do not have excess capacity to support wastewater flows from the Prosper development. The cost of upgrading these existing facilities to treat the increased capacity would be similar to constructing the Phase 1 WWTP on the Prosper property. Similar to MMWRD, constructing a sanitary sewer line to any of these facilities would be expensive and it is more affordable to keep the wastewater treatment on the Prosper property. Another benefit of having an onsite WWTP is Prosper can more easily take advantage of the reuse water generated by the WWTP.

c. Effects on Adjacent Communities

There will be no effect on adjacent communities as the land surrounding the WWTP site is undeveloped and the WWTP will be designed to treat only the wastewater generated from the Prosper Development. Almost all of the domestic wells in the vicinity of Prosper are completed in the Denver and Upper Arapahoe aquifers. Prosper proposes to install wells in the Lower Arapahoe and Laramie-Fox Hills aquifers. Therefore, Prosper well pumping will not affect Denver and Upper Arapahoe aquifer wells in the vicinity of Prosper. Moreover, Prosper's augmentation plan applied for in pending Case No. 13CW3143, by which it will receive legal approval to recapture and reuse up to 800 acre feet of its reusable effluent, has been carefully structured to assure that local alluvial groundwater appropriators will not be injured. This is accomplished by requiring the delivery of the effluent

to the alluvium in advance of the pumping and limiting the amount of the pumping to the amount delivered in advance. This assures that the depletions from the alluvial well pumping are replaced as the pumping occurs. Unlike Prosper's plan, conventional augmentation plans in this area (including both pending and decreed plans) have historically not attempted to prevent injury to local alluvial groundwater appropriators and have received decrees that involve replacement only on the South Platte River.

d. Demand Projections

In reference to the approved Prosper Development 1041, the Prosper development is estimated to be implemented in multiple phases over 30 years. Arapahoe County has identified Interstate 70 east corridor as a potential growth area (Planning Reserve) that extends from the City of Aurora to Deer Trail. This growth area has been divided into three tiers or phases of growth. Tier I of this growth corridor will occur from the west that extends east to the existing Bennett town core. Prosper is located in the western portion of the tier I growth corridor. Market and feasibility studies have been prepared for the corridor with each outlining a demand for commercial, light industrial and a variety of residential land uses.

The projected Prosper development wastewater influent flows over the next 30 years are provided in **Table 16-6**.

Table 16-6 Prosper Development Projected Flows

Year	Phase	Total Single Family Equivalents	Max Month Daily Flow, MGD
2017	1	950	0.265
2027	2	2591	0.722
2037	3	5885	1.639
2047	4	11850	3.30

e. Reuse Water

A portion of the WWTP final effluent will be used for on and off site reuse water. A filter system and sodium hypochlorite disinfection will be used to ensure the wastewater meets the CDPHE reuse criteria. On-site re-use water will provide water for pump lubrication, on-site irrigation, and yard hydrants. Off-site reuse water will be pumped to Box Elder Creek for use throughout the development. Approximately 32% of the total water supply demand of the development at buildout will be met by reuse water produced at the WWTP.

Prosper has a Box Elder Creek augmentation plan case pending in Division 1 Water Court, Case No. 13CW3143. The case includes four Box Elder Creek alluvial wells. In order for the wells to pump stream depletion from Box Elder Creek, well pumping will be replaced with reusable WWTP effluent that will be discharged to Box Elder Creek through a pipeline from the Prosper WWTP. Alluvial well pumping and the reuse discharge pipeline will first be used when approximately 200 gallons per minute of reuse water is available which is estimated to occur in the early stages of Phase 2.

f. Urban Development

The proposed WWTP location and surrounding areas are currently undeveloped with the St. Isadore Church located directly to the east. The WWTP will be located on the approved Prosper Development PDP WWTP site and will grow in phases as the population of the development increases. Land use to the north of the WWTP is zoned as open space/agricultural and to south is zoned as high density residential. The WWTP will be designed so that the majority of the treatment processes will not be visible from major roads, homes, or business and those structures that are visible will architecturally blend in with the design theme of the development. The WWTP project will not affect existing stormwater or sanitation systems as these systems will be integrated as part of the new WWTP.

g. Other Municipal and Industrial Projects

Only one possible water or wastewater project was identified in the vicinity of the Prosper development. The Colorado Department of Public Health and Environment (CDPHE) website was searched for permits for new water and wastewater projects in the vicinity and it did not produce any results. After further research a proposed development on the Sky Ranch property directly to the west of the proposed Prosper development was found as shown on **Figure 16-3**.

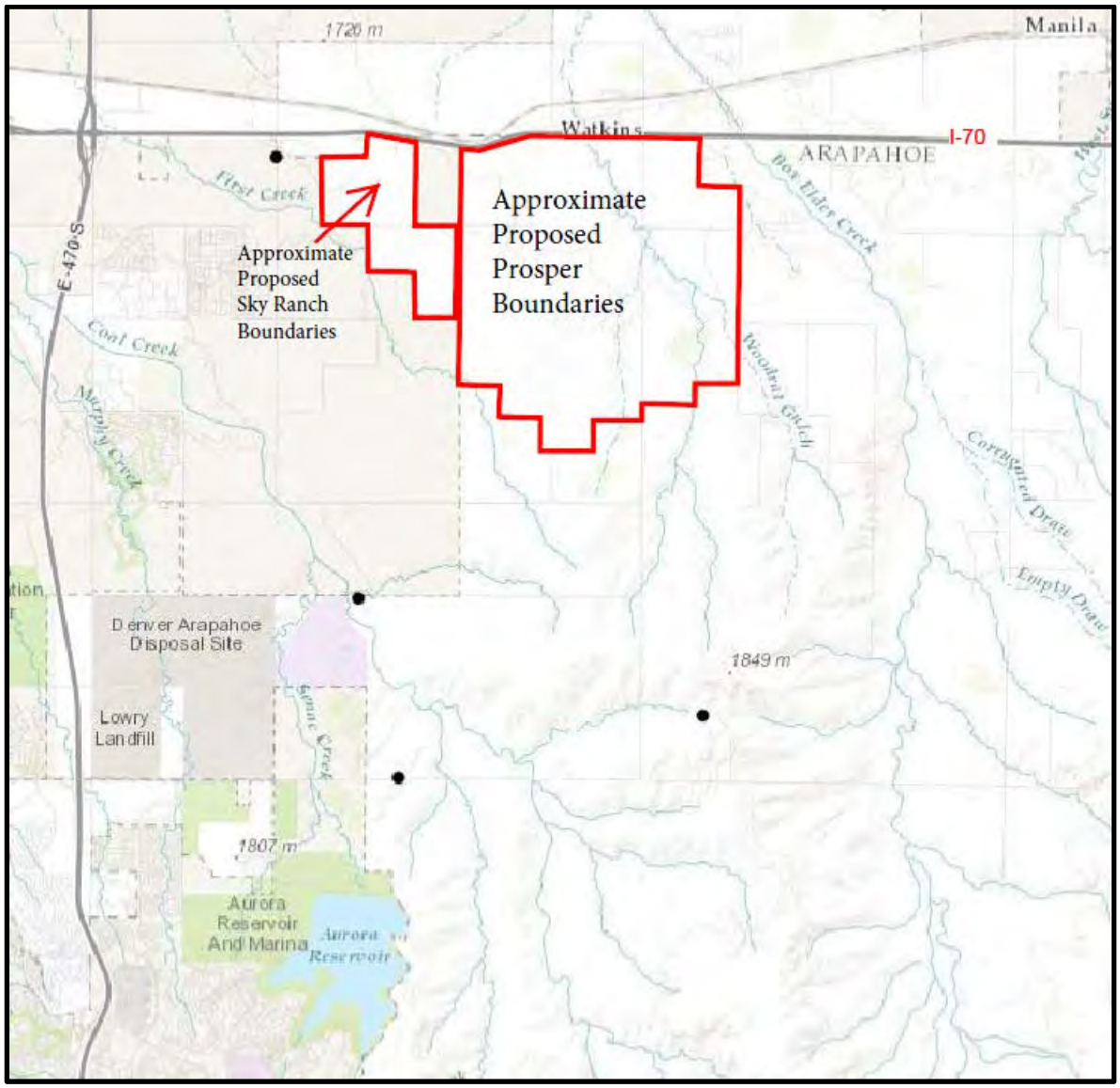


Figure 16-3 Sky Ranch Location and Boundaries

The Sky Ranch development will have water and wastewater facilities which will be similar to those for the proposed Prosper development. Due to the possible variability in the schedules for each project, the buildout size of each development, and the costs of transporting water and/or wastewater from one development to the other, the difficulties of combining the two treatment systems outweigh the benefits. It is recommended that the two treatment systems serve their separate communities and not compete with one another.

Attachment A

Preliminary Plans

PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT
WASTEWATER TREATMENT PLANT

GENERAL NOTES

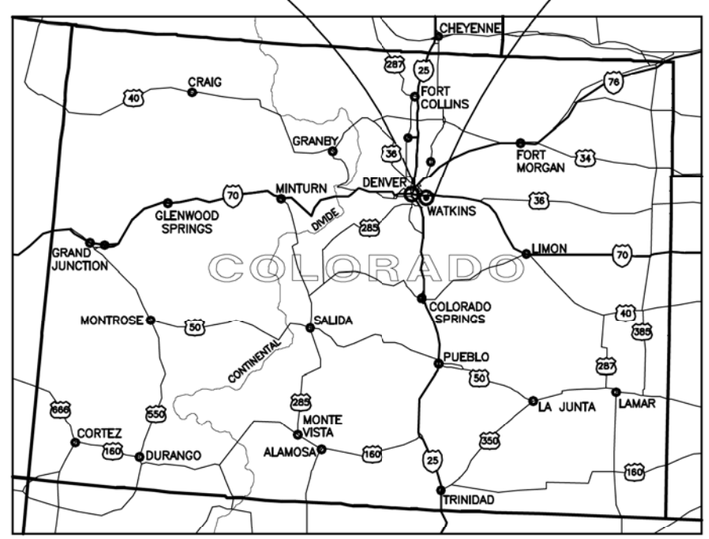
1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THESE CONTRACT DOCUMENTS AND BE SUBJECT TO CONSTRUCTION OBSERVATION BY THE CITY OF PROSPER REPRESENTATIVES OR PERSONNEL.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE PROCUREMENT OF ALL PERMITS NECESSARY FOR THE CONSTRUCTION OF THE IMPROVEMENTS SHOWN AND FOR NOTIFYING ALL UTILITY COMPANIES AFFECTED BY THIS CONSTRUCTION.
3. THE CONTRACTOR SHALL CONTACT UNCC AT 1-800-922-1987 48 HOURS PRIOR TO ANY EXCAVATION TO OBTAIN UTILITY LOCATIONS.
4. THE CONTRACTOR SHALL PROTECT ALL EXISTING VEGETATION, STRUCTURES AND UTILITIES.
5. ALL PIPING ON THIS PROJECT IS IDENTIFIED BY SERVICE. FOR PIPING SERVICE AND EQUIPMENT ABBREVIATIONS REFER TO DRAWING G-2.
6. ALL PIPING, PIPING APPURTENANCES, VALVES AND EQUIPMENT USED FOR THE NON-POTABLE WATER (2W) SYSTEMS SHALL BE NSF 61 CERTIFIED.
7. ALL ELEVATIONS ARE BASED ON SURVEY PROVIDED BY VOGEL AND ASSOCIATES, INC.
8. ALL EXISTING PROCESS MECHANICAL AND ELECTRICAL EQUIPMENT THAT IS TO REMAIN OR BE SALVAGED FOR REUSE SHALL BE PROTECTED FROM DAMAGE FROM CONSTRUCTION ACTIVITIES AND WEATHER. ALL EQUIPMENT DAMAGED BY CONSTRUCTION OR WEATHER SHALL BE REPLACED WITH EQUAL OR BETTER AT CONTRACTORS EXPENSE.

N

NO SCALE

N

NO SCALE



VICINITY AND LOCATION MAPS

DRAWING INDEX

DWG NO.	TITLE
--	COVER
G-1	PROCESS FLOW SCHEMATIC
G-2	HYDRAULIC PROFILE
G-3	PROJECT DESIGN CRITERIA
C-1	PRELIMINARY SITE LAYOUT
C-2	GRADING & DRAINAGE PLAN
C-3	UTILITY & PAVING PLAN
C-4	PRELIMINARY LANDSCAPE PLAN
A-1000	HEADWORKS BUILDING
A-4000	PROCESS PUMP STATION/BLOWER BUILDING
A-7000	UV BUILDING
A-8000	DIGESTER BLOWER BUILDING
A-8100	AEROBIC DIGESTERS
A-8500	SOLIDS HANDLING BUILDING
A-9000	ADMINISTRATION BUILDING
A-9500	MAINTENANCE SHOP
M-1000	INFLUENT LIFT STATION WETWELL PLAN
M-1001	HEADWORKS LOWER LEVEL PLAN
M-1002	INFLUENT LIFT STATION OPERATING FLOOR PLAN
M-1003	HEADWORKS MAIN LEVEL PLAN
M-3100	AERATION BASINS OVERALL LOWER LEVEL PLAN
M-3101	AERATION BASINS OVERALL UPPER LEVEL PLAN
M-4000	SECONDARY PROCESS PUMP STATION OVERALL LOWER LEVEL PLAN
M-4001	SECONDARY PROCESS PUMP STATION OVERALL UPPER LEVEL PLAN
M-5101	SECONDARY CLARIFIERS 1 AND 2 LOWER LEVEL PLAN
M-5102	SECONDARY CLARIFIERS 1 AND 2 UPPER LEVEL PLAN
M-5301	SECONDARY CLARIFIERS 3 AND 4 LOWER LEVEL PLAN
M-5302	SECONDARY CLARIFIERS 3 AND 4 UPPER LEVEL PLAN
M-7001	UV DISINFECTION BUILDING OPERATING FLOOR PLAN
M-8001	DIGESTER BLOWER BUILDING UPPER LEVEL PLAN
M-8101	AEROBIC DIGESTERS LOWER LEVEL PLAN
M-8501	SOLIDS HANDLING FACILITY PLAN

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PRELIMINARY DESIGN
AUGUST, 2016

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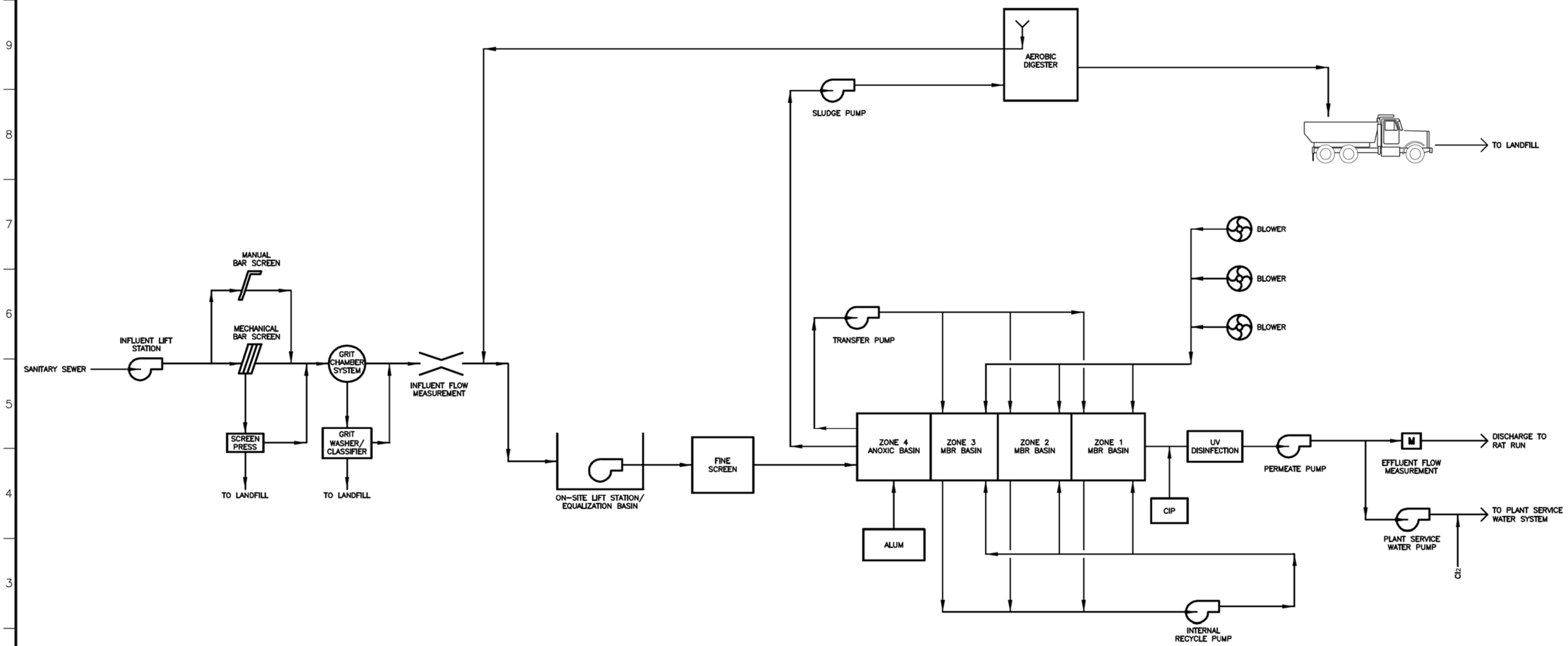

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LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"–SCALE ACCORDINGLY)

DRAWING GDG9191-1
DRAWN JRA
DESIGNED SMR
CHECKED PDR

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
A	SITE APPLICATION	JRA	06/09/16	PDR

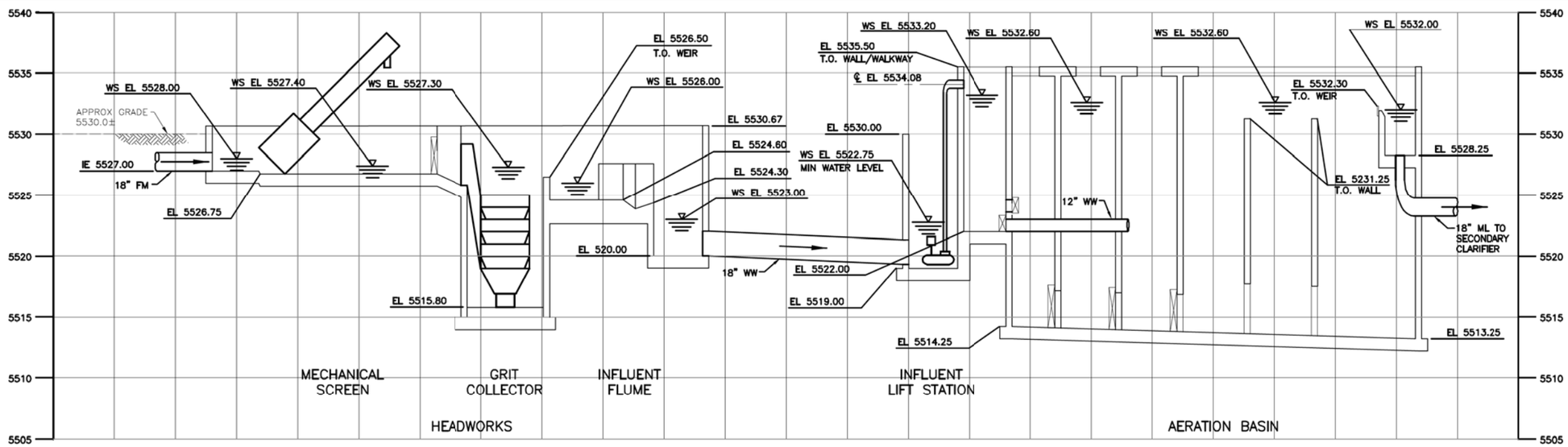
PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

WASTEWATER TREATMENT PLANT

GENERAL

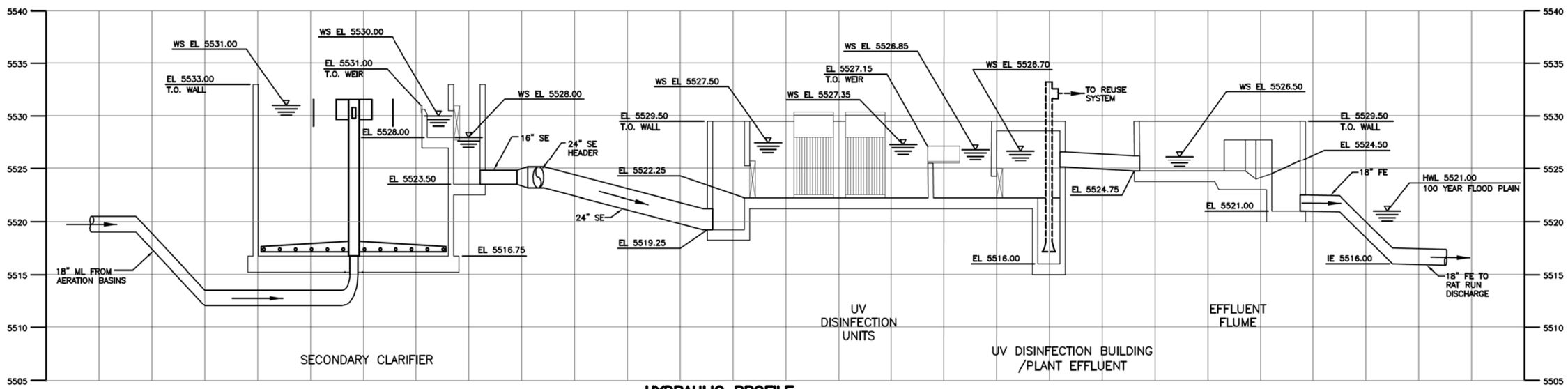
PROCESS FLOW SCHEMATIC

DATE: 02/05/16
PROJECT NUMBER: 50079191
REVISION NO. A
DRAWING NUMBER G–1
SHEET NUMBER



NOTES:

1. LOSSES THROUGH SCREENS BASED ON MANUFACTURER PROVIDED DATA.
2. LOSSES THROUGH GRIT BASIN BASED ON MANUFACTURER PROVIDED DATA.
3. LOSSES THROUGH UV BANKS BASED ON MANUFACTURER PROVIDED WORST CASE HEAD LOSS.
4. WSEL IN THE LIFT STATION WET WELL IS THE MAXIMUM EXPECTED WSEL.
5. WSEL AT EXISTING OUTFALL CORRESPONDS WITH PEAK HOUR FLOW WITH COAL CREEK AT 100 YEAR FLOOD ELEVATION.



HYDRAULIC PROFILE

SCALE: 1"=5' VERT
NO SCALE HORIZ

BASIS OF HYDRAULIC PROFILE

FLOW CONDITION	TREATED FLOW (MGD)	MECHANICAL BAR SCEEN		GRIT BASIN		LIFT STATION PUMPS		AERATION BASINS				CLARIFIERS			UV BANKS	
		UNITS IN SERVICE/ UNITS AVAILABLE	TREATED FLOW PER UNIT (MGD)	UNITS IN SERVICE/ UNITS AVAILABLE	TREATED FLOW PER UNIT (MGD)	UNITS IN SERVICE/ UNITS AVAILABLE	TREATED FLOW PER UNIT (MGD)	UNITS IN SERVICE/ UNITS AVAILABLE	TREATED FLOW PER UNIT (MGD)	RAS FLOW PER UNIT (MGD)	ML FLOW PER UNIT (MGD)	UNITS IN SERVICE/ UNITS AVAILABLE	TREATED FLOW PER UNIT (MGD)	RAS FLOW PER UNIT (MGD)	UNITS IN SERVICE/ UNITS AVAILABLE	TREATED FLOW PER UNIT (MGD)
PEAK HOUR	6	1/2	6	1/2	6	4/5	1.5	4/4	1.5	0.825	3.3	4/4	1.5	0.825	1/2	6

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DRAWING GDG9191-2
DRAWN JRA
DESIGNED SMR
CHECKED PDR

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
A	ISSUED FOR REVIEW	JRA	02/06/16	PDR

PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

WASTEWATER TREATMENT PLANT

GENERAL

HYDRAULIC PROFILE

DATE: 02/06/16
PROJECT NUMBER: 50079191
REVISION NO. A
DRAWING NUMBER G-2
SHEET NUMBER

ITEM	VALUE
DESIGN FLOW AND LOADS	
AVERAGE ANNUAL FLOW (AAF), MGD	2.64
MAX MONTH FLOW (MMF), MGD	3.30
PEAK HOUR FLOW (PHF), MGD	6.00
MLSS, MG/L	3,500
BOD MMF, PPD	6,605
TSS MMF, PPD	6,605
NH3 MMF, PPD	661
TKN MMF, PPD	971
TP MMF, PPD	154
INFLUENT LIFT STATION PUMPS	
NUMBER	5
CAPACITY (EACH), GPM	573
HORSEPOWER (EACH)	5
BAR SCREENS	
MECHANICAL NUMBER OF UNITS	2
CAPACITY (EACH), MGD	6.0
MANUAL NUMBER OF UNITS	1
CAPACITY (EACH), MGD	6.0
GRIT REMOVAL	
VORTEX NUMBER OF UNITS	2
CAPACITY (EACH), MGD	6.0
NUMBER OF GRIT PUMPS	2
CAPACITY, GPM	250
HORSEPOWER, EACH	15
ON-SITE LIFT STATION PUMPS	
NUMBER	5
CAPACITY (EACH), GPM	573
HORSEPOWER (EACH)	5
SECONDARY BIOLOGICAL TREATMENT	
NUMBER OF TRAINS	3
SIDE WATER DEPTH, FT	18
SLUDGE ZONE, GAL	34,375
ANAEROBIC ZONE, GAL	55,000
ANOXIC ZONE, GAL	123,750
SWING ZONE, GAL	96,250
AEROBIC ZONE, GAL	385,000
AIR REQUIREMENT (MAX), SCFM	4,430
SECONDARY PROCESS AERATION SYSTEM	
MIN AIR DEMAND, SCFM	1,375
AVERAGE AIR DEMAND, SCFM	3,490
MAX AIR DEMAND, SCFM	4,430
NUMBER OF BLOWERS	4
CAPACITY, SCFM	1,480
PRESSURE, PSI	8.6
HORSEPOWER, EACH	200

ITEM	VALUE
INTERNAL RECYCLE PUMPS	
NUMBER	5
CAPACITY (EACH), GPM	2,300
HORSEPOWER (EACH)	30
SECONDARY CLARIFIERS	
NUMBER OF UNITS	4
DIAMETER, FT	50
SIDE WATER DEPTH, FT	14
SURFACE AREA, SQ FT	1,963
RETURN ACTIVATED SLUDGE PUMPS	
NUMBER	5
CAPACITY (EACH), GPM	575
HORSEPOWER (EACH)	5
WASTE ACTIVATED SLUDGE PUMPS	
NUMBER	5
CAPACITY (EACH), GPM	20
HORSEPOWER (EACH)	1
SECONDARY SCUM PUMPS	
NUMBER	2
CAPACITY (EACH), GPM	50
HORSEPOWER (EACH)	2
CHEMICAL STORAGE AND FEED	
NUMBER OF STORAGE TANKS	3
TYPE OF TANK	FRP
VOLUME (EACH), GAL	3,000
STORAGE, DAYS	18.5
NUMBER OF ALUM PUMPS	3
TYPE OF PUMPS	PERISTALTIC
CAPACITY, GPH	20.3
UV DISINFECTION	
NUMBER OF CHANNELS	2
NUMBER OF MODULES	6
UV TRANSMITTANCE, %	65
UV DOSE, MW/SQ CM	30
OFF-SITE REUSE PUMPS	
NUMBER	2
CAPACITY (EACH), GPM	1,400
HORSEPOWER (EACH)	20
ON-SITE REUSE PUMPS	
NUMBER	2
CAPACITY (EACH), GPM	120
HORSEPOWER (EACH)	20

ITEM	VALUE
REUSE FILTERS	
MECHANICAL NUMBER OF UNITS	2
CAPACITY (EACH), GPM	1,100
DEGREE OF FILTRATION, MICRONS	25
MANUAL NUMBER OF UNITS	2
CAPACITY (EACH), GPM	352
DEGREE OF FILTRATION, MICRONS	80
THICKENED WASTE ACTIVATED SLUDGE PUMPS	
NUMBER	1
CAPACITY (EACH), GPM	50
HORSEPOWER (EACH)	5
AEROBIC DIGESTERS 1 AND 2	
DIAMETER, FT	90
VOLUME (EACH), CU FT	95,424
AIR REQUIREMENT (EACH), SCFM	1,908
AEROBIC DIGESTER AERATION SYSTEM	
MIN AIR DEMAND, SCFM	1,908
MAX AIR DEMAND, SCFM	3,817
NUMBER OF BLOWERS	3
CAPACITY, SCFM	2,000
PRESSURE, PSI	8
HORSEPOWER (EACH)	200
SUPERNATANT PUMPS	
NUMBER	2
CAPACITY (EACH), GPM	200
HORSEPOWER (EACH)	5
CENTRIFUGE FEED PUMPS	
NUMBER	2
CAPACITY (EACH), GPM	110
HORSEPOWER (EACH)	10

PRELIMINARY
NOT FOR CONSTRUCTION

ABBREVIATIONS:

AAF	AVERAGE ANNUAL FLOW
BOD	BIOCHEMICAL OXYGEN DEMAND
DO	DISSOLVED OXYGEN
GAL	GALLON
MGD	MILLION GALLONS PER DAY
MG/L	MILLIGRAMS PER LITER
MLSS	MIXED LIQUOR SUSPENDED SOLIDS
MMF	MAXIMUM MONTH FLOW
MW/CM^2	MICROWATTS PER SQUARE CENTIMETER
NaOCl	SODIUM HYPOCHLORITE
NH_3	AMMONIA
ORP	OXIDATION REDUCTION POTENTIAL
PPD	POUNDS PER DAY
TDH	TOTAL DYNAMIC HEAD
TKN	TOTAL KJELDAHL NITROGEN
TP	TOTAL PHOSPHORUS
TSS	TOTAL SUSPENDED SOLIDS

NOTE:
FOR ADDITIONAL ABBREVIATIONS SEE DRAWING G-2.

PLOT STAMP: 8/25/2016 11:51 AM

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DRAWING GDG9191-3
DRAWN JRA
DESIGNED SMR
CHECKED PDR

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
A	ISSUED FOR REVIEW	JRA	02/11/16	PDR

PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

WASTEWATER TREATMENT PLANT

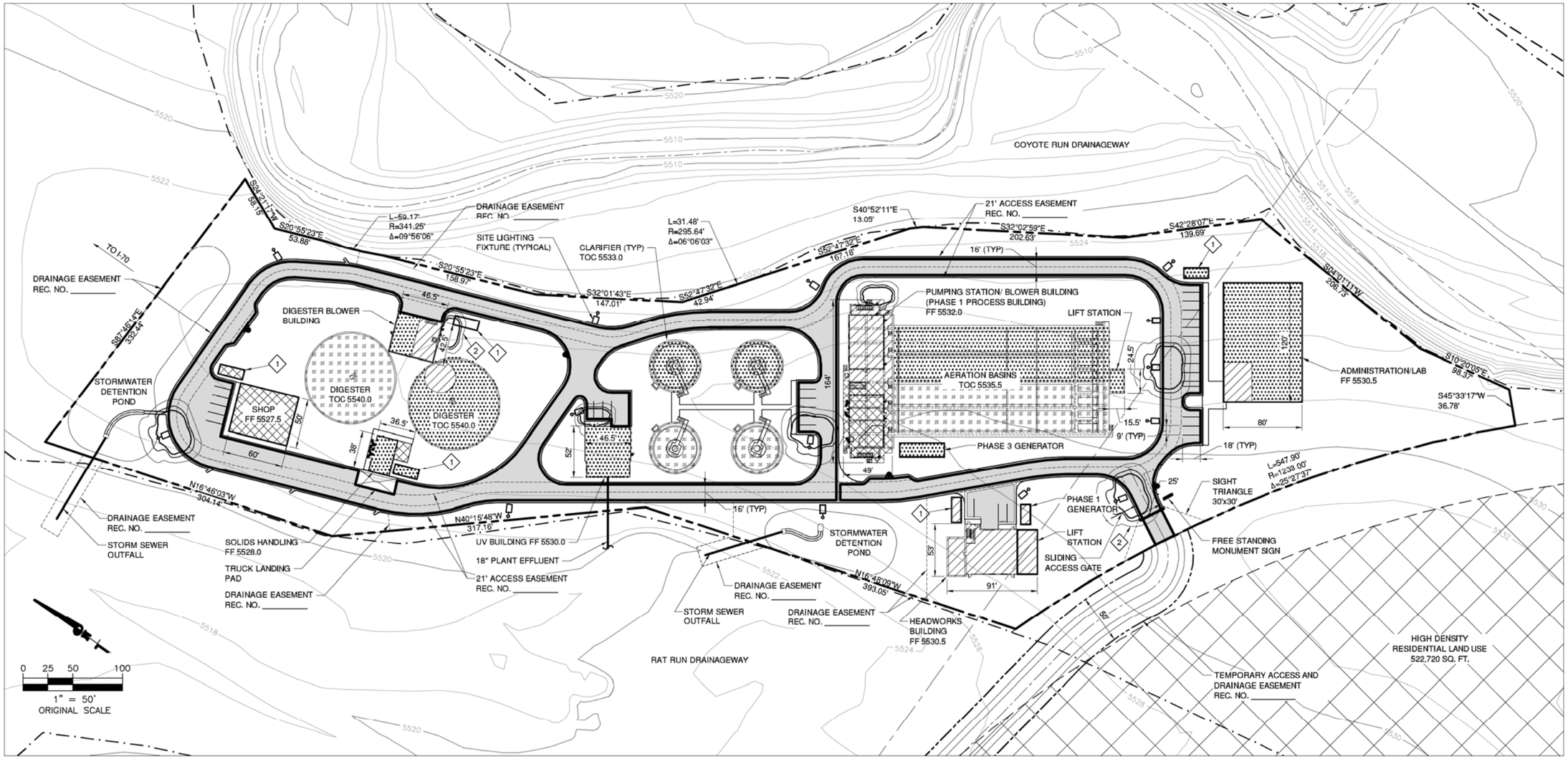
GENERAL

PROJECT DESIGN CRITERIA

DATE: 02/11/16
PROJECT NUMBER: 50079191
REVISION NO. A
DRAWING NUMBER
G-3
SHEET NUMBER

LOCATION AND EXTENT
PROSPER WASTEWATER TREATMENT PLANT

LOT 1, BLOCK 1, PROSPER WWTP SUBDIVISION EXEMPTION
COUNTY OF ARAPAHOE, STATE OF COLORADO



GENERAL NOTES:

1. BENCHMARK: ARAPAHOE COUNTY BM010101 - 3 1/4" DIAMETER ALUMINUM CAP 300' SOUTH OF NORTH WATKINS MILE ROAD AND INTERSTATE HIGHWAY 70 ON EAST SIDE. ELEVATION: 5538.35 FEET (NAVD 1988 DATUM).
2. BEARINGS ARE BASED ON THE NORTH LINE OF THE NW ¼ OF SECTION 1, TOWNSHIP 4 SOUTH, RANGE 64 WEST, OF THE 6TH PRINCIPAL MERIDIAN BEARING N 89°49'24" E.
3. THE WWTP SITE IS APPROXIMATELY 370,337 SQ. FT. AND IS ZONED SPECIFICALLY FOR THE WWTP.
4. SITE LIGHTING FIXTURES SHALL BE LIGHT EMITTING DIODE (LED), MINIMUM 80 LUMENS PER WATT. SITE FIXTURES SHALL BE ON MULTIPLE CIRCUITS AND HAVE DIMMABLE AND CONTROLLABLE LUMEN OUTPUT IN ADDITION TO AUTOMATIC CONTROL VIA COMBINED PHOTOCELL AND MOTION DETECTOR. FIXTURES ARE SHOWN REPRESENTATIONAL OF PROPOSED LOCATIONS BUT NOT TO SCALE, FOR EASE OF VISIBILITY ON SHEET.
5. THE EXISTING WASTEWATER TREATMENT PLANT ZONING IS MU-PUD.
6. THE WWTP ACCESS ROAD AND ALL ON-SITE ROADS WILL BE ASPHALT SURFACING.

   THERE A TOTAL OF 34 PARKING SPACES ON THE WWTP SITE.

BUILDING HEIGHTS AND AREAS:

BUILDING	HEIGHT (FT.)	AREA (SQ. FT.)
ADMIN/LAB	20	9,600
AERATION BASINS	8	23,492
HEADWORKS	20	3,246
PUMPING STATION	25	5,335
CLARIFIERS	7	8,714
UV/REUSE	20	2,382
DIGESTER BLOWER	25	1,976
DIGESTERS	15	13,489
SOLIDS HANDLING	20	1,121
SHOP	25	3,000

LAND USE AREAS:

LAND USE	AREA (SQ. FT.)
WWTP	72,355
ROADWAYS	69,614
PARKING	6,134
LANDSCAPING	202,096
STORMWATER DETENTION	20,138
TOTAL AREA	370,337

PHASE DESIGNATIONS:

PHASE 1
PHASE 2
PHASE 3
PHASE 4

NOTE:
PHASE 1 TREATMENT PROCESS BASINS WILL BE LOCATED IN THE PHASE 1 PROCESS BUILDING. THE PHASE 4 SITE PLAN AT BUILD-OUT REPREESENTS THE LARGEST FOOTPRINT (WORST CASE) TREATMENT PROCESS. THE METROPOLITAN DISTRICTS WILL DETERMINE THE SELECTED TREATMENT PROCESS FOR FUTURE PHASES AS THE DEMAND OF THE WWTP INCREASES.

LEGEND:

- FIRE HYDRANT
- SITE LIGHTING FIXTURE
- PROPERTY LINE
- 100-YR FLOODPLAIN
- EASEMENT

KEY NOTES:

1. OUTDOOR WASTE DISPOSAL SYSTEMS.
2. LIGHTING GRADIENT (TYPICAL). LIGHTING GRADIENTS SHOWN FOR VARIOUS CONFIGURATIONS. PHOTOMETRIC DATA: INNERMOST GRADIENT = 1 FOOTCANDLE. MIDDLE GRADIENT = 0.5 FOOTCANDLE. OUTERMOST GRADIENT = 0.1 FOOTCANDLE. PHOTOMETRIC DATA IS BASED ON MOUNTING HEIGHT OF 12'-0" FOR SITE LIGHTING AND 8'-0" FOR WALL MOUNTED FIXTURES.

CASE NO. L16-002

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COE1 ASSUMES NO RESPONSIBILITY FOR DISTRIBUTUTILITY LOCATIONS HORIZONTAL AND VERTICAL. THE EXISTING UTILITIES SHOWN ON THE PLAN WERE PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS HOWEVER, THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.

REVISIONS

#	DESCRIPTION	DATE	BY
B	INITIAL COUNTY REVIEW COMMENTS	6/10/16	SR
C	COUNTY REVIEW COMMENTS_RND. 2	6/28/16	SR

PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT
PROSPER, COLORADO
WASTEWATER TREATMENT PLANT
PRELIMINARY SITE PLAN

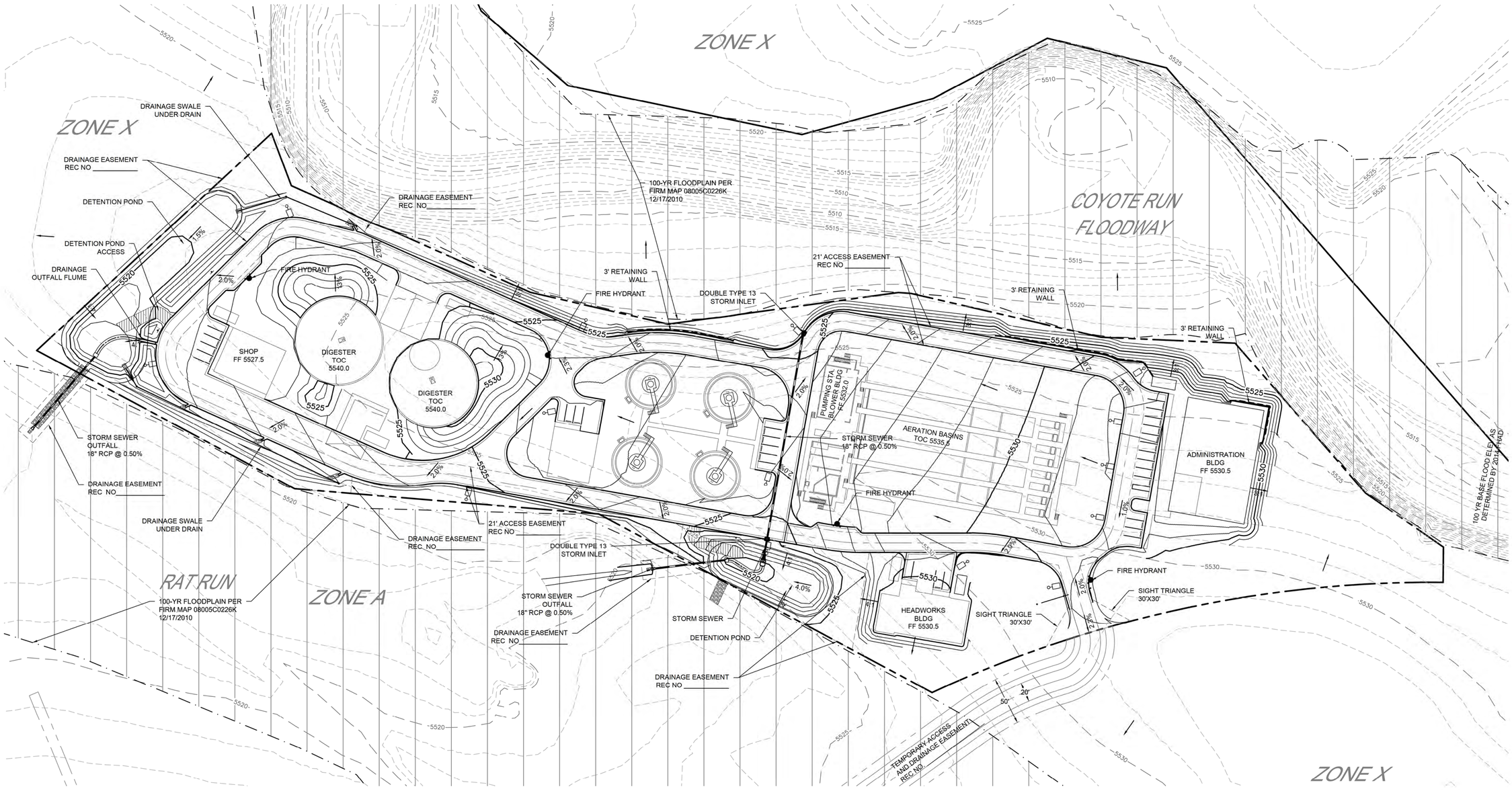
INITIAL PLAN RELEASE:
DESIGNED BY: SHR
DRAWN BY: TWL
CHECKED BY:

JOB NO. 50079191

C-1

LOCATION AND EXTENT
PROSPER WASTEWATER TREATMENT PLANT

LOT 1, BLOCK 1. PROSPER WWTP SUBDIVISION EXEMPTION
COUNTY OF ARAPAHOE, STATE OF COLORADO



LEGEND

- MANHOLE and PIPE
- INLET
- FLARED END SECTION
- PROPERTY BOUNDARY LINE
- LIMITS OF CONSTRUCTION
- 6360 MAJOR CONTOUR
- MINOR CONTOUR
- 6340 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR

0 50' 100'
1 inch = 50 ft.

PREPARED BY:

CORE CONSULTANTS
CIVIL ENGINEERING
DEVELOPMENT CONSULTING
LAND SURVEYING
303.703.4444
1960 W. Littleton Blvd., Ste. 109
Littleton, CO 80120

CASE NO. L16–002

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REVISIONS

#	DESCRIPTION	DATE	BY
1	COUNTY REVIEW COMMENTS	8/25/16	MM

PROSPER REGIONAL WATER & SANITATION METROPOLITAN DISTRICT

PROSPER, COLORADO
WASTEWATER TREATMENT PLANT
GRADING & DRAINAGE PLAN

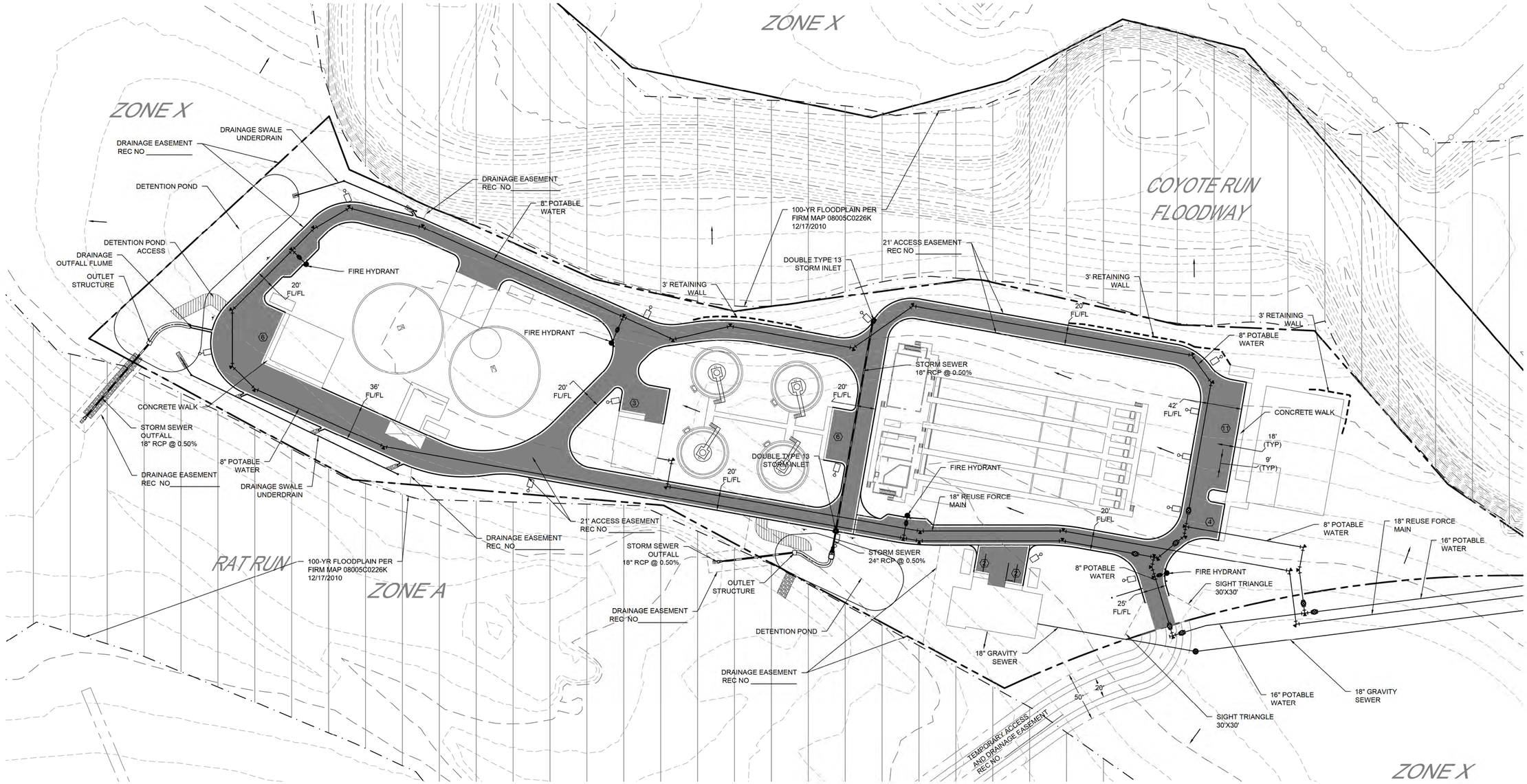
INITIAL PLAN
RELEASE: MM
DESIGNED BY: 5/13/16
DRAWN BY: MM
CHECKED BY: MM

JOB NO.
11-012

C-2

LOCATION AND EXTENT
PROSPER WASTEWATER TREATMENT PLANT

LOT 1, BLOCK 1. PROSPER WWTP SUBDIVISION EXEMPTION
COUNTY OF ARAPAHOE, STATE OF COLORADO



LEGEND:

SANITARY SEWER
- GRAVITY SEWER PIPE with MANHOLE

WATER
- POTABLE WATER MAIN
- REUSE WATER LINE
- WATER VALVE
- FIRE HYDRANT
- BEND and THRUST BLOCK

STORM DRAIN
- MANHOLE and PIPE
- 10' TYPE R SUMP INLET
- FLARED END SECTION
- EASEMENT
- PROPERTY BOUNDARY LINE
- LIGHT POLE
- PARKING SPACE COUNT
- ASPHALT PAVEMENT
- CLASS 6 ROADBASE

0 50' 100'
1 inch = 50 ft.

PREPARED BY:

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CIVIL ENGINEERING
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LAND SURVEYING
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1950 W. Littleton Blvd., Ste. 109
Littleton, CO 80120

CASE NO. L16–002

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REVISIONS

#	DESCRIPTION	DATE	BY
1	COUNTY REVIEW COMMENTS	08/25/16	MM

PROSPER REGIONAL WATER & SANITATION METROPOLITAN DISTRICT
PROSPER, COLORADO
WASTEWATER TREATMENT PLANT
UTILITY & PAVING PLAN

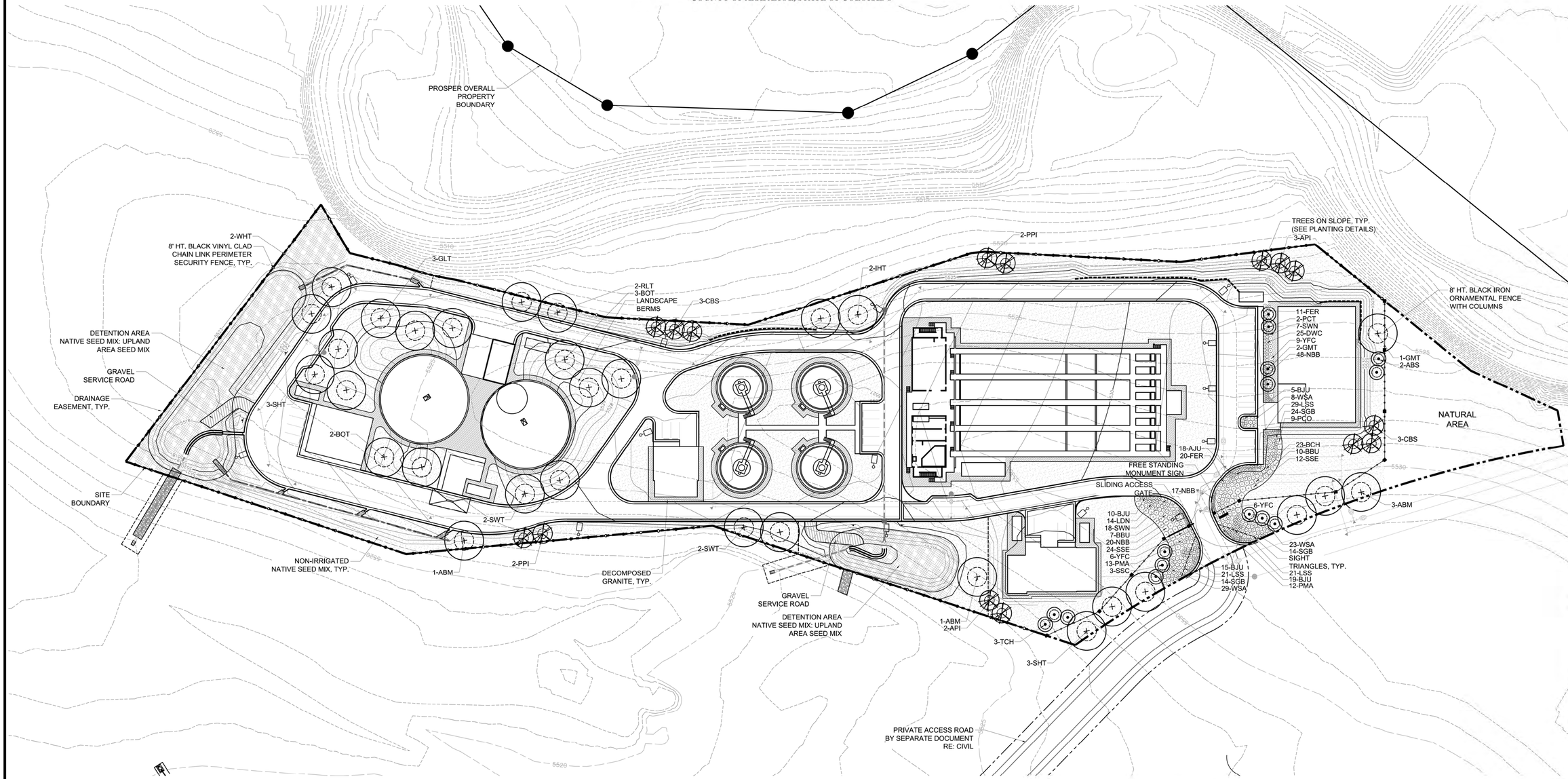
INITIAL PLAN RELEASE: 5/13/16
DESIGNED BY: MM
DRAWN BY: MM
CHECKED BY: MM

JOB NO. 11-012

C-3

LOCATION AND EXTENT
PROSPER WASTEWATER TREATMENT PLANT

LOT 1, BLOCK 1, PROSPER WWTP SUBDIVISION EXEMPTION PLAT SITUATED IN THE NW 1/4 OF SECTION 1,
TOWNSHIP 4 SOUTH, RANGE 65 WEST, OF THE 6TH PRINCIPAL MERIDIAN,
COUNTY OF ARAPAHOE, STATE OF COLORADO



LANDSCAPE SUMMARY TABLE:

AREAS	AREA (SQ.FT.)	PERCENTAGE OF TOTAL	TREES REQUIRED**	TREES PROVIDED	SHRUBS REQUIRED*	SHRUBS PROVIDED
GROSS SITE AREA:	370,337					
LANDSCAPE AREA REQUIRED*:	55,551	15%	56		556	
LANDSCAPE AREA PROVIDED:	191,243	52%		60		
SHRUB BEDS	5,739	2%				560
NON-IRRIGATED NATIVE SEED	166,525	45%				
NATURAL AREA	18,979	5%				
DECOMPOSED GRANITE	20,028	5%				
NON-PERVIOUS SURFACE (CONCRETE, ASPHALT, BUILDINGS, ETC.)	159,066	43%				

*REQUIRED LANDSCAPE AREA IS 15% OF GROSS SITE AREA, BASED ON REQUIREMENTS APPROVED IN THE PROSPER PDP.
**REQUIRED TREES AND SHRUBS ARE BASED ON ARAPAHOE COUNTY SECTION 12-1400 LANDSCAPING REGULATIONS. 1 TREE AND 10 SHRUBS FOR EVERY 1,000 SQUARE FEET OF REREQUIRED LANDSCAPE AREA.

LEGEND

- DECOMPOSED GRANITE
- 8' HT. BLACK IRON ORNAMENTAL FENCE WITH COLUMNS
- 8' HT. BLACK VINYL CLAD CHAIN LINK PERIMETER SECURITY FENCE
- NON-IRRIGATED NATIVE SEED MIX
- DETENTION AREA NATIVE SEED MIX: UPLAND AREA SEED MIX
- DECIDUOUS CANOPY TREES (2" CAL.)
- EVERGREEN TREES (6' HT. MIN.)
- DECIDUOUS ORNAMENTAL TREES (1.5" CAL.)
- DECIDUOUS SHRUBS (5 GAL.)
- EVERGREEN SHRUBS (5 GAL.)

SCALE: 1"=60"
0 30 60 120

VOGEL & ASSOCIATES
475 W. 12th Avenue - Suite E
Denver, Colorado 80204-3688
(303) 893-4283

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REVISIONS

#	DESCRIPTION	DATE	BY
B	INITIAL COUNTY REVIEW COMMENTS	05/10/16	###
	COUNTY REVIEW COMMENTS	07/06/16	###
	COUNTY REVIEW COMMENTS	09/26/2016	###
###	###	###	###

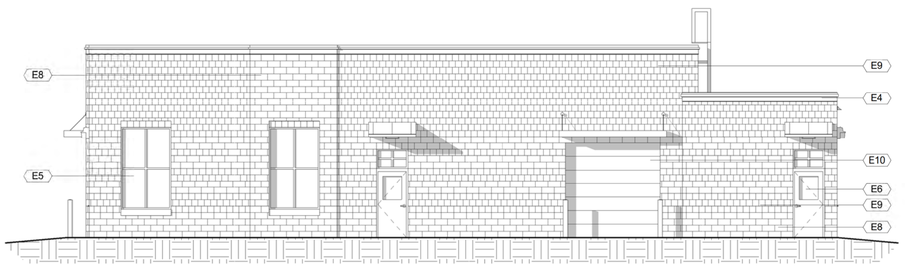
PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT
PROSPER, COLORADO
WASTEWATER TREATMENT PLANT
LANDSCAPE PLAN

INITIAL PLAN
RELEASE: -
DESIGNED BY: -
DRAWN BY: -
CHECKED BY: -

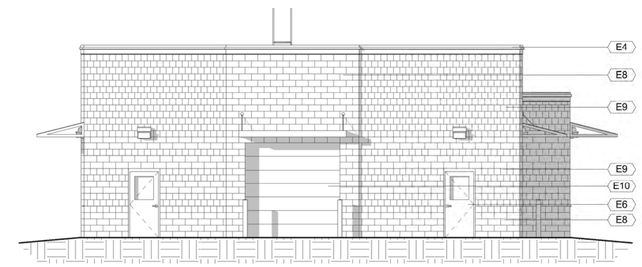
JOB NO.

C-4

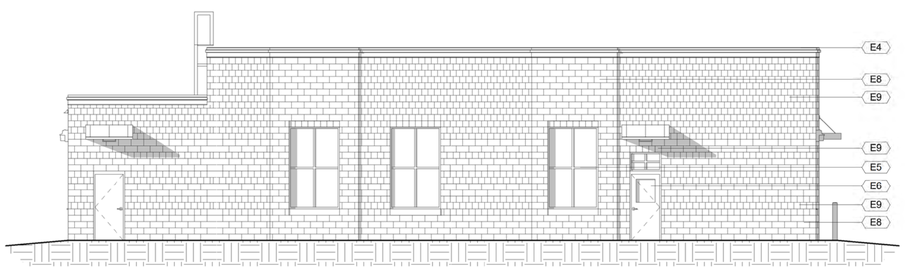
ELEVATION KEYED NOTES	
NOTE	DESCRIPTION
E1	LAPPED SIDING PANELS
E2	CORRUGATED METAL PANELS
E3	STACKED STONE
E4	METAL FASCIA
E5	ALUMINUM STOREFRONT
E6	HOLLOW METAL DOOR & FRAME
E7	FACE BRICK
E8	CMU - 8X16
E9	CMU - 8X8
E10	OVERHEAD COILING DOOR
E11	EQUIPMENT SCREEN
E12	METAL CLADDING



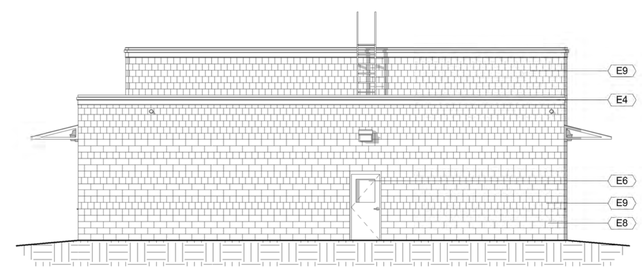
A NORTH ELEVATION
Scale: 1/8" = 1'-0"



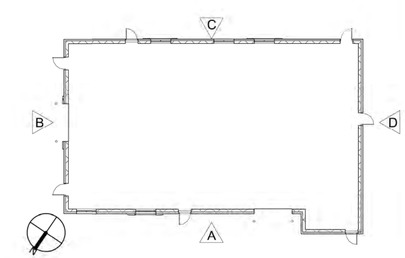
B EAST ELEVATION
Scale: 1/8" = 1'-0"



C SOUTH ELEVATION
Scale: 1/8" = 1'-0"



D WEST ELEVATION
Scale: 1/8" = 1'-0"



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LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

DRAWING
DRAWN Author
DESIGNED Designer
CHECKED Checker

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
B	INITIAL COUNTY REVIEW COMMENTS	WL	05/13/16	

PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

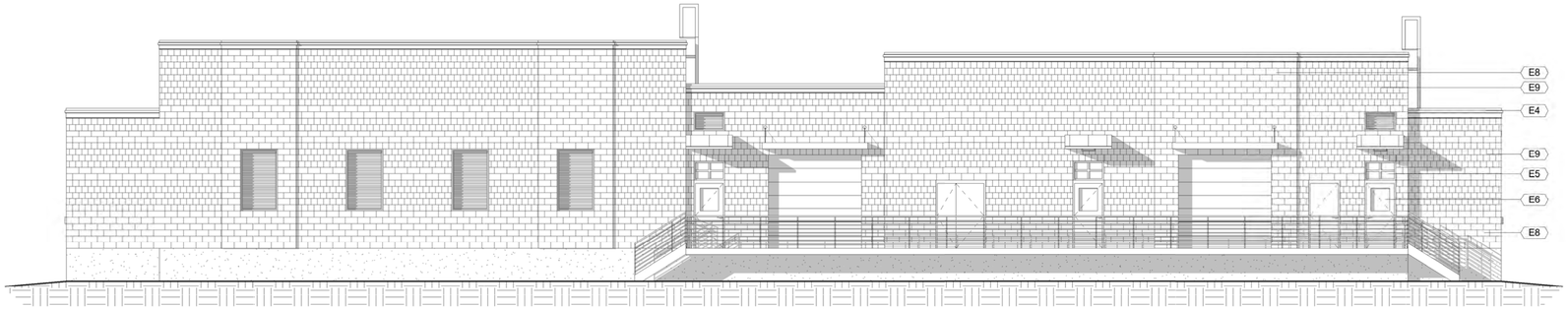
WASTEWATER TREATMENT PLANT

HEADWORKS BUILDING

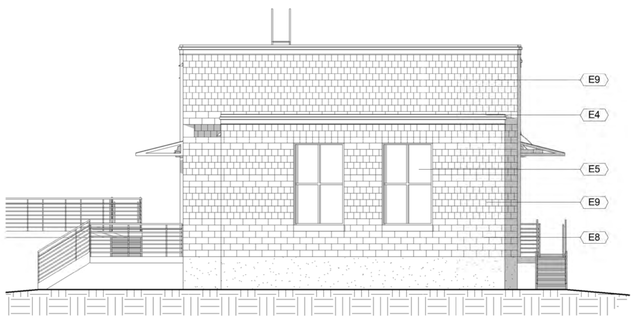
DATE: 2013.05.01
PROJECT NUMBER: 50079191
REVISION NO.
DRAWING NUMBER
A-1000
SHEET NUMBER

8/23/2016 11:42:39 AM

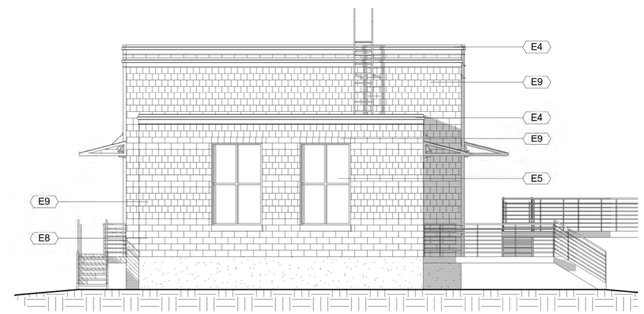
ELEVATION KEYED NOTES	
NOTE	DESCRIPTION
E1	LAPPED SIDING PANELS
E2	CORRUGATED METAL PANELS
E3	STACKED STONE
E4	METAL FASCIA
E5	ALUMINUM STOREFRONT
E6	HOLLOW METAL DOOR & FRAME
E7	FACE BRICK
E8	CMU - 8X16
E9	CMU - 8X8
E10	OVERHEAD COILING DOOR
E11	EQUIPMENT SCREEN
E12	METAL CLADDING



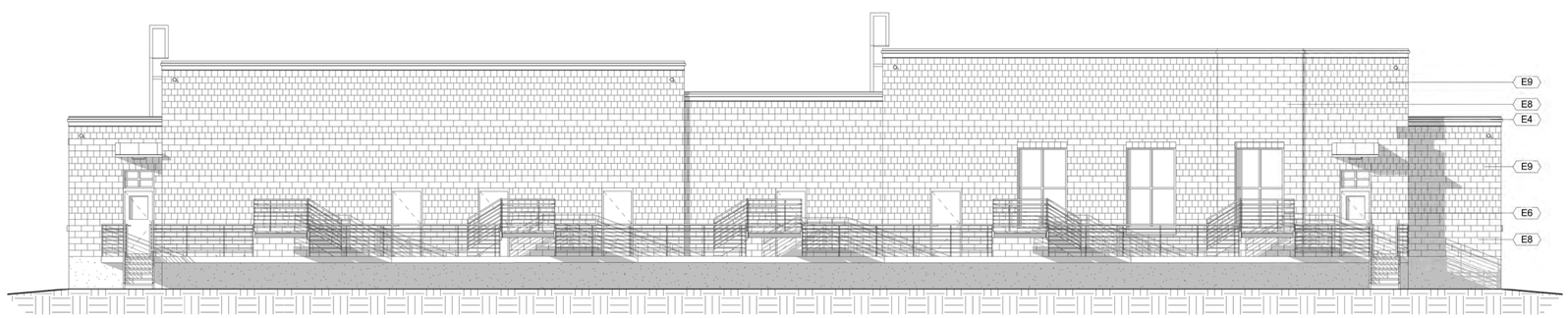
A NORTH ELEVATION
Scale: 1/8" = 1'-0"



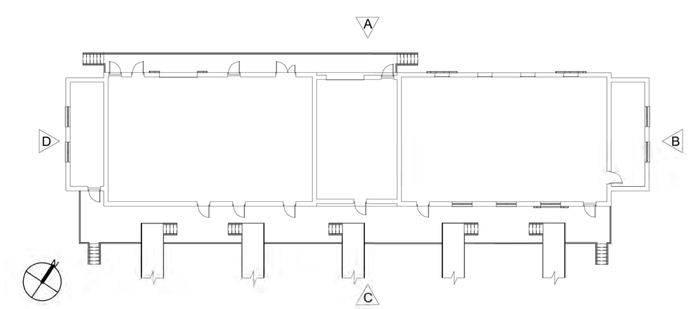
B EAST ELEVATION
Scale: 1/8" = 1'-0"



C WEST ELEVATION
Scale: 1/8" = 1'-0"



D SOUTH ELEVATION
Scale: 1/8" = 1'-0"



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Denver, Colorado 80209
(303) 825-1802

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

DRAWING
DRAWN Author
DESIGNED Designer
CHECKED Checker

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
B	INITIAL COUNTY REVIEW COMMENTS	WL	05/13/16	

PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

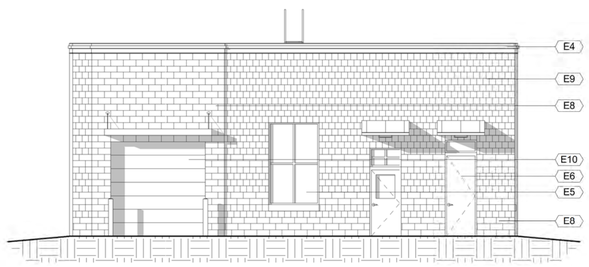
WASTEWATER TREATMENT PLANT

PROCESS PUMP STATION/ BLOWER BUILDING

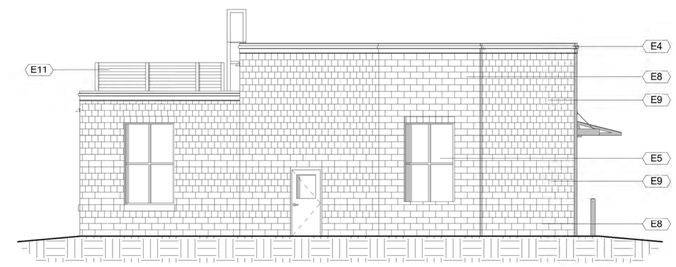
DATE: 2013.05.01
PROJECT NUMBER: 50079191
REVISION NO.
DRAWING NUMBER A-4000
SHEET NUMBER

8/23/2016 11:42:53 AM

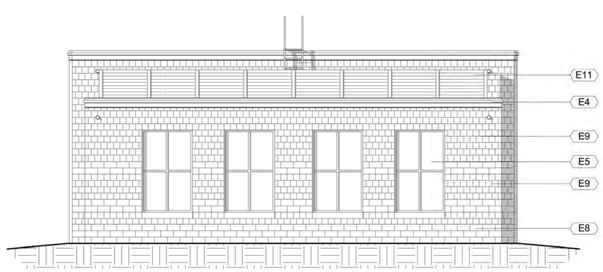
ELEVATION KEYED NOTES	
NOTE	DESCRIPTION
E1	LAPPED SIDING PANELS
E2	CORRUGATED METAL PANELS
E3	STACKED STONE
E4	METAL FASCIA
E5	ALUMINUM STOREFRONT
E6	HOLLOW METAL DOOR & FRAME
E7	FACE BRICK
E8	CMU - 8X16
E9	CMU - 8X8
E10	OVERHEAD COILING DOOR
E11	EQUIPMENT SCREEN
E12	METAL CLADDING



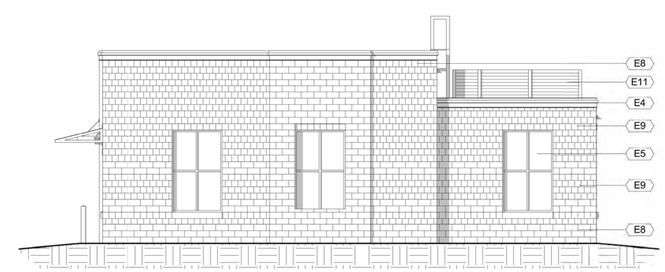
A SOUTH ELEVATION
Scale: 1/8" = 1'-0"



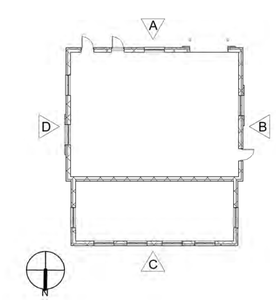
B WEST ELEVATION
Scale: 1/8" = 1'-0"



C NORTH ELEVATION
Scale: 1/8" = 1'-0"



D EAST ELEVATION
Scale: 1/8" = 1'-0"



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DRAWING
DRAWN Author
DESIGNED Designer
CHECKED Checker

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
B	INITIAL COUNTY REVIEW COMMENTS	WL	05/13/16	

PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

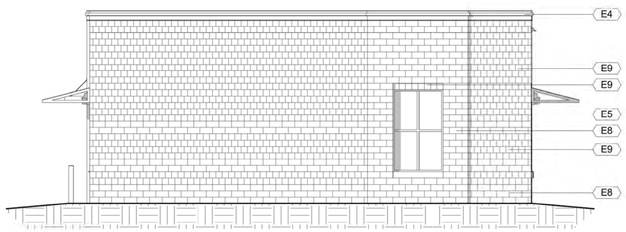
WASTEWATER TREATMENT PLANT

UV BUILDING

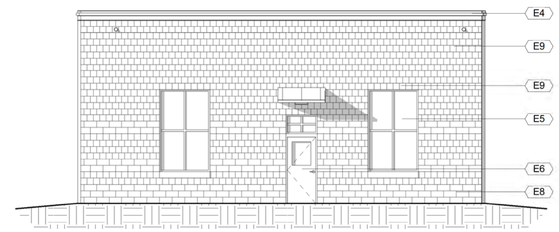
DATE: 2013.05.01
PROJECT NUMBER: 50079191
REVISION NO.
DRAWING NUMBER A-7000
SHEET NUMBER

8/23/2016 11:43:02 AM

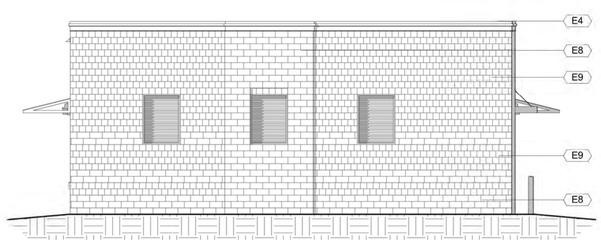
ELEVATION KEYED NOTES	
NOTE	DESCRIPTION
E1	LAPPED SIDING PANELS
E2	CORRUGATED METAL PANELS
E3	STACKED STONE
E4	METAL FASCIA
E5	ALUMINUM STOREFRONT
E6	HOLLOW METAL DOOR & FRAME
E7	FACE BRICK
E8	CMU - 8X16
E9	CMU - 8X8
E10	OVERHEAD COILING DOOR
E11	EQUIPMENT SCREEN
E12	METAL CLADDING



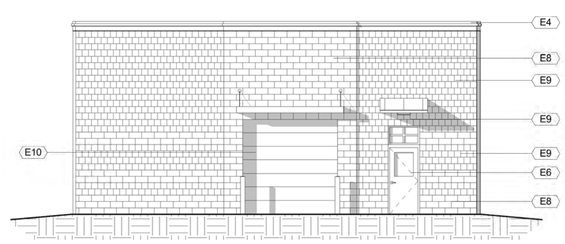
A EAST ELEVATION
Scale: 1/8" = 1'-0"



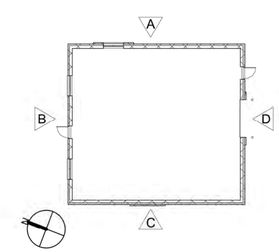
B NORTH ELEVATION
Scale: 1/8" = 1'-0"



C WEST ELEVATION
Scale: 1/8" = 1'-0"



D SOUTH ELEVATION
Scale: 1/8" = 1'-0"



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DRAWING
DRAWN Author
DESIGNED Designer
CHECKED Checker

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
B	INITIAL COUNTY REVIEW COMMENTS	WL	05/13/16	

PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

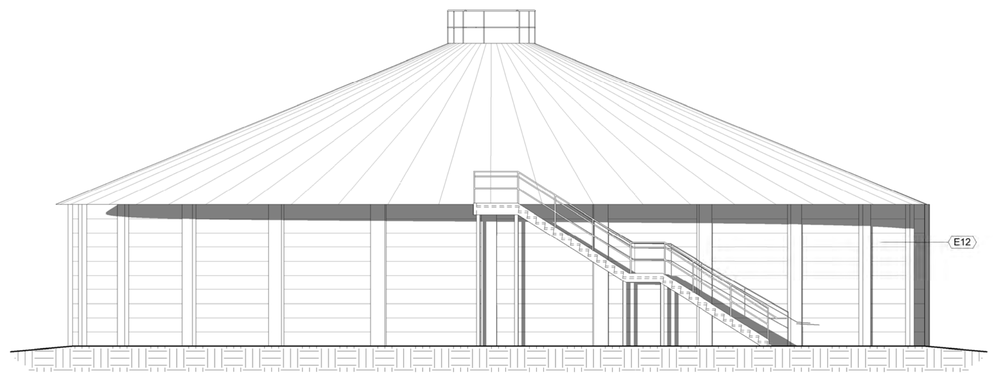
WASTEWATER TREATMENT PLANT

DIGESTER BLOWER BUILDING

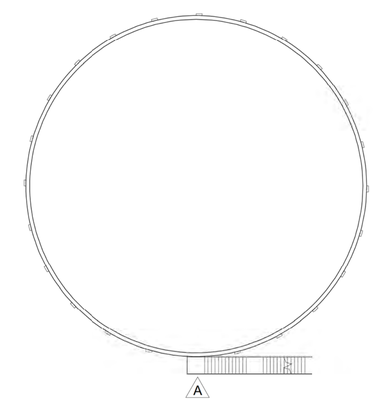
DATE: 2013.05.01
PROJECT NUMBER: 50079191
REVISION NO.
DRAWING NUMBER
A-8000
SHEET NUMBER

8/23/2016 11:43:09 AM

ELEVATION KEYED NOTES	
NOTE	DESCRIPTION
E1	LAPPED SIDING PANELS
E2	CORRUGATED METAL PANELS
E3	STACKED STONE
E4	METAL FASCIA
E5	ALUMINUM STOREFRONT
E6	HOLLOW METAL DOOR & FRAME
E7	FACE BRICK
E8	CMU - 8X16
E9	CMU - 8X8
E10	OVERHEAD COILING DOOR
E11	EQUIPMENT SCREEN
E12	METAL CLADDING



A AEROBIC DIGESTER ELEVATION
Scale: 1/8" = 1'-0"



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DRAWING
DRAWN Author
DESIGNED Designer
CHECKED Checker

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
B	INITIAL COUNTY REVIEW COMMENTS	WL	05/13/16	

PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

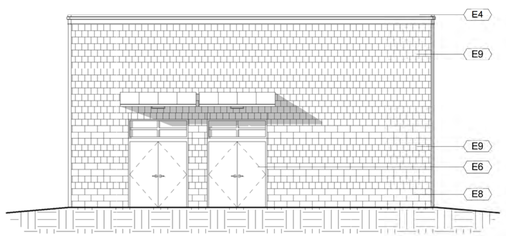
WASTEWATER TREATMENT PLANT

AEROBIC DIGESTERS

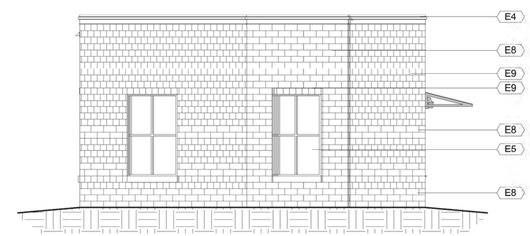
DATE: 2013.05.01
PROJECT NUMBER: 50079191
REVISION NO.
DRAWING NUMBER
A-8100
SHEET NUMBER

8/23/2016 11:43:13 AM

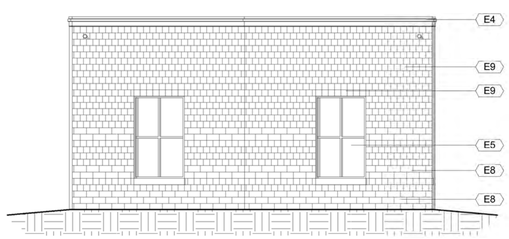
ELEVATION KEYED NOTES	
NOTE	DESCRIPTION
E1	LAPPED SIDING PANELS
E2	CORRUGATED METAL PANELS
E3	STACKED STONE
E4	METAL FASCIA
E5	ALUMINUM STOREFRONT
E6	HOLLOW METAL DOOR & FRAME
E7	FACE BRICK
E8	CMU - 8X16
E9	CMU - 8X8
E10	OVERHEAD COILING DOOR
E11	EQUIPMENT SCREEN
E12	METAL CLADDING



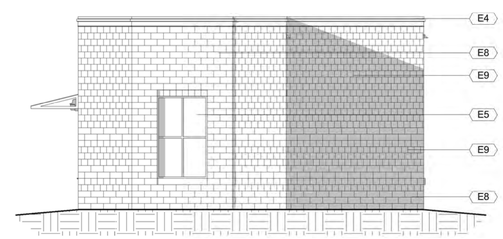
A WEST ELEVATION
Scale: 1/8" = 1'-0"



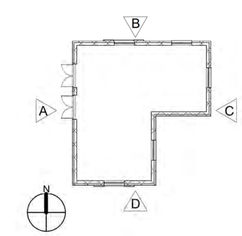
B NORTH ELEVATION
Scale: 1/8" = 1'-0"



C EAST ELEVATION
Scale: 1/8" = 1'-0"



D SOUTH ELEVATION
Scale: 1/8" = 1'-0"



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DRAWING
DRAWN Author
DESIGNED Designer
CHECKED Checker

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
B	INITIAL COUNTY REVIEW COMMENTS	WL	05/13/16	

PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

WASTEWATER TREATMENT PLANT

SOLIDS HANDLING BUILDING

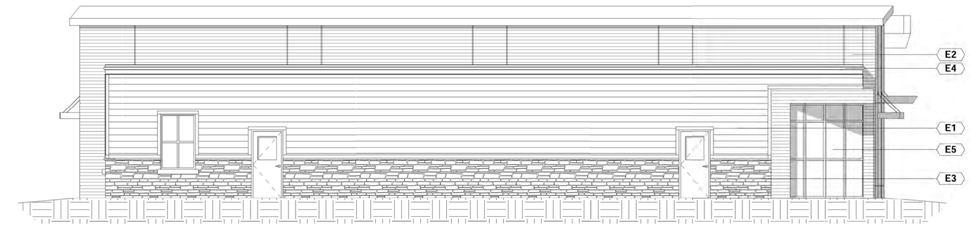
DATE: 2013.05.01
PROJECT NUMBER: 50079191
REVISION NO.
DRAWING NUMBER A-8500
SHEET NUMBER

8/23/2016 11:43:21 AM

ELEVATION KEYED NOTES	
NOTE	DESCRIPTION
E1	LAPPED SIDING PANELS
E2	CORRUGATED METAL PANELS
E3	STACKED STONE
E4	METAL FASCIA
E5	ALUMINUM STOREFRONT
E6	HOLLOW METAL DOOR & FRAME
E7	FACE BRICK
E8	CMU - 8X16
E9	CMU - 8X8
E10	OVERHEAD COILING DOOR
E11	EQUIPMENT SCREEN
E12	METAL CLADDING

A WEST ELEVATION

SCALE: 1/8" = 1'-0"



B SOUTH ELEVATION

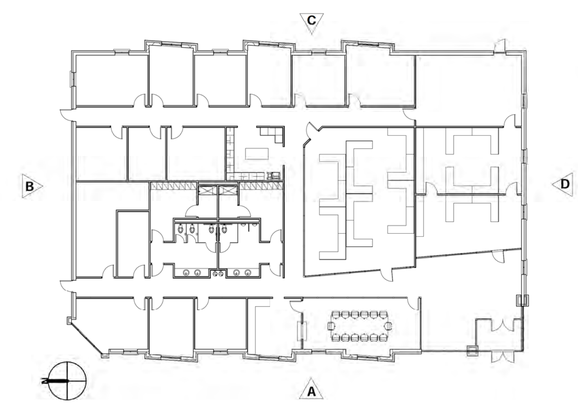
SCALE: 1/8" = 1'-0"

C EAST ELEVATION

SCALE: 1/8" = 1'-0"

D EAST ELEVATION

SCALE: 1/8" = 1'-0"



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(303) 825-1802

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DRAWING
DRAWN Author
DESIGNED Designer
CHECKED Checker

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
B	INITIAL COUNTY REVIEW COMMENTS	WL	05/13/16	

PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

WASTEWATER TREATMENT PLANT

ADMINISTRATION BUILDING

DATE: 2013.05.01
PROJECT NUMBER: 50079191
REVISION NO.
DRAWING NUMBER
A-9000
SHEET NUMBER

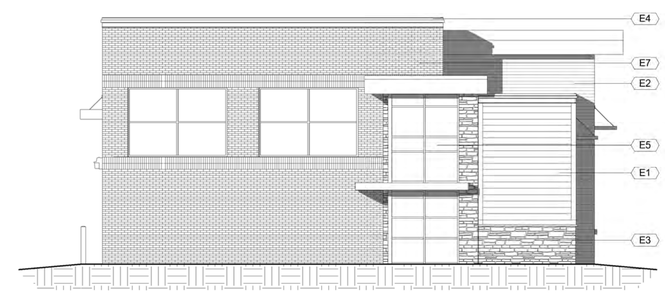
8/23/2016 11:28:27 AM

ELEVATION KEYED NOTES	
NOTE	DESCRIPTION
E1	LAPPED SIDING PANELS
E2	CORRUGATED METAL PANELS
E3	STACKED STONE
E4	METAL FASCIA
E5	ALUMINUM STOREFRONT
E6	HOLLOW METAL DOOR & FRAME
E7	FACE BRICK
E8	CMU - 8X16
E9	CMU - 8X8
E10	OVERHEAD COILING DOOR
E11	EQUIPMENT SCREEN
E12	METAL CLADDING

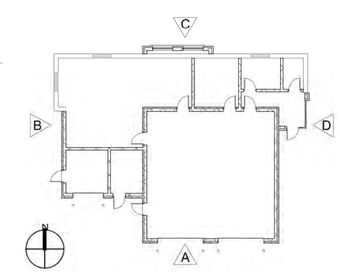
A SOUTH ELEVATION
Scale: 1/8" = 1'-0"

B WEST ELEVATION
Scale: 1/8" = 1'-0"

C NORTH ELEVATION
Scale: 1/8" = 1'-0"



D EAST ELEVATION
Scale: 1/8" = 1'-0"



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DRAWING
DRAWN Author
DESIGNED Designer
CHECKED Checker

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
B	INITIAL COUNTY REVIEW COMMENTS	WL	05/13/16	

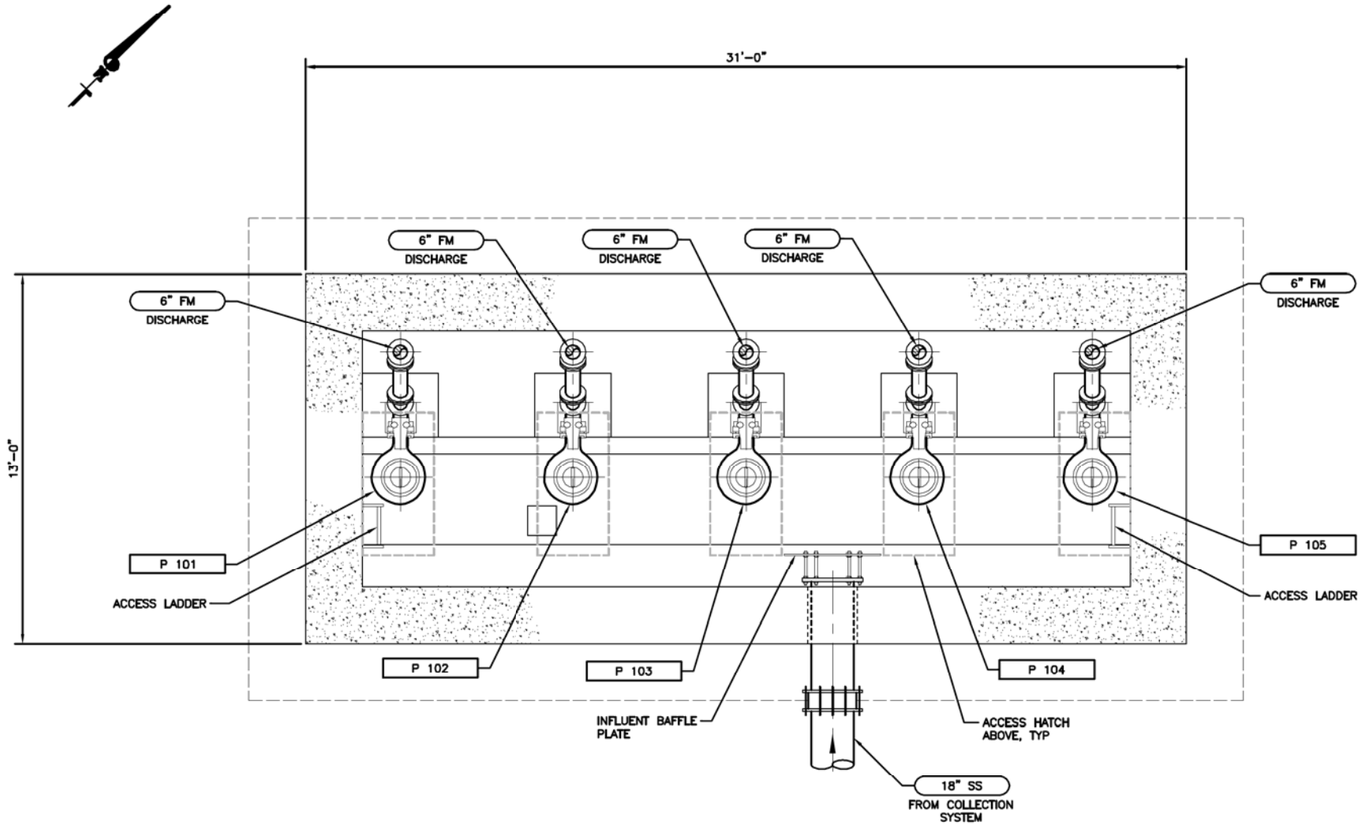
PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

WASTEWATER TREATMENT PLANT

MAINTENANCE SHOP

DATE: 2013.05.01
PROJECT NUMBER: 50079191
REVISION NO.
DRAWING NUMBER
A-9500
SHEET NUMBER

8/23/2016 11:43:27 AM



PLAN
WETWELL
SCALE: 3/8"=1'-0

PRELIMINARY
NOT FOR CONSTRUCTION

PLOT STAMP: 8/25/2016 11:41 AM

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LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

DRAWING MPL9191-100
DRAWN JRA
DESIGNED SMR
CHECKED PDR

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
A	ISSUED FOR REVIEW	JRA	02/06/16	PDR

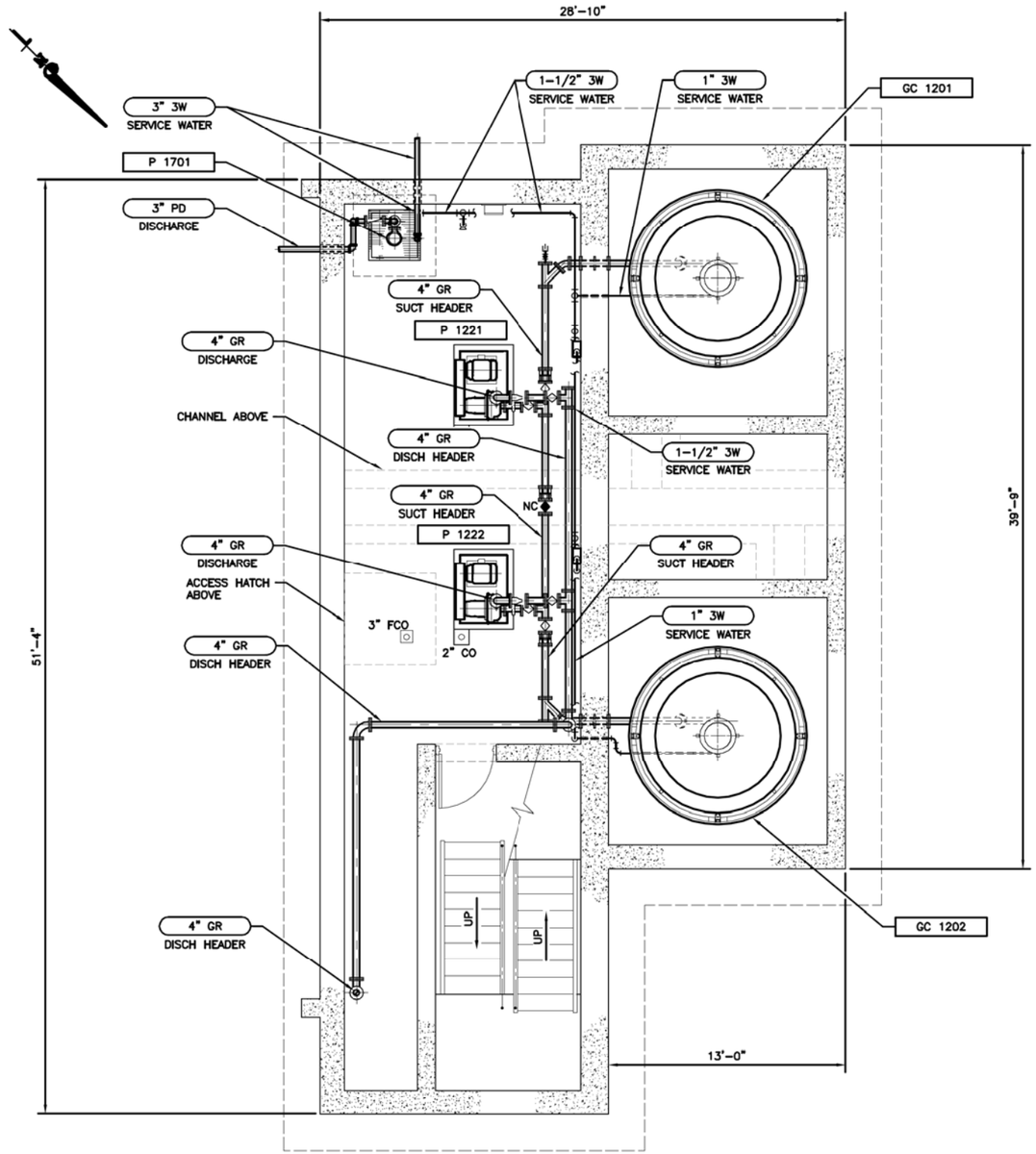
PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

WASTEWATER TREATMENT PLANT

MECHANICAL

INFLUENT LIFT STATION
WETWELL PLAN

DATE: 02/04/16
PROJECT NUMBER: 50079191
REVISION NO. A
DRAWING NUMBER
M-1000
SHEET NUMBER



PLAN
LOWER LEVEL
SCALE: 1/4"=1'-0

PRELIMINARY
NOT FOR CONSTRUCTION

PLOT STAMP: 8/25/2016 11:41 AM

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DRAWING MPL9191-1000
DRAWN JRA
DESIGNED SMR
CHECKED PDR

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
A	ISSUED FOR REVIEW	JRA	02/04/16	PDR

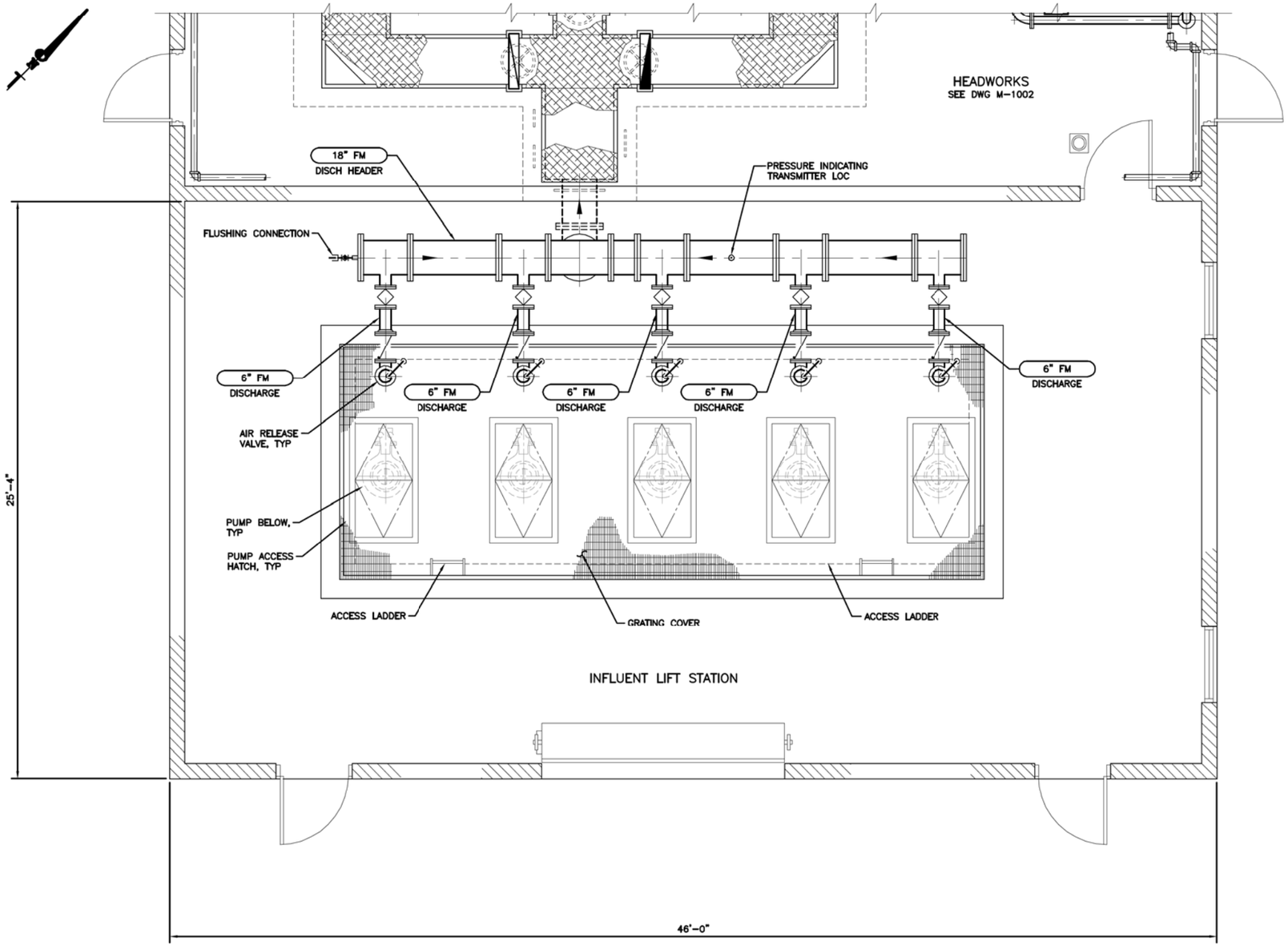
PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

WASTEWATER TREATMENT PLANT

MECHANICAL

HEADWORKS
LOWER LEVEL PLAN

DATE: 02/04/16
PROJECT NUMBER: 50079191
REVISION NO. A
DRAWING NUMBER
M-1001
SHEET NUMBER



PLAN
OPERATING FLOOR
SCALE: 3/8"=1'-0

PRELIMINARY
NOT FOR CONSTRUCTION

PLOT STAMP: 8/25/2016 11:41 AM

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LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

DRAWING MPL9191-101
DRAWN JRA
DESIGNED SMR
CHECKED PDR

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
A	ISSUED FOR REVIEW	JRA	02/06/16	PDR

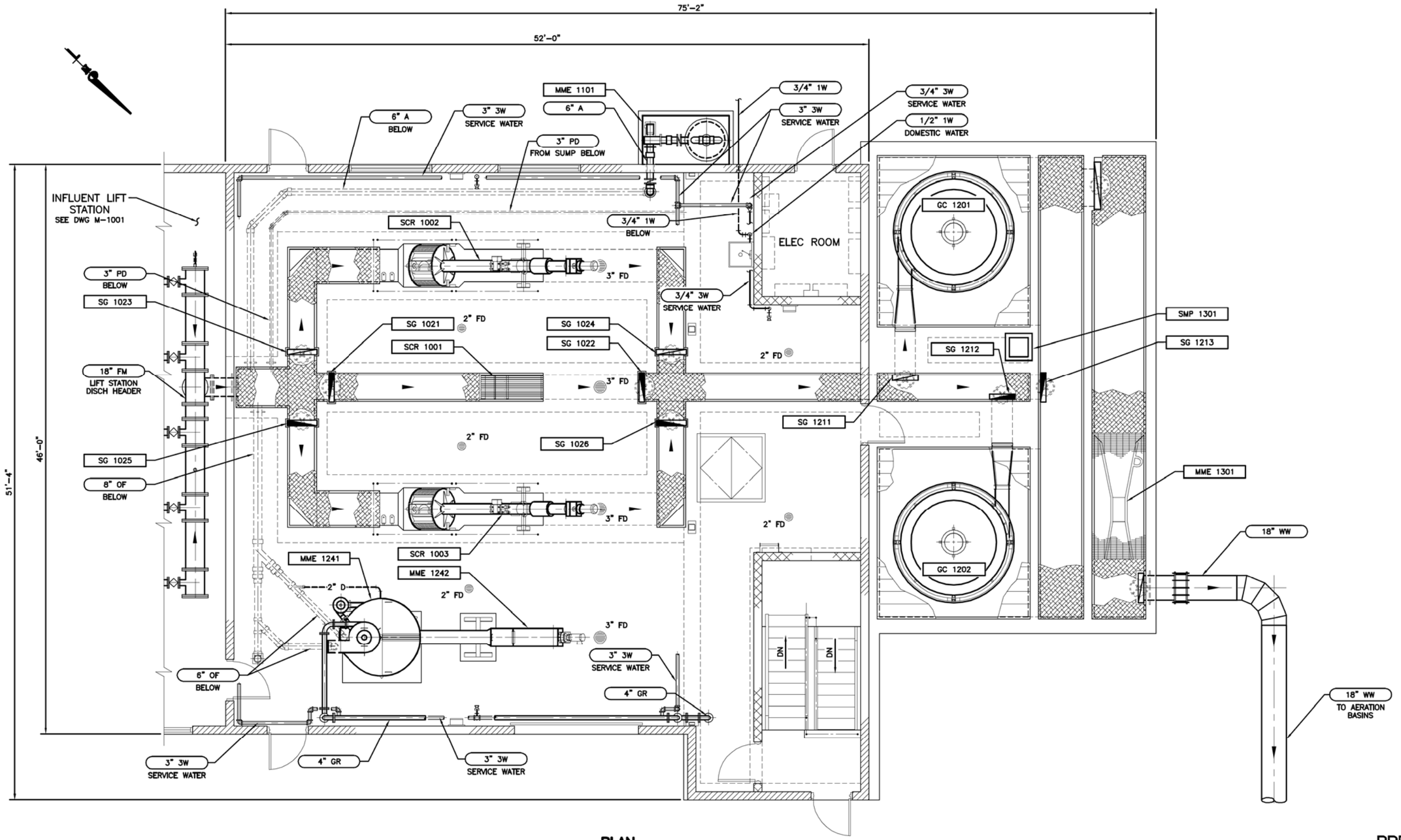
PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

WASTEWATER TREATMENT PLANT

MECHANICAL

INFLUENT LIFT STATION
OPERATING FLOOR PLAN

DATE: 02/04/16
PROJECT NUMBER: 50079191
REVISION NO. A
DRAWING NUMBER
M-1002
SHEET NUMBER



PLAN
MAIN LEVEL
SCALE: 1/4"=1'-0

PRELIMINARY
NOT FOR CONSTRUCTION

PLOT STAMP: 8/25/2016 11:41 AM

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Denver, Colorado 80209
(303) 825-1802

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

DRAWING MPL9191-1001
DRAWN JRA
DESIGNED SMR
CHECKED PDR

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
A	ISSUED FOR REVIEW	JRA	02/04/16	PDR

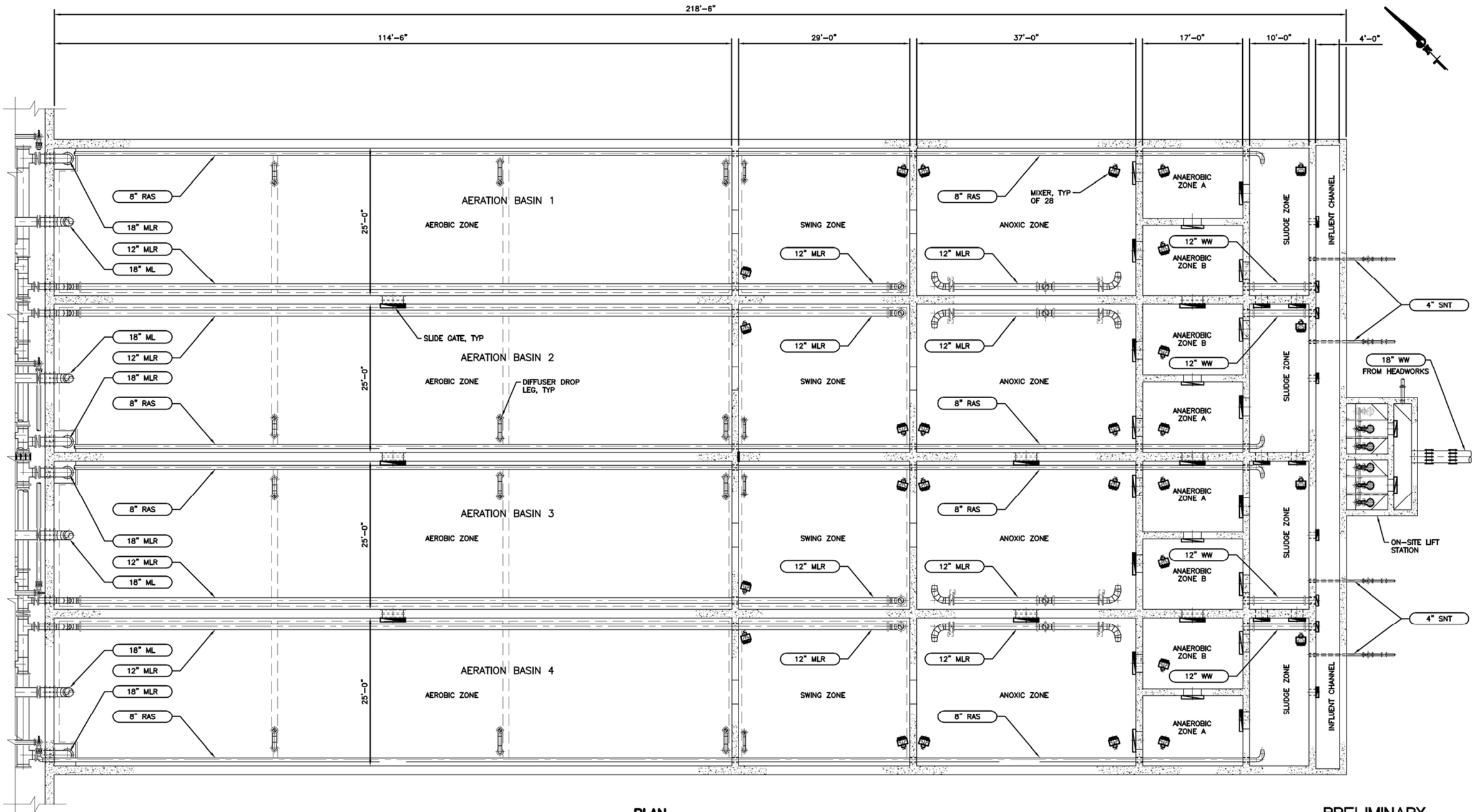
PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

WASTEWATER TREATMENT PLANT

MECHANICAL

HEADWORKS
MAIN LEVEL PLAN

DATE: 02/04/16
PROJECT NUMBER: 50079191
REVISION NO. A
DRAWING NUMBER
M-1003
SHEET NUMBER



PLAN
OVERALL LOWER LEVEL
SCALE: 1/8"=1'-0

PRELIMINARY
NOT FOR CONSTRUCTION

PLOT STAMP: 8/25/2016 11:41 AM

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990 S. BROADWAY, SUITE 400
Denver, Colorado 80209
(303) 825-1802

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

DRAWING MPL9191-3100
DRAWN JRA
DESIGNED SMR
CHECKED PDR

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
A	ISSUED FOR REVIEW	JRA	02/07/16	PDR

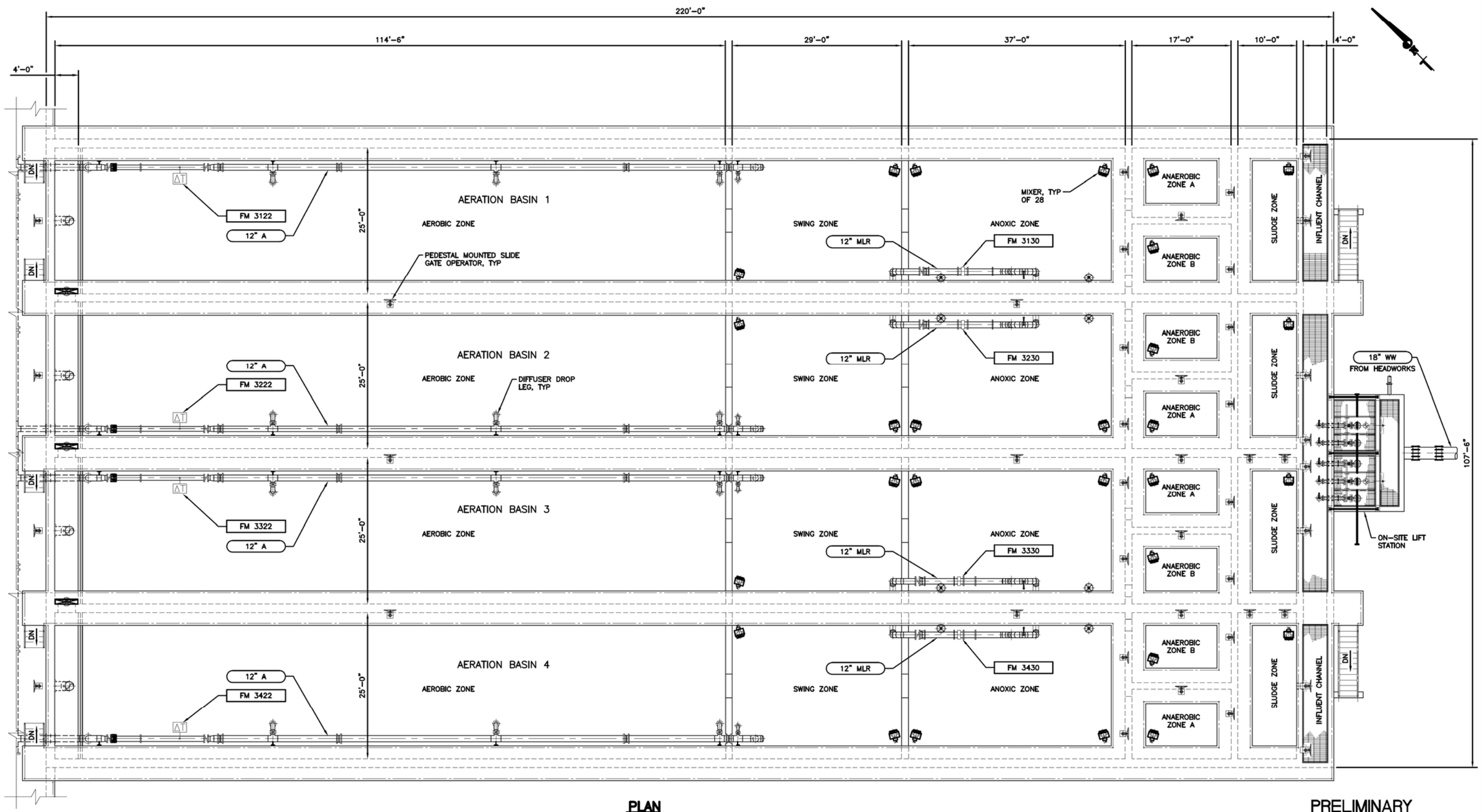
PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

WASTEWATER TREATMENT PLANT

MECHANICAL

AERATION BASINS
OVERALL LOWER LEVEL PLAN

DATE: 02/07/16
PROJECT NUMBER: 50079191
REVISION NO. A
DRAWING NUMBER
M-3100
SHEET NUMBER



PLAN
OVERALL UPPER LEVEL
SCALE: 1/8"=1'-0

PRELIMINARY
NOT FOR CONSTRUCTION

PLOT STAMP: 8/25/2016 11:41 AM

Dewberry®
Dewberry Engineers Inc.
990 S. BROADWAY, SUITE 400
Denver, Colorado 80209
(303) 825-1802

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

DRAWING MPL9191-3101
DRAWN JRA
DESIGNED SMR
CHECKED PDR

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
A	ISSUED FOR REVIEW	JRA	02/07/16	PDR

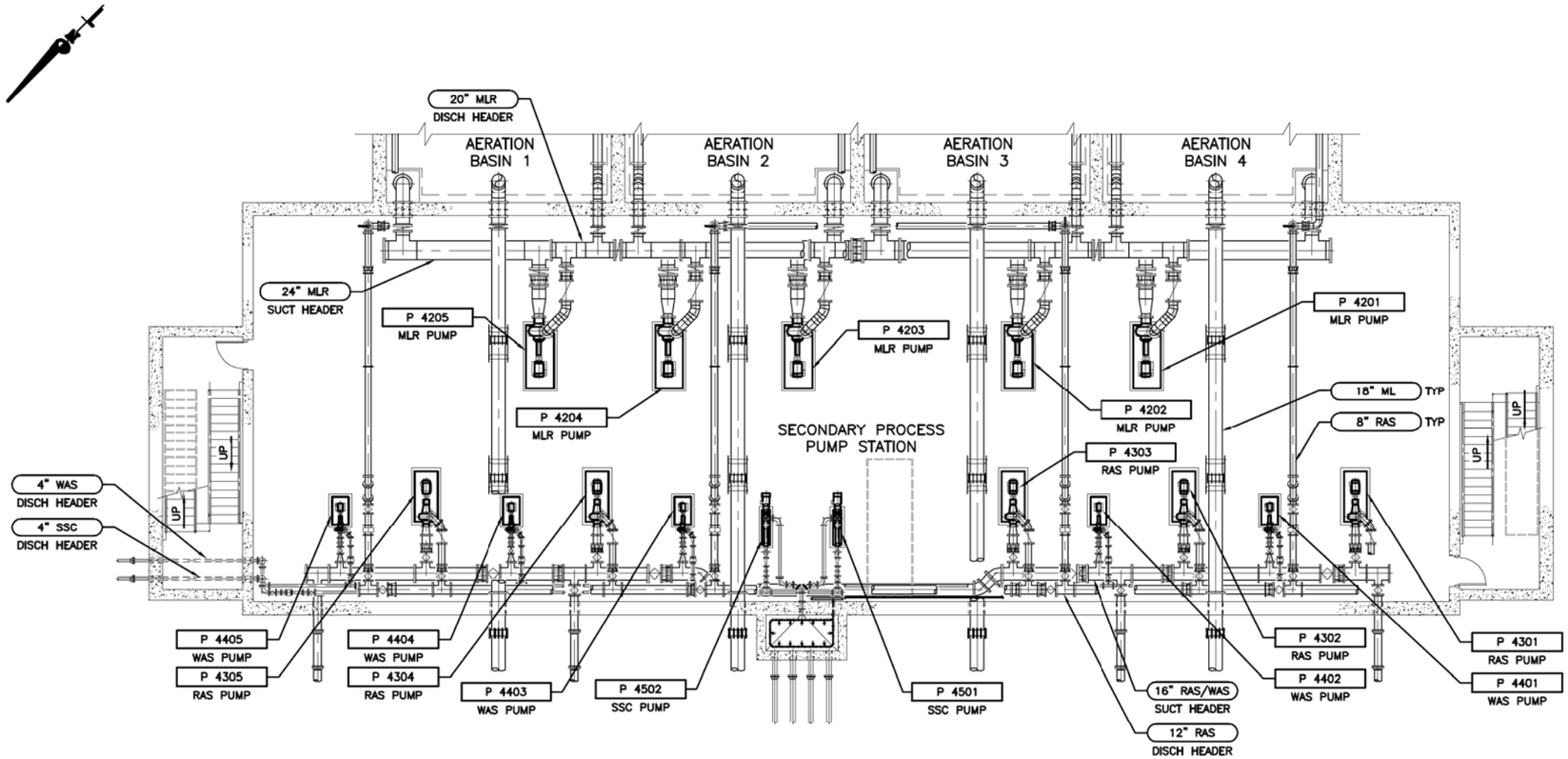
PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

WASTEWATER TREATMENT PLANT

MECHANICAL

AERATION BASINS
OVERALL UPPER LEVEL PLAN

DATE: 02/07/16
PROJECT NUMBER: 50079191
REVISION NO. A
DRAWING NUMBER
M-3101
SHEET NUMBER



PLAN
OVERALL LOWER LEVEL
SCALE: 3/16"=1'-0

PRELIMINARY
NOT FOR CONSTRUCTION

PLOT STAMP: 8/25/2016 11:42 AM

Dewberry®
Dewberry Engineers Inc.
990 S. BROADWAY, SUITE 400
Denver, Colorado 80209
(303) 825-1802

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

DRAWING MPL9191-4000
DRAWN JRA
DESIGNED SMR
CHECKED PDR

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
A	ISSUED FOR REVIEW	JRA	02/08/16	PDR

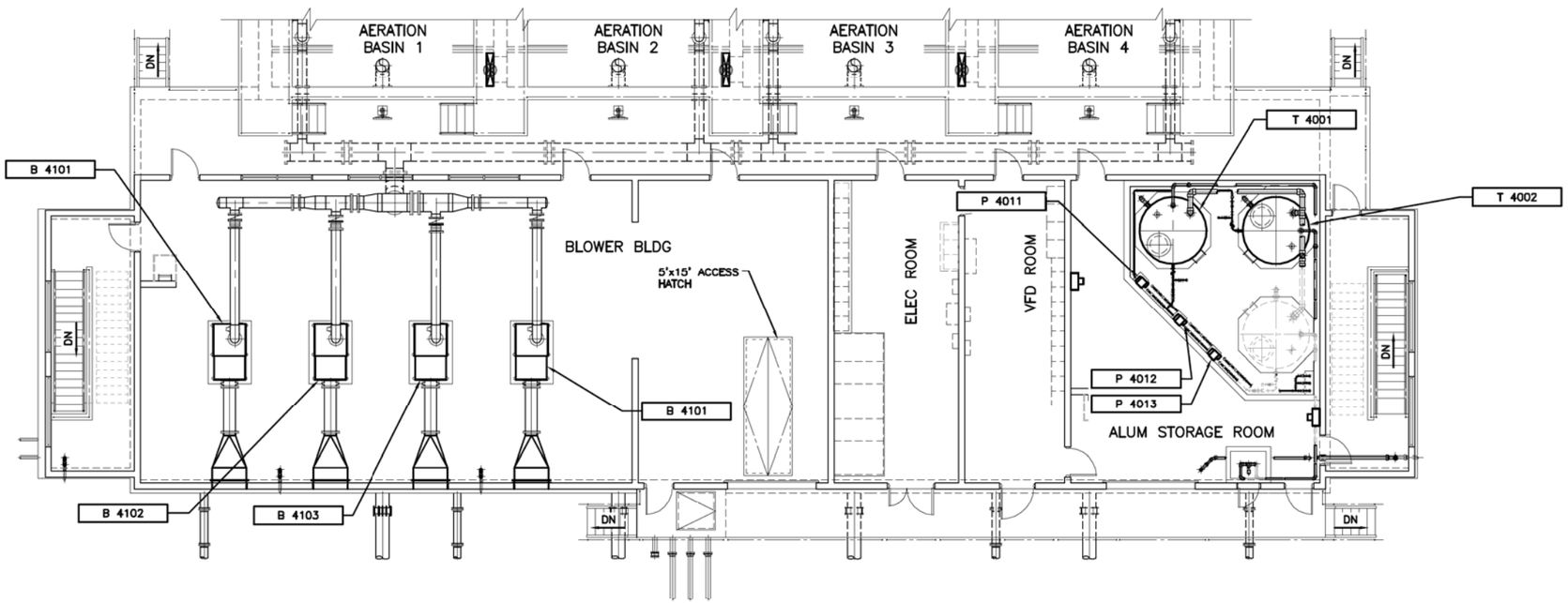
PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

WASTEWATER TREATMENT PLANT

MECHANICAL

SECONDARY PROCESS PUMP STATION
OVERALL LOWER LEVEL PLAN

DATE: 02/08/16
PROJECT NUMBER: 50079191
REVISION NO. A
DRAWING NUMBER
M-4000
SHEET NUMBER



PLAN
OVERALL UPPER LEVEL
SCALE: 3/16"=1'-0

PRELIMINARY
NOT FOR CONSTRUCTION

PLOT STAMP: 8/25/2016 11:42 AM

Dewberry®
Dewberry Engineers Inc.
990 S. BROADWAY, SUITE 400
Denver, Colorado 80209
(303) 825-1802

LINE IS 2 INCHES AT FULL SIZE
(IF NOT 2"-SCALE ACCORDINGLY)

DRAWING MPL9191-4001
DRAWN JRA
DESIGNED SMR
CHECKED PDR

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
A	ISSUED FOR REVIEW	JRA	02/08/16	PDR

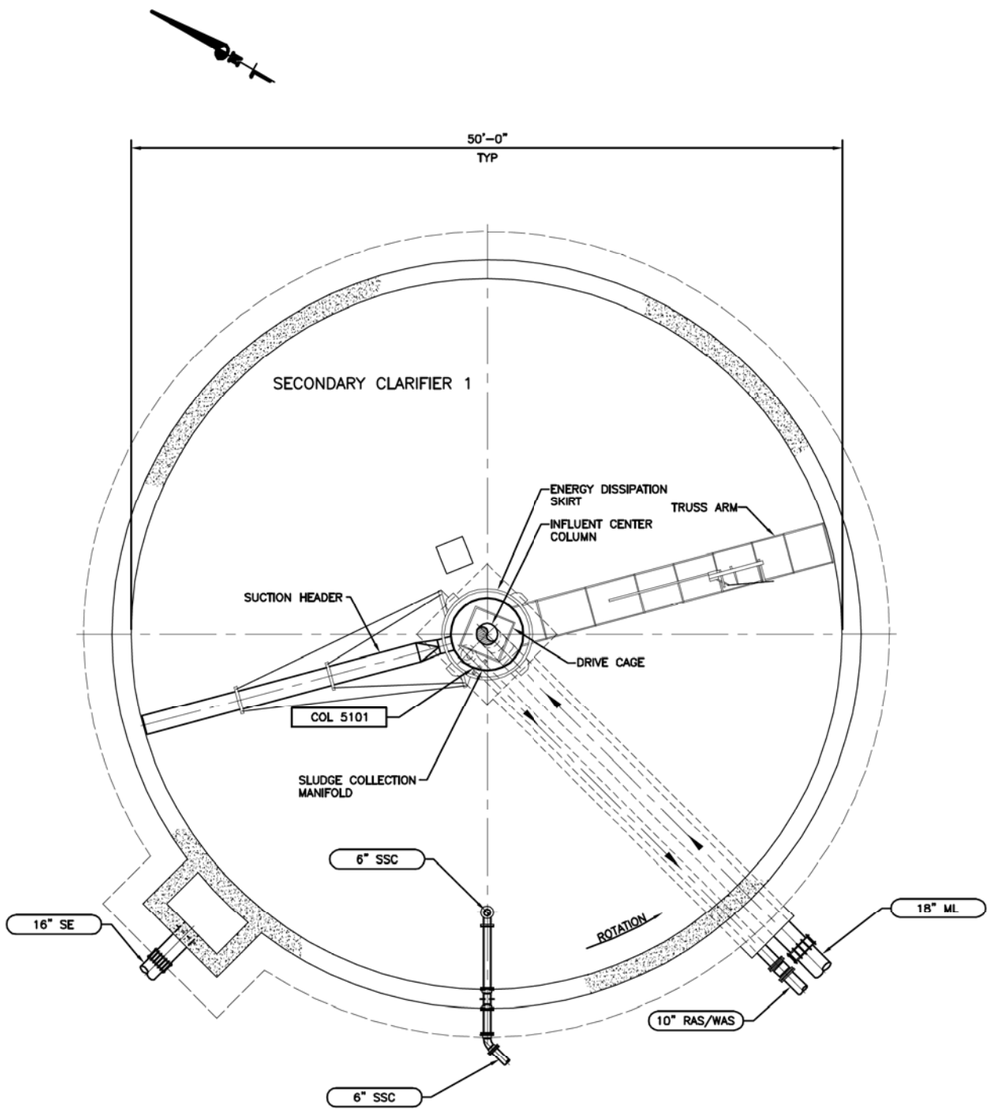
PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

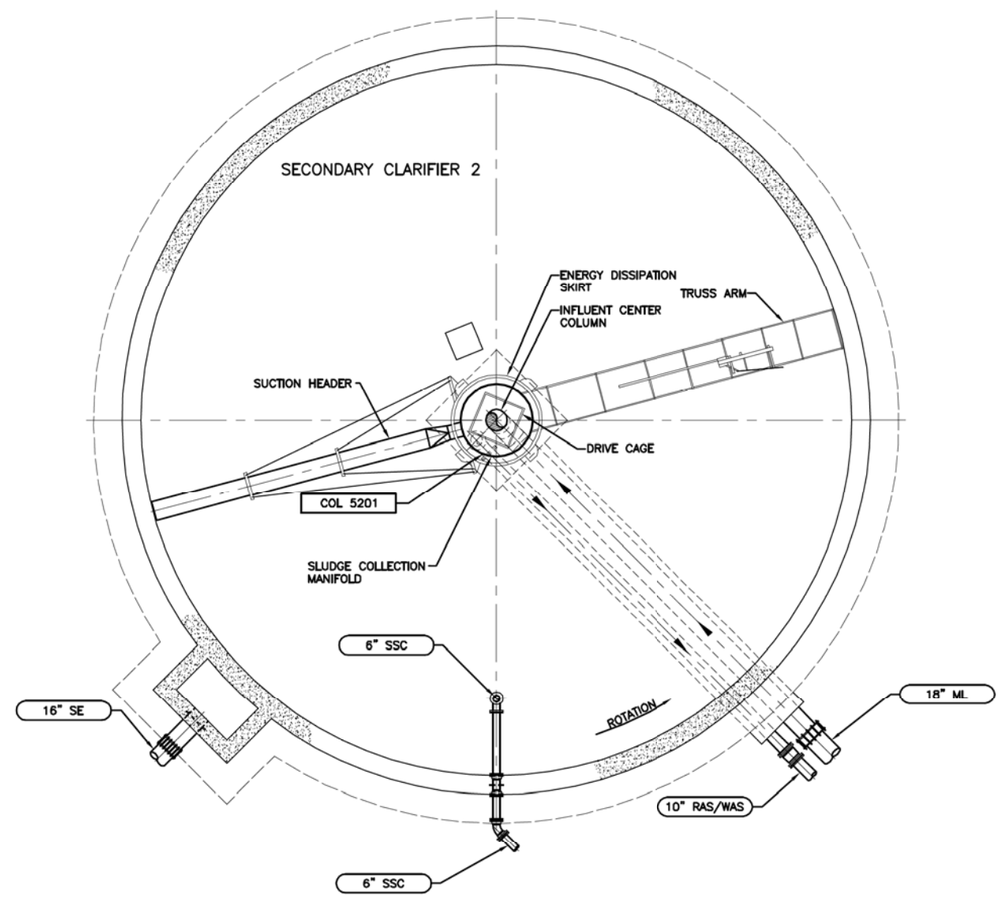
WASTEWATER TREATMENT PLANT

MECHANICAL

SECONDARY PROCESS PUMP STATION
OVERALL UPPER LEVEL PLAN

DATE: 02/08/16
PROJECT NUMBER: 50079191
REVISION NO. A
DRAWING NUMBER
M-4001
SHEET NUMBER





PLAN
LOWER LEVEL
SCALE: 3/16"=1'-0

PRELIMINARY
NOT FOR CONSTRUCTION

PLOT STAMP: 8/25/2016 11:42 AM

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Denver, Colorado 80209
(303) 825-1802

LINE IS 2 INCHES AT FULL SIZE
(IF NOT 2"-SCALE ACCORDINGLY)

DRAWING MPL9191-5101
DRAWN JRA
DESIGNED SMR
CHECKED PDR

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
A	ISSUED FOR REVIEW	JRA	02/04/16	PDR

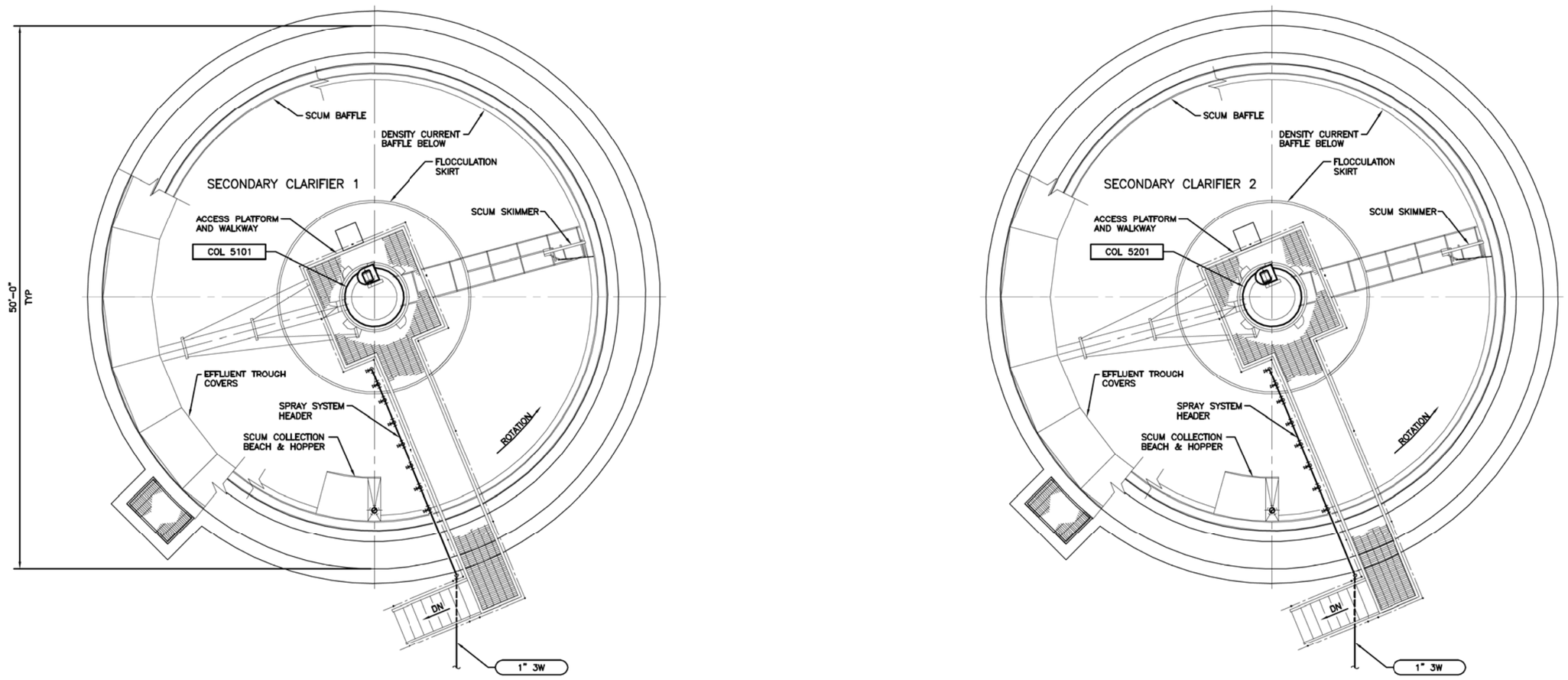
PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

WASTEWATER TREATMENT PLANT

MECHANICAL

SECONDARY CLARIFIERS 1 AND 2
LOWER LEVEL PLAN

DATE: 02/04/16
PROJECT NUMBER: 50079191
REVISION NO. A
DRAWING NUMBER
M-5101
SHEET NUMBER



PLAN
UPPER LEVEL
SCALE: 3/16"=1'-0

PRELIMINARY
NOT FOR CONSTRUCTION

PLOT STAMP: 8/25/2016 11:42 AM

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Denver, Colorado 80209
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LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

DRAWING MPL9191-5102
DRAWN JRA
DESIGNED SMR
CHECKED PDR

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
A	ISSUED FOR REVIEW	JRA	02/04/16	PDR

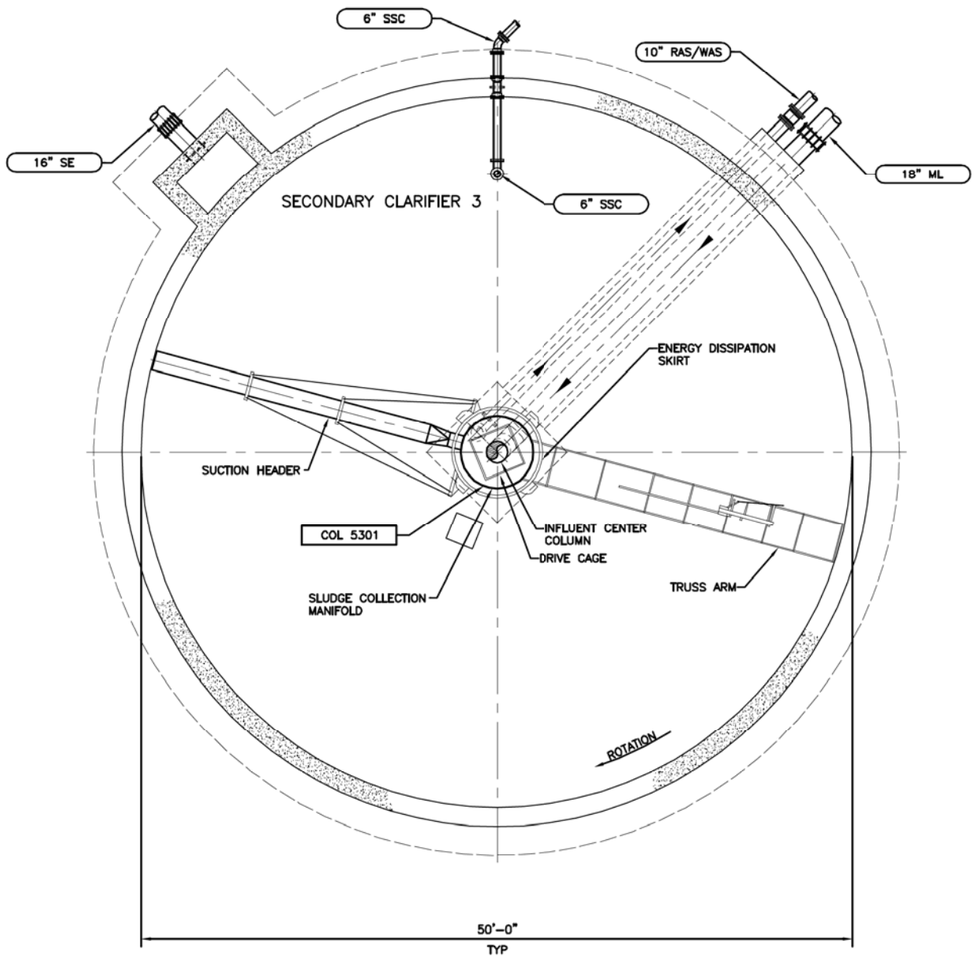
PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

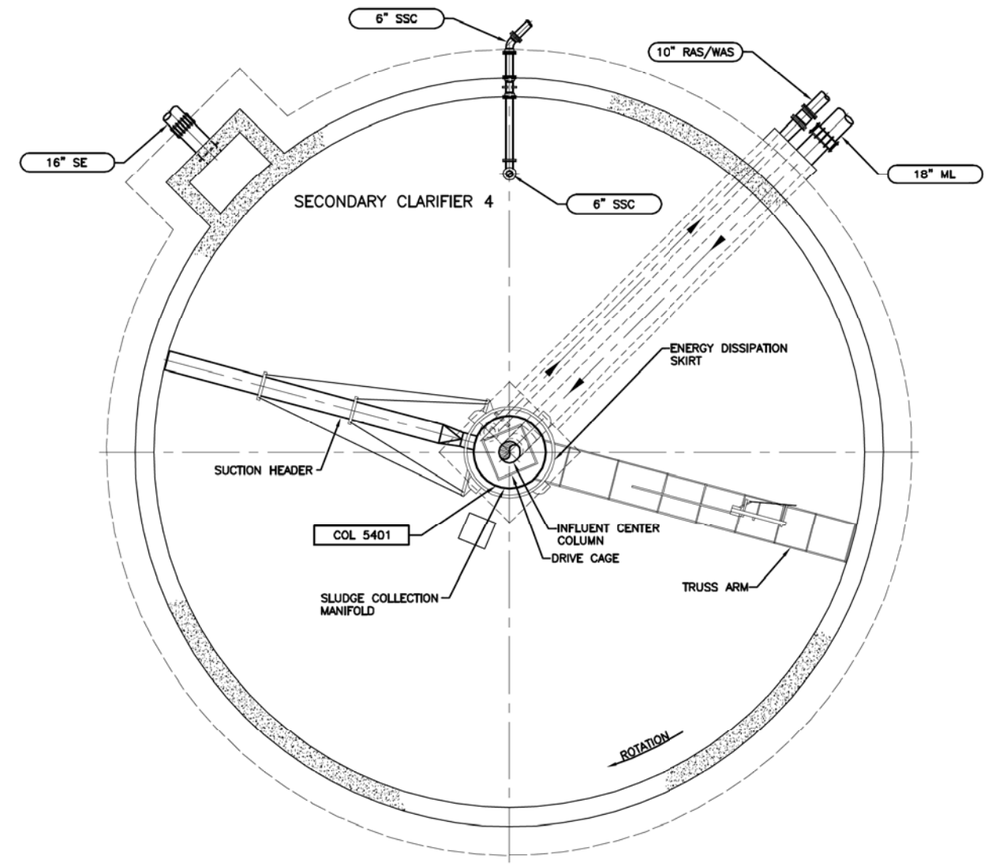
WASTEWATER TREATMENT PLANT

MECHANICAL

SECONDARY CLARIFIERS 1 AND 2
UPPER LEVEL PLAN

DATE: 02/04/16
PROJECT NUMBER: 50079191
REVISION NO. A
DRAWING NUMBER
M-5102
SHEET NUMBER





PLAN
LOWER LEVEL
SCALE: 3/16"=1'-0

PRELIMINARY
NOT FOR CONSTRUCTION

PLOT STAMP: 8/25/2016 11:42 AM

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990 S. BROADWAY, SUITE 400
Denver, Colorado 80209
(303) 825-1802

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

DRAWING MPL9191-5301
DRAWN JRA
DESIGNED SMR
CHECKED PDR

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
A	ISSUED FOR REVIEW	JRA	02/04/16	PDR

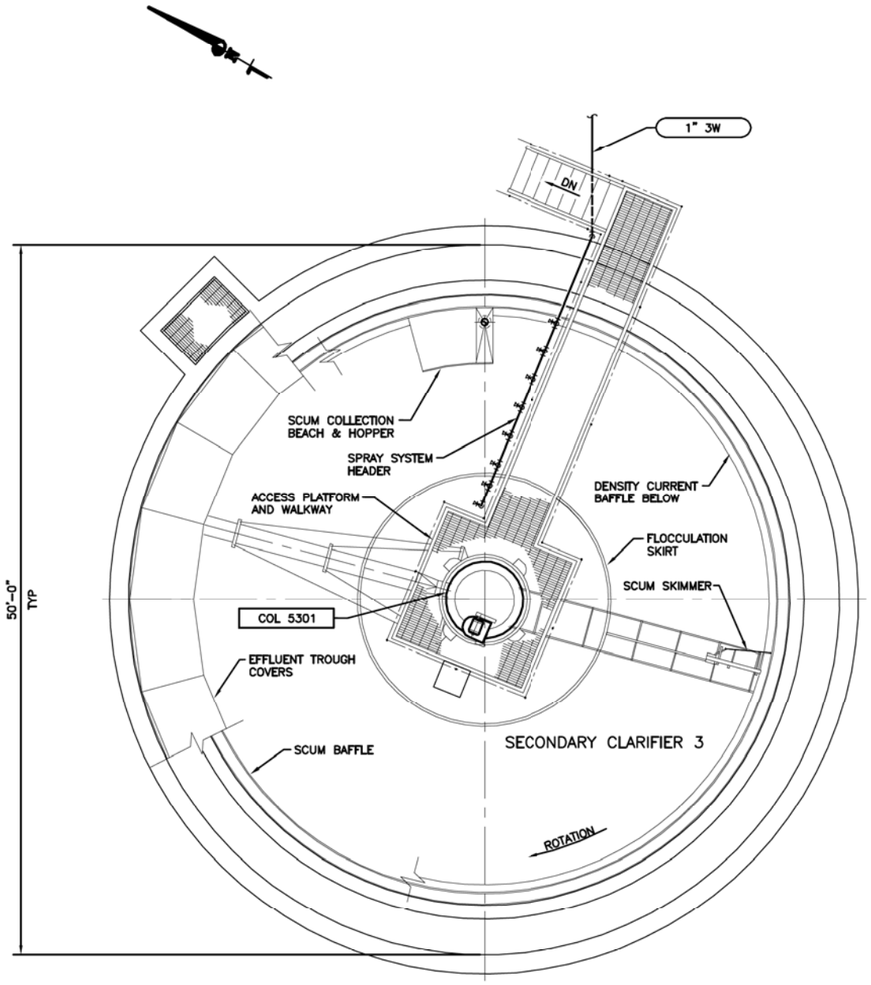
PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

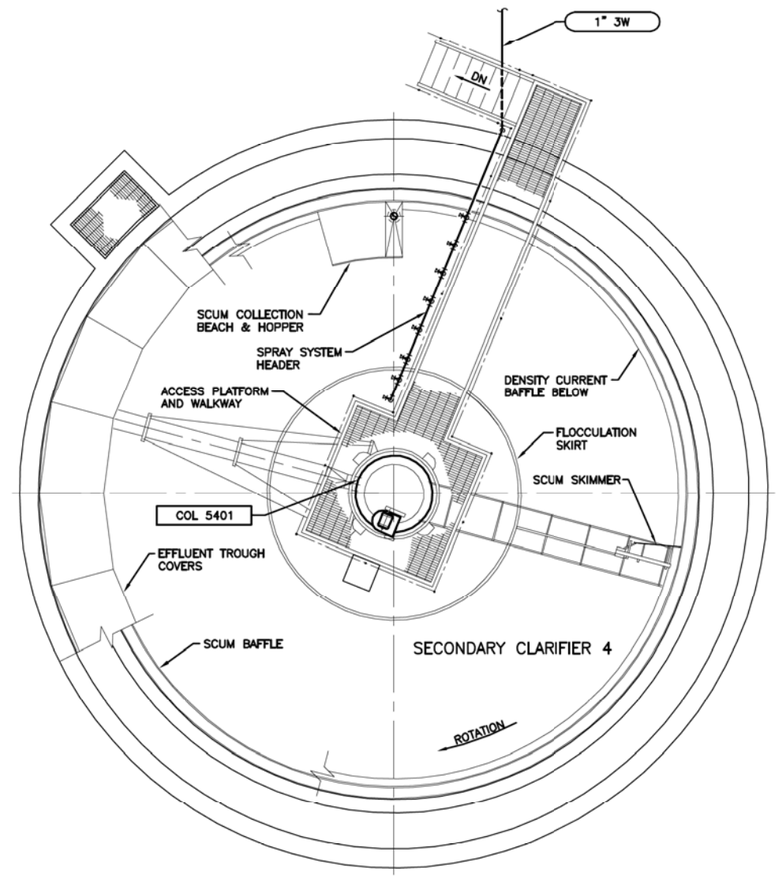
WASTEWATER TREATMENT PLANT

MECHANICAL

SECONDARY CLARIFIERS 3 AND 4
LOWER LEVEL PLAN

DATE: 02/04/16
PROJECT NUMBER: 50079191
REVISION NO. A
DRAWING NUMBER
M-5301
SHEET NUMBER





PLAN
UPPER LEVEL
SCALE: 3/16"=1'-0

PRELIMINARY
NOT FOR CONSTRUCTION

PLOT STAMP: 8/25/2016 11:42 AM

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(303) 825-1802

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

DRAWING MPL9191-5302
DRAWN JRA
DESIGNED SMR
CHECKED PDR

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
A	ISSUED FOR REVIEW	JRA	02/04/16	PDR

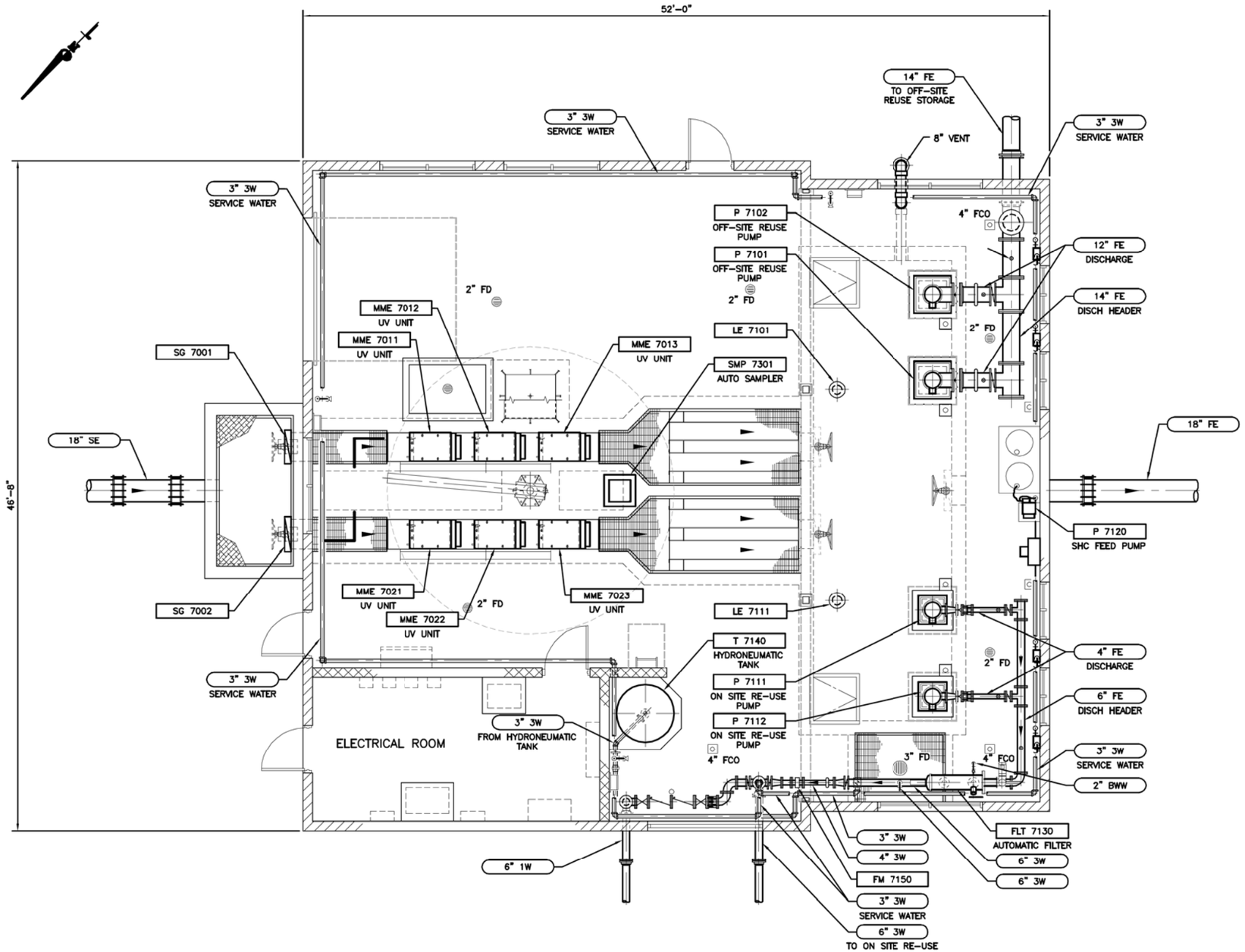
PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

WASTEWATER TREATMENT PLANT

MECHANICAL

SECONDARY CLARIFIERS 3 AND 4
UPPER LEVEL PLAN

DATE: 02/04/16
PROJECT NUMBER: 50079191
REVISION NO. A
DRAWING NUMBER
M-5302
SHEET NUMBER



PLAN
OPERATING FLOOR
SCALE: 1/4"=1'-0

PRELIMINARY
NOT FOR CONSTRUCTION

PLOT STAMP: 8/25/2016 11:42 AM

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Denver, Colorado 80209
(303) 825-1802

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

DRAWING MPL9191-7001
DRAWN JRA
DESIGNED SMR
CHECKED PDR

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
A	ISSUED FOR REVIEW	JRA	02/04/16	PDR

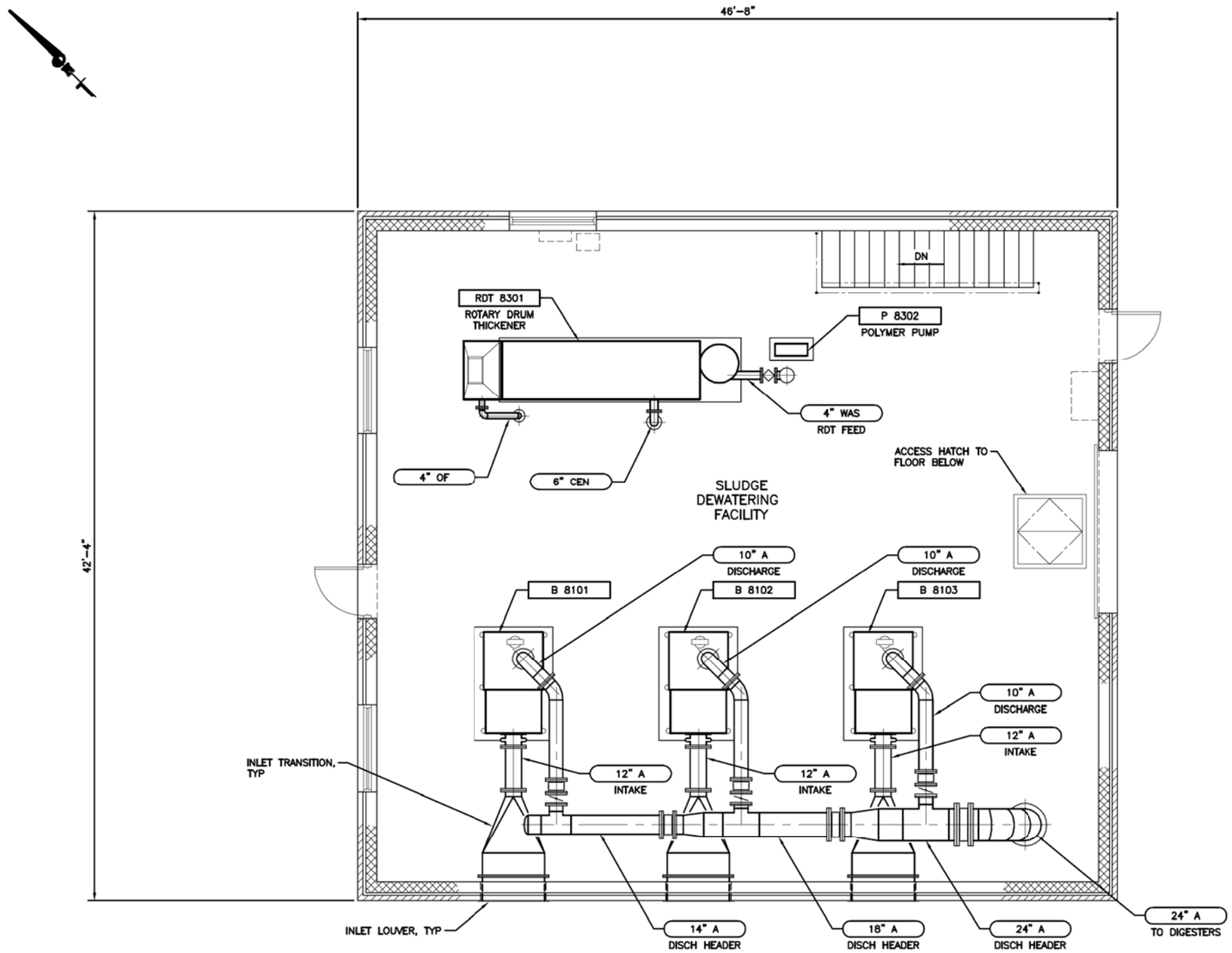
PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

WASTEWATER TREATMENT PLANT

MECHANICAL

UV DISINFECTION BUILDING OPERATING FLOOR PLAN

DATE: 02/04/16
PROJECT NUMBER: 50079191
REVISION NO. A
DRAWING NUMBER
M-7001
SHEET NUMBER



PLAN
UPPER LEVEL
SCALE: 1/4"=1'-0

PRELIMINARY
NOT FOR CONSTRUCTION

PLOT STAMP: 8/25/2016 11:42 AM

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Denver, Colorado 80209
(303) 825-1802

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

DRAWING MPL9191-8001
DRAWN JRA
DESIGNED SMR
CHECKED PDR

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
A	ISSUED FOR REVIEW	JRA	02/04/16	PDR

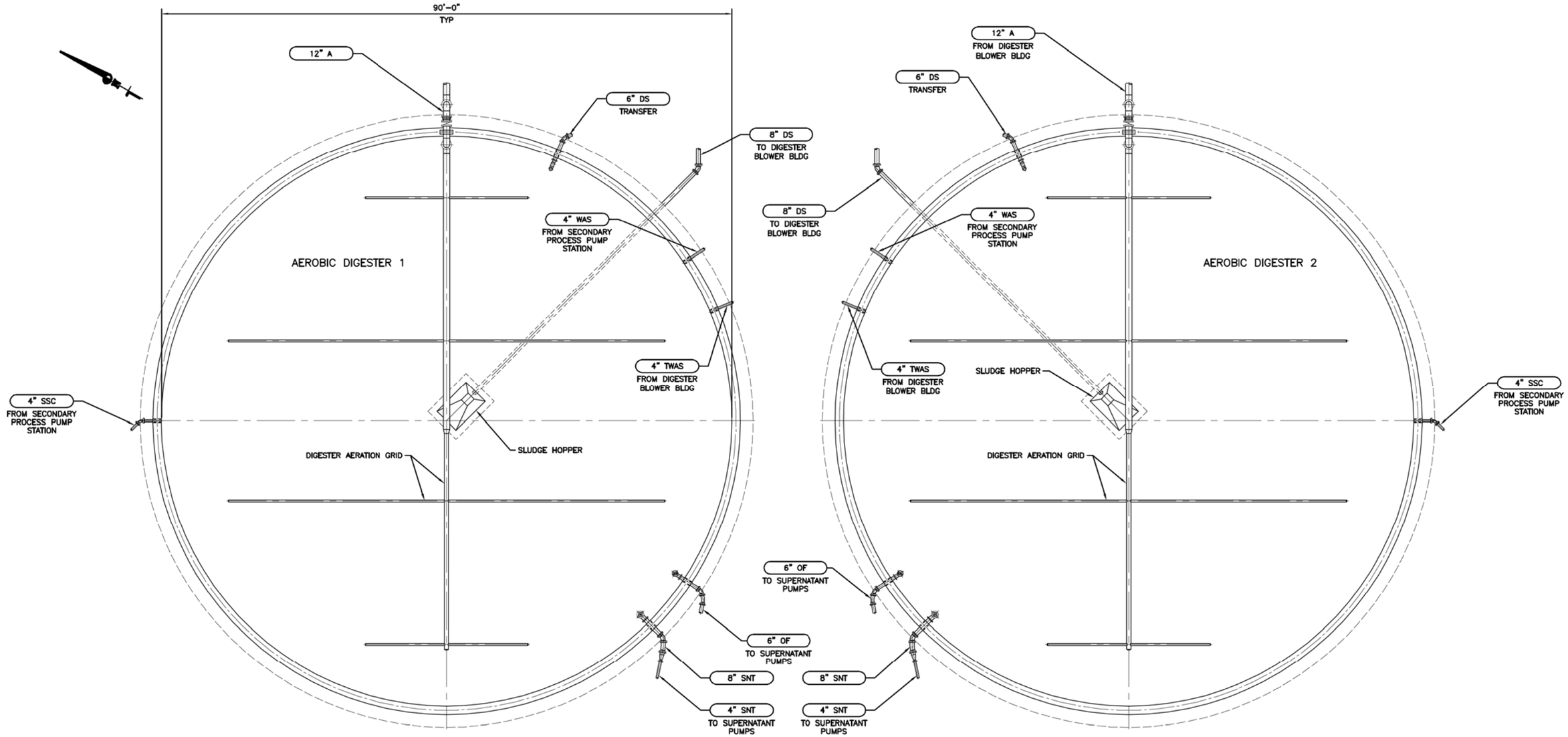
PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

WASTEWATER TREATMENT PLANT

MECHANICAL

DIGESTER BLOWER BUILDING
UPPER LEVEL PLAN

DATE: 02/04/16
PROJECT NUMBER: 50079191
REVISION NO. A
DRAWING NUMBER
M-8001
SHEET NUMBER



PLAN
AEROBIC DIGESTERS
SCALE: 1/8"=1'-0

PRELIMINARY
NOT FOR CONSTRUCTION

PLOT STAMP: 8/25/2016 11:42 AM

Dewberry®
Dewberry Engineers Inc.
990 S. BROADWAY, SUITE 400
Denver, Colorado 80209
(303) 825-1802

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

DRAWING MPL9191-8101
DRAWN JRA
DESIGNED SMR
CHECKED PDR

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
A	ISSUED FOR REVIEW	JRA	02/04/16	PDR

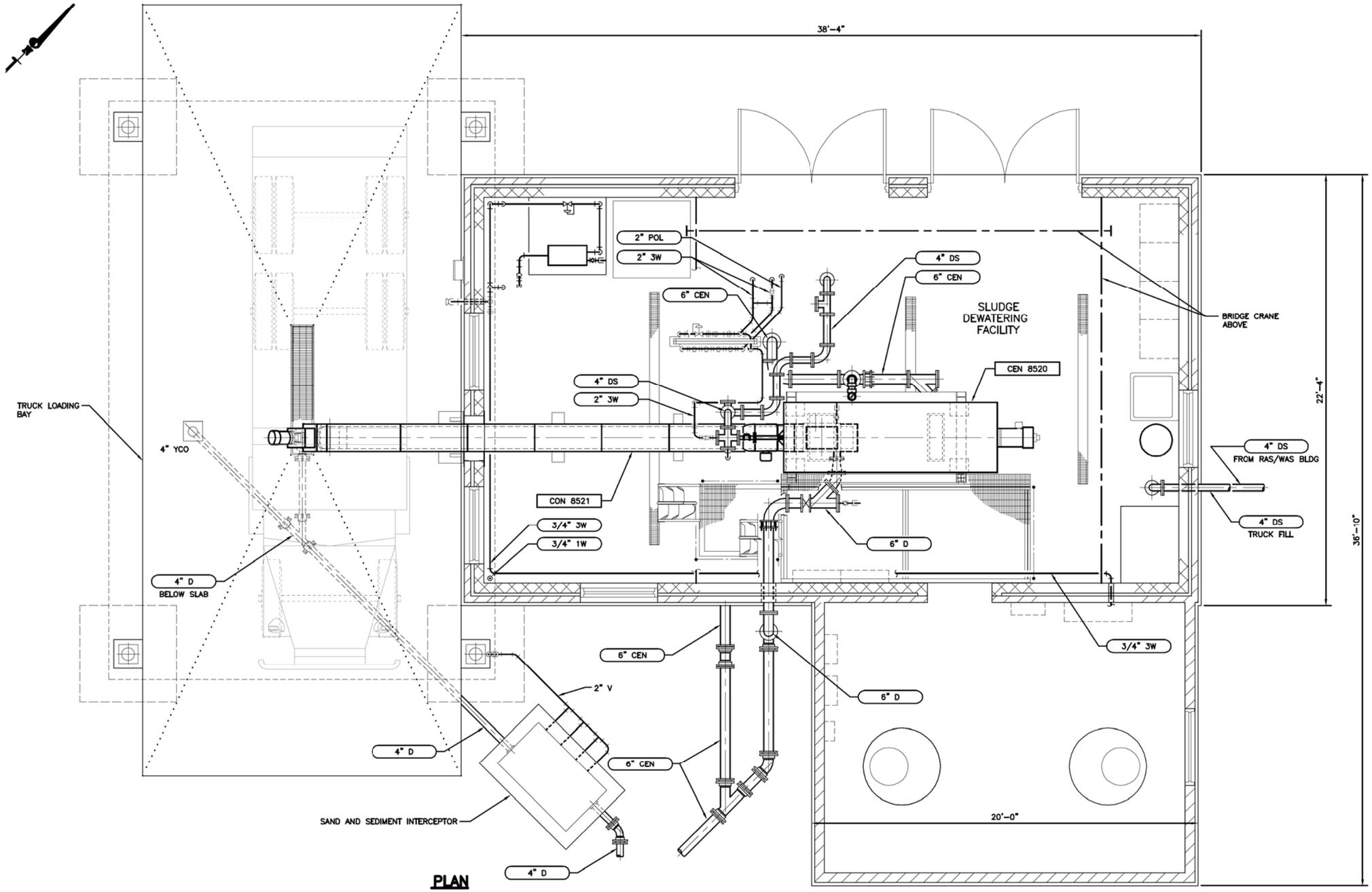
PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

WASTEWATER TREATMENT PLANT

MECHANICAL

AEROBIC DIGESTERS
LOWER LEVEL PLAN

DATE: 02/04/16
PROJECT NUMBER: 50079191
REVISION NO. A
DRAWING NUMBER
M-8101
SHEET NUMBER



PLAN

SCALE: 3/8"=1'-0

PRELIMINARY
NOT FOR CONSTRUCTION

PLOT STAMP: 8/25/2016 11:42 AM

Dewberry®
Dewberry Engineers Inc.
990 S. BROADWAY, SUITE 400
Denver, Colorado 80209
(303) 825-1802

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

DRAWING MPL9191-8501
DRAWN JRA
DESIGNED SMR
CHECKED PDR

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
A	ISSUED FOR REVIEW	JRA	02/04/16	PDR

PROSPER REGIONAL WATER & SANITATION SERVICE METROPOLITAN DISTRICT

WASTEWATER TREATMENT PLANT

MECHANICAL

SOLIDS HANDLING FACILITY PLAN

DATE: 02/04/16
PROJECT NUMBER: 50079191
REVISION NO. A
DRAWING NUMBER
M-8501
SHEET NUMBER

Attachment B

Title Commitment

First American Title Insurance Company - NCS
2626 Howell Street, 10th Floor
Dallas, Texas 75204
Phone: **(214)855-8888** Fax:**(214)855-8848**

DATE: March 16, 2016
FILE NUMBER: 1002-180270-RTT
PROPERTY ADDRESS: , CO
OWNER/BUYER: Prosper Farms Investments/To Be Determined
YOUR REFERENCE NUMBER:
ASSESSOR PARCEL NUMBER:

PLEASE REVIEW THE ENCLOSED MATERIAL COMPLETELY AND TAKE NOTE OF THE FOLLOWING TERMS CONTAINED THEREIN:
Transmittal:
Revision No.:
Schedule A:
Schedule B - Section 1 Requirements:
Schedule B - Section 2 Exceptions:

Should you have any questions regarding these materials, please contact Republic Title of Texas, Inc. at the above phone number. We sincerely thank you for your business.

To:	**Furniture Row Companies**	**ATTN:**	**Sarah Jane Worrell**
	5641 N Broadway	**PHONE:**	**(303)566-8000**
	Denver, CO 80216	**MOBILE:**	
		FAX:	**(303)566-8099**
		E-MAIL:	**SJWorrell@republictitle.com**
		DELIVERY:	**E-MAIL**

ALTA Commitment Form

COMMITMENT FOR TITLE INSURANCE

Issued by

First American Title Insurance Company

First American Title Insurance Company, a Nebraska corporation ("Company"), for a valuable consideration, commits to issue its policy or policies of title insurance, as identified in Schedule A, in favor of the Proposed Insured named in Schedule A, as owner or mortgagee of the estate or interest in the land described or referred to in Schedule A, upon payment of the premiums and charges and compliance with the Requirements; all subject to the provisions of Schedules A and B and to the Conditions of this Commitment.

This Commitment shall be effective only when the identity of the Proposed Insured and the amount of the policy or policies committed for have been inserted in Schedule A by the Company.

All liability and obligation under this Commitment shall cease and terminate six (6) months after the Effective Date or when the policy or policies committed for shall issue, whichever first occurs, provided that the failure to issue the policy or policies is not the fault of the Company.

The Company will provide a sample of the policy form upon request.

IN WITNESS WHEREOF, First American Title Insurance Company has caused its corporate name and seal to be affixed by its duly authorized officers on the date shown in Schedule A.

First American Title Insurance Company

Dennis J. Gilmore
President

Jeffrey S. Robinson
Secretary

COMMITMENT FOR TITLE INSURANCE FORM
SCHEDULE A

1. Effective Date: February 29, 2016 at 7:30 a.m.

   a. ALTA Owner's Policy (06-17-06) TBD

      Proposed Insured:
      To Be Determined

   b. ALTA Loan Policy (06-17-06) TBD

      Proposed Insured:
      A Lender To Be Determined

2. The estate or interest in the Land described or referred to in this Commitment is:

   Fee Simple, as to Parcels ONE, TWO, and THREE through TEN-A, ELEVEN-A, TWELVE through FOURTEEN and Easement as to Parcels TWO-A, TEN-B, AND ELEVEN-B

3. Title to the estate or interest in the Land is at the Effective Date vested in:

   Prosper Farms Investments, a Colorado limited liability company

4. The Land referred to in this Commitment is described as follows:

   See Exhibit "A" attached hereto and made a part hereof.

For informational purposes only: vacant land, and (East Colfax-no site address) Arapahoe County and
vacant land, Adams County

For informational purposes only: Vesting deeds recorded in Arapahoe County on October 28, 2011 at Reception Numbers: D1106043, D1106045, D1106047, D1106049, D1106051, D1106053, D1106055, D1106059, D1106061, D1106063, D1106065, D1106067, D1106057 and re-recorded on November 18, 2011 at Reception Number D1114350.

Vesting deed recorded in Adams County on October 28, 2011 at Reception Number 2011000070767.

EXHIBIT A

Commitment No.: 1002-180270-RTT

The land referred to in Schedule A is situated in the County of Adams, State of Colorado and is described as follows:

PARCEL ONE: (BEHRENS):
That part of Section 31, Township 3 South, Range 64 West of the 6th P.M., County of Adams, State of Colorado. more particularly described as follows:
COMMENCING at the Southeast Corner of said Section 31;
Thence North 00°10'57" West 276.27 feet to the Northerly right of way line of Interstate Highway 70 as shown on CDOT Project 1095-1(2) and the TRUE POINT OF BEGINNING;
Thence along said Northerly right of way line North 89°28'39" West, 4689.05 feet; Thence continuing along said Northerly right of way line North 74°37'00" West, 323.03 feet;
Thence North 00°05'14" East, 1388.83 feet to the Southerly right of way line of US. Highway 36 and State Highway 40 as shown on FAP 149 C;
Thence along said Southerly right of way line North 78°06'22" East, 5098.33 feet to the adjudicated East line of said Section 31 as shown in the Dependent Resurvey of Township 3 South, Range 64 West, executed by the Commissioners of the Court, 1st Judicial District, Colorado, dated October 4, 1920;
Thence along said adjudicated East line South 00°32'26" East, 182.63 feet to the East Quarter Corner of said Section 31 as shown in said Dependent Resurvey;
Thence continuing along said East line as shown in said Dependent Resurvey South 00°10'57" East, 2385.41 feet TRUE POINT OF BEGINNING.

LESS AND EXCEPT the following described Parcels of land:

EXCEPTED Parcel ONE-A:
A parcel of land being a part of Section 31, Township 3 South, Range 64 West of the Sixth Principal Meridian, County of Adams, State of Colorado, being more particularly described as follows:

COMMENCING: at the Southwest Corner of said Section 31;
Thence along the West line of said Section 31 North 00°01'23" East., 1614.12 feet to the intersection of the extended Southerly right of way line of U S Highway 36 and State Highway 30 as shown on FAP 149 C;
Thence along said Southerly right-of way line and Southerly right-of-way line extended North 78°06'23" East, 998.45 feet;
Thence South 11°53'37" East, 305.00 feet;
Thence North 78°06'23" East 15.00 feet to a point 305 feet Southerly of said Southerly right-of-way line and the TRUE POINT OF BEGINNING;
Thence continuing North 78°06'23" East 315.00 feet parallel with said Southerly right-of-way line;
Thence South 11°53'37" East, 225.00 feet;
Thence South 78°06'23" West, 330.00 feet;
Thence North 11°53'37" West. 210.00 feet, to a point of curvature;

Thence along the arc of a curve to the right, whose center bears North 78°06'23" East, 15.00 feet through a central angle of 90°00'00", an arc length of 23.56 feet, whose chord bears North. 33°06'23" East, 21.21 feet to the TRUE POINT OF BEGINNING:

EXCEPTED Parcel ONE-B: (RIGHT OF WAY)

EXCEPT: A Strip of Land Thirty (30) Feet in width being the easterly 30 feet of Section 31, Township 3 South, Range 64 West of the Sixth Principal Meridian, County of Adams, State of Colorado, lying Southerly of the Southerly right of way line of U.S. Highway 36 and State Highway 40 as shown on FAP 149 C and Northerly of a line 374 feet South of and Parallel with the North line of the Southwest Quarter of Section 32, Township 3 South, Range 64 West of the Sixth Principal Meridian, being more particularly described as follows: BEGINNING at said adjudicated East Quarter Corner of said Section 31; Thence along said adjudicated East line as shown in said Dependent Resurvey, South 00°10'57" East 374.07 feet

to a line parallel with and 374.00 feet Southerly of the North line of the Southwest 1/4 of Section 32, Township 3 South, Range 64 West;
Thence along said parallel line North 89°04'28" West, 30.01 feet to a line parallel with and 30.00 feet Westerly of said adjudicated East line of Section 31; Thence along said parallel line with and 30.00 feet Westerly of said adjudicated East line of Section 31 North 00°10'57" West, 373.40 feet:
Thence along said parallel line North 00°032'26" West, 176.51 feet to a point on said Southerly right of way line;
Thence along said Southerly right-of-way line North 78°06'23" East, 30.60 feet to a point on said adjudicated East line of Section 31;
Thence along said adjudicated East line as shown in said Dependent Resurvey, South 00°32'26" West 182.63 feet to the POINT OF BEGINNING.

Note: The foregoing description was created by: Albert V. Valletta. Jr., PLS 23524, on behalf of WESTERN STATES SURVEYING, INC, Survey dated August 3, 2005, Job No. 9734-005

PARCEL TWO: (BRENNAN):
The East Half of Section 14, Township 4 South, Range 65 West, of the 6th Principal Meridian,
County of Arapahoe, State of Colorado.

PARCEL TWO-A:
Easement for ingress and egress and access purposes as set forth in Access Easement Agreement recorded October 28, 2003, at Reception No. B3234045,
County of Arapahoe,
State of Colorado.

PARCEL THREE: (BRYCE AND HAWTHORNE):

Parcel THREE-A:
A parcel of land located in Section 8, Township 4 South, Range 64 West of the Sixth Principal Meridian, County of Arapahoe, State of Colorado, being more particularly described as follows:

Basis of Bearings: The north line of the northwest one-quarter of said Section 8, monumented at the west end by a 2.5 inch aluminum cap stamped "PLS 28656 1995" and on the east end by a 2 inch aluminum cap stamped "LS 25937 1999", with the line considered to bear S89°12'13"E.

Commencing at the west one-quarter corner of Section 8;
thence S88°55'29"E along the north line of the southwest one-quarter of said Section 8, a distance of 30.00 feet to the easterly right-of-way line of North Imboden Mile Road and the point of beginning;
thence S88°55'29"E continuing along the said north line of the southwest one-quarter of Section 8, a distance of 2628.21 feet to the calculated center one-quarter corner;
thence S00°40'54"W along the east line of the said southwest one-quarter of Section 8, a distance of 2613.17 feet to the point on the northerly right-of-way line of Alameda Avenue;
thence N88°55'08"W along said northerly right-of-way line of Alameda Avenue a distance of 2627.70 feet to a point on the said easterly right-of-way line of North Imboden Mile Road;
thence N00°40'13"E along the said easterly right-of-way line of North Imboden Mile Road, a distance of 2612.91 feet to the point of beginning;

LESS AND EXCEPT any portion that may lie within the parcel described as follows:

EXCEPT: A parcel of land located in the southwest quarter of Section 8, Township 4 South, Range 64 West of the 6th Principal Meridian, County of Arapahoe, State of Colorado, more particularly described as follows:

Basis of Bearing: For the purposes of this description the south line of the southwest quarter of said Section 8 is assumed to bear N 88°55'08" W as shown on land survey plat No. 03390 deposited by PLS 37051 on January 11, 2007 in the records of the clerk and recorder of Arapahoe County, Colorado.

Beginning at the southwest quarter corner of said Section 8; thence S 88°55'08 E along the south line of said southwest quarter a distance of 2657.69 feet to the south quarter corner of said Section 8;
thence N 00°40'54" E along the east line of said southwest quarter a distance of 30.00 feet;
thence N 88°55'08" W along a line 30.00 feet north of and parallel with the south line of said southwest quarter a distance of 2627.70 feet to a point 30.00 feet east of, as measured perpendicularly, the west line of said southwest quarter;
thence N 00°40'13" E along a line 30.00 feet east of and parallel with the west line of said southwest quarter a distance of 2612.91 feet to a point on the north line of said southwest quarter;
thence N 88°55'29" W along the north line of southwest quarter a distance of 30.00 feet to the west quarter of said Section 8;
thence S 00°40'13" W along the west line of said southwest quarter a distance of 2642.91 feet to the point of beginning.
County of Arapahoe,
State of Colorado.

Parcel THREE-B:
A parcel of land located in the southwest quarter of Section 8, Township 4 South, Range 64 West of the 6th Principal Meridian, County of Arapahoe, State of Colorado, more particularly described as follows:

Basis of Bearing: For the purposes of this description the south line of the southwest quarter of said Section 8 is assumed to bear N 88°55'08" W as shown on land survey plat No. 03390 deposited by PLS 37051 on January 11, 2007 in the records of the clerk and recorder of Arapahoe County, Colorado.

Beginning at the southwest quarter corner of said Section 8; thence S 88°55'08 E along the south line of said southwest quarter a distance of 2657.69 feet to the south quarter corner of said Section 8;
thence N 00°40'54" E along the east line of said southwest quarter a distance of 30.00 feet;
thence N 88°55'08" W along a line 30.00 feet north of and parallel with the south line of said southwest quarter a distance of 2627.70 feet to a point 30.00 feet east of, as measured perpendicularly, the west line of said southwest quarter;
thence N 00°40'13" E along a line 30.00 feet east of and parallel with the west line of said southwest quarter a distance of 2612.91 feet to a point on the north line of said southwest quarter;
thence N 88°55'29" W along the north line of southwest quarter a distance of 30.00 feet to the west quarter of said Section 8;
thence S 00°40'13" W along the west line of said southwest quarter a distance of 2642.91 feet to the point of beginning;
County of Arapahoe,
State of Colorado.

PARCEL FOUR: (CARRUTHERS):

The North 1/2 of Lot 2 and the Northeast 1/4 of the Southwest 1/4 of Section 18, Township 4 South, Range 64 West, of the 6th Principal Meridian,
EXCEPT any portion thereof lying within Watkins Road,
County of Arapahoe, State of Colorado.

PARCEL FIVE: (FISCHAUS):

Parcel FIVE-A:
That part of the Northwest 1/4 of Section 2, Township 4 South, Range 65 West lying Southerly of U.S. Highway 36 and 40,
County of Arapahoe, State of Colorado.

Parcel FIVE-B:

The South 1/2 and the Northeast 1/4 of Section 2, Township 4 South, Range 65 West,

County of Arapahoe, State of Colorado,

EXCEPT any portion of said Parcels FIVE-A and FIVE-B lying within property as set forth on the following described deeds:
EXCEPT: Deed recorded December 29, 1930, in Book 307, at Page 585;
EXCEPT: recorded January 5, 1931, in Book 309, at Page 38;
EXCEPT: recorded May 18, 1958, in Book 967, at Page 519;
Deed recorded September 10, 1958, in Book 1082, at Page 229; and
ALSO EXCEPT the South 30 feet and the West 30 feet of said Section 2 for County Roads.
County of Arapahoe, State of Colorado,

PARCEL SIX: (KISSLER):

PARCEL SIX-A
All of Section 7, Township 4 South, Range 64 West of the 6th P.M., except that certain parcel of land conveyed to Richard J. Pachello and Carol Ann Pachello being more particularly described as follows:

A parcel of land located in Section 7, Township 4 South, Range 64 West of the 6th Principal Meridian, County of Arapahoe, State of Colorado, more particularly described as follows:

Commencing at the Southwest corner of said Section 7;
thence North 00°00'00" East along the West line of the said Section 7, a distance of 1146.37 feet;
thence South 89°01'22" East a distance of 30.00 feet to the point of beginning, said point being on the Easterly right of way line of Watkins Road;
thence North 00°'00'00" East along said right of way line and parallel with the West line of said Section 7, a distance of 558.18 feet;
thence South 89°01'22" East a distance of 1522.21 feet;
thence South 00°00'00" East a distance of 558.18 feet;
thence North 89°01'22" West a distance of 1522.21 feet to the point of beginning,
LESS AND EXCEPT any portion thereof lying within Watkins Road,
County of Arapahoe,
State of Colorado,

PARCEL SIX-B
North 1/2 of Section 18,
Township 4 South,
Range 64 West of the 6th P.M.,
County of Arapahoe,
State of Colorado.

LESS AND EXCEPT that portion conveyed in General Warranty Deed recorded September 30, 2004, at Reception No. B4172669 to Gary A. Van Dyk and Dorothy M. Van Dyk by Furniture Row COLO, LLC, a Colorado limited liability company being more particularly described as follows:

EXCEPT: A parcel of land situated in the West 1/2 of Section 7, Township 4, South, Range 64 West, of the 6th Principal Meridian, County of Arapahoe, State of Colorado more particularly described as follows:

Commencing at the West 1/4 corner of Said Section 7; Thence S00°04'02" E along the West line of the SW 1/4 of said Section 7 a distance of 386.45 feet; Thence S89°06'55"E a distance of 30.00 feet to the Easterly R.O.W line of Watkins Road, said point being the Point of Beginning; Thence continuing S89°06'55"E parallel with the East-West centerline of the West 1/2 of said Section 7 a distance of 407.70 feet; Thence N00°04'02"W parallel with said West line of the SW 1/4 a distance of 386.45 feet to a point lying on said East West centerline of the West 1/2; Thence N00°04'34"W parallel with the West line of the NW 1/4 of said Section 7 a distance of 413.55 feet; Thence S89°06'55"E parallel with said East-West centerline a distance of 963.08 feet; Thence S00°04'34"E parallel with said West line of the NW 1/4 a distance of 413.55 feet to a point lying said East-West centerline; Thence S00°04'02"E parallel with said West line of the SW1/4 a distance of 937.05 feet; Thence N89°05'24"W parallel with the South line of

said SW 1/4 a distance of 1370.80 feet tot he said Easterly R.O.W. line of Watkins Road; Thence N00°04'02"W parallel with said West line of the SW 1/4 and along said Easterly R.O.W. line a distance of 550.0 feet to the Point of Beginning.

Note: The foregoing description was created by: Charles N. Beckstrom, PLS No. 33202, on behalf of Engineering Service Company, Survey dated September 24, 2004, Job No. 04125.

AND LESS AND EXCEPT that portion conveyed to Arapahoe County, Colorado, a corporate body politic in Quit Claim Deed recorded April 14, 2010, at Reception No. D0035316 being more particularly described as follows:

EXCEPT: A parcel of land being a portion of the Northeast quarter of Section 18, Township 4 South, Range 64 West of the 6th Principal Meridian, County of Arapahoe, State of Colorado more particularly described as follows:

Beginning at the Northeast corner if the Northeast quarter of said Section 18; thence Westerly along the North line of the Northeast quarter of said Section 18 a distance of 30 feet; thence Southerly along a line 30.00 feet West and parallel with the East line of said Northeast quarter to a point on the South line of said Northeast quarter; thence Easterly along the South line of said Northeast quarter a distance of 30.00 feet to the Southeast corner of said Northeast quarter; thence Northerly along the East line of said Northeast quarter to the point of beginning.

AND LESS AND EXCEPT any portion thereof lying within Watkins Road.

PARCEL SEVEN: (LINNEBUR-WEHLEN):

Parcel SEVEN-A:
SECTION 1, TOWNSHIP 4 SOUTH, RANGE 65 WEST OF THE 6TH P.M., EXCEPT THE EASTERLY 25 FEET THEREOF, AND EXCEPT THOSE PORTIONS DESCRIBED IN DEEDS RECORDED AUGUST 19, 1958 IN BOOK 1078 AT PAGE 398; OCTOBER 11, 1965 IN BOOK 1626 AT PAGE 53; AND JUNE 23, 1982 IN BOOK 3647 AT PAGE 387, COUNTY OF ARAPAHOE, STATE OF COLORADO,

LESS AND EXCEPT any portion thereof lying within Watkins Road,

Parcel SEVEN-B:
A PARCEL OF LAND SITUATED IN THE NE 1/4 OF SECTION 1, T.4S., R.65W., OF THE 6TH P.M., COUNTY OF ARAPAHOE, STATE OF COLORADO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SECTION 1, T.4S., R.65W., OF THE 6TH P.M.; THENCE S00°32'30"W ALONG THE EAST LINE OF SAID NE 1/4 OF SECTION 1, T.4S., R.65W., OF THE 6TH P.M., A DISTANCE OF 1619.90 FEET; THENCE N89°27'30"W A DISTANCE OF 25.00 FEET TO A POINT ON THE WEST R.O.W. LINE OF WATKINS ROAD AND THE POINT OF BEGINNING; THENCE S00°32'30"W ALONG SAID WEST R.O.W. LINE A DISTANCE OF 809.07 FEET; THENCE N89°27'36"W A DISTANCE OF 1771.67 FEET; THENCE N19°11'35"W A DISTANCE OF 227.88 FEET; THENCE S80°27'36"E A DISTANCE OF 743.91 FEET; THENCE N00°25'36"W A DISTANCE OF 2179.29 FEET TO A POINT ON THE SOUTHERLY R.O.W. LINE INTERSTATE HIGHWAY 70; THENCE THE FOLLOWING FIVE (5) COURSES ALONG SAID SOUTHERLY R.O.W. LINE OF INTERSTATE HIGHWAY 70; THENCE S89°21'23"E A DISTANCE OF 191.23 FEET; THENCE S69°42'02"E A DISTANCE OF 683.06 FEET; THENCE S42°32'30"E A DISTANCE OF 366.00 FEET; THENCE S00°32'30"W A DISTANCE OF 300.00 FEET; THENCE S13°29'30"E A DISTANCE OF 103.10 FEET TO A POINT ON SAID WESTERLY R.O.W. LINE OF WATKINS ROAD; THENCE S00°32'30"W ALONG SAID WESTERLY R.O.W. LINE A DISTANCE OF 686.10 FEET TO THE POINT OF BEGINNING.,

LESS AND EXCEPT any portion thereof lying within Watkins Road.

Parcel SEVEN-C:
THE WEST 1/2 OF THE EAST 1/2 AND THE NORTHWEST 1/4 OF SECTION 12, TOWNSHIP 4 SOUTH, RANGE 65 WEST OF THE 6TH P.M., EXCEPT ANY PORTION LYING WITHIN ANY EXISTING ROAD,

COUNTY OF ARAPAHOE, STATE OF COLORADO.

PARCEL EIGHT: (LUTHER):

A parcel of land lying within Section 6, Township 4 South, Range 64 West of the Sixth Principal Meridian, County of Arapahoe, State of Colorado being more particularly described as follows:

Commencing at the West Quarter Corner of Section 6;
Thence South 89°12'21" East, 30.00 feet, along the East-West Centerline of said Section 6 to the Point of Beginning;
Thence North 00°25'54" East, 1719.28 feet, 30 feet Easterly of and parallel with the Westerly line of the Northwest Quarter of said Section 6, to a point on the Southeasterly right of way line of Colorado Department of Highways as described in Book 1090 at Page 127 of the Arapahoe County records;
Thence North 14°25'00" East, 85.65 feet, along: the Southeasterly line;
Thence North 00°25'54" East, 300.00 feet, along said Southeasterly line:
Thence North 43°50'30" East 363.50 feet, along said Søutheasterly line;
Thence North 71°29'30" East, 693.90 feet, along said Southeasterly line;
Thence South 89°08'28" East, 1704.11 feet, along said Southeasterly line to the Westerly line of parcel of land as described in Case #34518 of the Arapahoe County District Court;
Thence South 01°35'01" East, 2597.99 feet, along said Westerly line to a point on said East-West Centerline;
Thence North 89°12'21" West 2722.31 feet, along said East-West Centerline to the Point of Beginning, LESS AND EXCEPT any portion thereof lying within Watkins Road.
County of Arapahoe, State of Colorado,

PARCEL NINE: (MCCLUSKEY):
Section 11,
Township 4 South,
Range 65 West of the 6th P.M.,
County of Arapahoe,
State of Colorado.

PARCEL TEN: (STEWART):

Parcel TEN-A:
That part of the East 1/2 of the Northeast 1/4 of Section 6, and part of the Northwest 1/4 of Section 5, all in Township 4 South, Range 64 West of the 6th Principal Meridian, County of Arapahoe, State of Colorado, being more particularly described as follows:

Beginning at the North 1/4 corner of said Section 5;
Thence North 89°00'30" West along the North line of said Northwest 1/4 of Section 5, a distance of 2654.16 feet to the Northwest corner of said Section 5;
Thence South 00°03'30" East along the East line of the Northeast 1/4 of said Section 6, a distance of 23.80 feet to the True Point of Beginning;
Thence North 89°09'00" West along the South line of Tract No. 8 of the Department of Highways, State of Colorado, Project No. 1 095-1(2), conveyed by Deed recorded July 7, 1958 in Book 1071 at Page 356, Arapahoe County records, a distance of 1334.46 feet to the West line of the East 1/2 of the Northeast 1/4 of said Section 6; Thence South 00°01'41" West along said West line of the East 1/2 of the Northeast 1/4 of Section 6, a distance of 853.41 feet;
Thence South 60°00'00" East, a distance of 448.82 feet;
Thence South 43°44'49" East, a distance of 1371.16 feet to said East line of the Northeast 1/4 of Section 6; Thence South 00°03'30" East along said East line of the Northeast 1/4 of Section 6, a distance of 244.75 feet to a point 300.00 feet Northerly of the West 1/4 corner of said Section 5;
Thence South 89°08'07" East parallel with the South line of said Northwest 1/4 of Section 5, a distance of 2655.83 feet to the East line of said Northwest 1/4 of Section 5;
Thence North 00°06'08" West along said East line of the Northwest 1/4 of Section 5, a distance of

2294.02 feet to a point 17.23 feet Southerly of said North 1/4 corner of Section 5, said point being the Southeast corner of Tract No. 9 of the Department of Highways, State of Colorado, Project No. 1 095-1(2), conveyed by Deed recorded July 7, 1958 in Book 1071 at Page 356, Arapahoe County records;
Thence North 89°09'00" West along the South line of said Tract No. 9, of the Department of Highways, State of Colorado, Project No. 1 095-1(2), conveyed by Deed recorded July 7, 1958 in Book 1071 at Page 356, Arapahoe County records, a distance of 2654.06 feet to the True Point of Beginning,
County of Arapahoe, State of Colorado.

Parcel TEN-B:
Beneficial non-exclusive easement for vehicular ingress and egress as described in Declaration of Reciprocal Easements recorded March 6, 1996, at Reception No. A6027753.

PARCEL ELEVEN: (VAN DYK PARCEL):
Parcel ELEVEN-A:
The Northwest 1/4 of Section 14, Township 4 South, Range 65 West of the 6th Principal Meridian, EXCEPT that part of said land conveyed in Deed recorded October 12, 1999, under Reception No. A9165902, and re-recorded December 29, 1999, at Reception No. A9202445 AND EXCEPT that portion of said land conveyed to Faith Presbyterian Church in Warranty Deed and Option to Purchase recorded October 22, 2009, at Reception No. B9116094 and Corrective and Restated Warranty Deed and Option to Purchase recorded December 07, 2010, at Reception No. D0126719,
County of Arapahoe,
State of Colorado.

Parcel ELEVEN-B:
A non-exclusive easement for pedestrian and vehicular ingress and egress as set forth in Access Easement Agreement recorded October 28, 2003, at Reception No. B3234045,
County of Arapahoe, State of Colorado.

PARCEL TWELVE: (VAN DYK PARCEL):
A parcel of land lying within Section 6, Township 4 South Range 64 West of the Sixth Principal Meridian, Arapahoe County, State of Colorado being more particularly described as follows:

NOTE: For the purpose of this description the bearings are based on the East-West centerline, of said Section 6, assumed to bear South 89°12'21" East, monumented at the West Quarter corner with a 2 ½" aluminum cap stamped with PLS 28656 in a Range Box and a 2" aluminum cap on a #6 rebar stamped LS 25937 on the East Quarter corner.

Parcel TWELVE-A:
Commencing at the West Quarter corner of said Section 6;
Thence South 89°12'21" East 30.00 feet along the East-West centerline of said Section 6 to the Point of Beginning;
Thence continuing South 89°12'21" East 2868.24 feet along said East-West centerline to the center Quarter corner of said Section 6;
Thence South 00°05'35" West 2610.10 feet along the Easterly line of the Southwest Quarter said Section 6 to a point on the Northerly right of way line of East 6th Avenue;
Thence North 89°07'43" West 1971.83 feet along said Northerly right of way lien to a point of tangent curvature;
Thence Westerly along the arc of a curve to the right, whose center bears North 00°52'17" East 1818.20 feet through a central angle of 10°43'21" an arc length of 340.27 feet, whose chord bears North 83°46'02" West 339.77 feet, continuing along said Northerly right of way line;
Thence North 78°24'21" West 385.77 feet, continuing along said Northerly right of way line to a point of tangent curvature;
Thence Westerly along the are of a curve to the left, whose center bears South 11°35'39" West 1079.50. feet through a central angle of 06°31'18" an arc length of 122.88 feet whose chord bears North 89°40'00" West 122.81 feet continuing along said Northerly right of way line to a point of tangency,
Thence North 84°55'40" West 73.06 feet continuing along said Northerly right of way line to a point 30 feet Easterly of the Westerly line of the Southwest Quarter of said Section 6; Thence North 00°24'42" East 2481.24 feet, 30 feet Easterly of an parallel with said Westerly line to the Point of Beginning,

County of Arapahoe,
State of Colorado

Being sometimes described as follows;

A parcel of land lying in the Southwest ¼ of Section 6, Township 4 South, Range 64 West of the Sixth Principal Meridian County of Arapahoe, State of Colorado, being more particularly described as follows:

Commencing at the Northwest corner of said Southwest ¼ of said Section 6; Thence South 89°12'22" East 30.00 feet along the North line of said Southwest ¼ to the Point of Beginning, said point lying on the Easterly right of way line of Watkins Road:
Thence continuing South 89°12'22" East 2868.15 feet along said North. line to the Northeast corner of said Southwest ¼:
Thence South 00°05'30" West 2610.10 feet along the Easterly line of said Southwest 1/4 to a point on the Northerly right of way line of East 6th Avenue; Thence North 89°07'41 West 1971.76 feet along said Northerly right of way line to a point of curve;
Thence along the arc of a curve to the right and along said Northerly right of way line, said curve having a central angle of 10°43'20", a radius of 1818.20 feet an arc length of 340.25 feet, a chord bearing of North 83°46'01" West and a chord distance of 339.76 feet to a point of tangent;
Thence North 78°24'21" West along said tangent and continuing along said Northerly right of way line a distance of 385.82 feet to a point of curve;
Thence along the arc of a curve to the left and along said Northerly right of way line, said curve having a central angle of 6°31'18", a radius of 1079.50 feet, an arc length of 122.87 feet, a chord bearing of North 81°40'01" West and a chord distance of 122.81 feet to a point of tangent;
Thence North 84°55'40" West continuing along said Northerly right of way line a distance of 73.06 feet to a point 30 feet Easterly of the Westerly line of said Southwest ¼;
Thence North 00°24'42" East 30 feet Easterly of and parallel with said Westerly line a distance of 2481.26 feet to the Point of Beginning, County of Arapahoe, State of Colorado.

Parcel TWELVE-B:
Commencing at the Southwest corner of said Section 6; Thence South 89°07'43" East 30.00 feet along the Southerly line of the Southwest Quarter of said Section 6 to the Point of Beginning, said point being 30 feet Easterly of the Westerly line of said Section 6; Thence North 00°24'42" East 94.63 feet, 30 feet Easterly of and parallel with said Westerly line to point on the Southerly right of way line of East 6th Avenue; Thence South 84°55'40" East 68.17 feet along said Southerly right of way line to a point of tangent curvature; thence Easterly along the arc of a curve to the right whose center bears South 05°04'21" West 1019.50 feet through a central angle of 06°31'18" an arc length of 116.05 feet whose chord bears South 81°40'00" East 115.98 feet continuing along said Southerly right of way line to the point of tangency; Thence South 78°24'21" East 385.77 feet, continuing along said Southerly right of way line to a point of tangent curvature; Thence Easterly along the arc of a curve to the left whose center bears North 11°35'39" East 1878.20 feet through a central angle of 00°28'06", an arc length of 15.35 feet, whose chord bears South 78°38'22" East 15.35 feet, continuing along said Southerly right of way line to a point of non-tangency, said point being on the Southerly line of said Southwest Quarter; thence North 89°07'43" West 576.22 feet along said Southerly line, to the Point of Beginning County of Arapahoe, State of Colorado,

Parcel TWELVE-C:
A parcel of land lying in the Southwest ¼ of Section 6, Township 4 South, Range 64 West of the Sixth Principal Meridian County of Arapahoe, State of Colorado, being more particularly described as follows:

Commencing at the Northwest corner of said Southwest ¼ of said Section 6; Thence South 89°12'22" East 30.00 feet along the North line of said Southwest ¼ to the Point of Beginning, said point lying on the Easterly right of way line of Watkins Road:
Thence continuing South 89°12'22" East 2868.15 feet along said North. line to the Northeast corner of said Southwest ¼:
Thence South 00°05'30" West 2610.10 feet along the Easterly line of said Southwest 1/4 to a point on

the Northerly right of way line of East 6th Avenue; Thence North 89°07'41 West 1971.76 feet along said Northerly right of way line to a point of curve;
Thence along the arc of a curve to the right and along said Northerly right of way line, said curve having a central angle of 10°43'20", a radius of 1818.20 feet an arc length of 340.25 feet, a chord bearing of North 83°46'01" West and a chord distance of 339.76 feet to a point of tangent;
Thence North 78°24'21" West along said tangent and continuing along said Northerly right of way line a distance of 385.82 feet to a point of curve;
Thence along the arc of a curve to the left and along said Northerly right of way line, said curve having a central angle of 6°31'18", a radius of 1079.50 feet, an arc length of 122.87 feet, a chord bearing of North 81°40'01" West and a chord distance of 122.81 feet to a point of tangent;
Thence North 84°55'40" West continuing along said Northerly right of way line a distance of 73.06 feet to a point 30 feet Easterly of the Westerly line of said Southwest ¼;
Thence North 00°24'42" East 30 feet Easterly of and parallel with said Westerly line a distance of 2481.26 feet to the Point of Beginning, County of Arapahoe, State of Colorado.

Commencing at the Southwest Corner of said Southwest 1/4; thence South 89°07'41" East along the Southerly line of said Southwest 1/4 a distance of 30.00 feet to the Point of Beginning, said point being 30 feet Easterly of the Westerly line of said Southwest 1/4; Thence North 00°24'42" East, 30 feet Easterly of and parallel with said Westerly line a distance of 94.63 feet to a point on the Southerly right of way line of East 6th Avenue;
Thence South 84°55'40" East along said Southerly right of way line a distance of 68.17 feet to a point of curve;
Thence along a curve to the right and along said Southerly right of way line, said curve having a central angle of 6°31'18", a radius of 1019.50 feet an arc length of 116.04 feet, a chord bearing of South 81°40'01" East and a chord distance of 115.98 feet to a point of tangent;
Thence South 78°24'21" East along said tangent and along said Southerly right of way line a distance of 385.77 feet to a point of curve;
Thence along a curve to the left along said Southerly right of way line said curve having a central angle of 00°28'10", a radius of 1878.20 feet, an arc length of 15.39 feet, a chord bearing of South78°38'26" East and a chord distance of 15.39 feet to a point of non-tangency said point being on the Southerly line of said Southwest 1/4;
Thence North 89°07'41" West along said South line a distance of 576.40 feet to the Point of Beginning, County of Arapahoe, State of Colorado.

Note: The foregoing description was created by: Charles N. Beckstrom, PLS No. 33202, on behalf of Engineering Service Company, Survey dated August 16, 2004, Job No. 04125-C.

PARCEL THIRTEEN: (VAN DYK KIDS PARCEL):
A parcel of land lying within the Southeast Quarter of Section 6, Township 4 South, Range 64 West of the 6th P.M., County of Arapahoe. State of Colorado, being more particularly described as follows:

Beginning at the Northeast corner of the Southeast ¼ of said Section 6;
Thence South 00°04'21" East along the East line of said Southeast 1/4 a distance of 2613.81 feet to the Northerly right of way, line of East 6th Avenue, said point lying 30.00 feet North of the South line of said Southeast 6;
Thence North 89°07'49" West parallel and 30.00 feet North of said South line and along the Northerly right of way line of East 6th Avenue a distance of 2684.20 feet to the Westerly line of said Southeast 1/4;
Thence North 00°05'30" East along said West line a distance of 2610.15 feet to the Northwest corner of said Southeast 1/4;
Thence South 89°12'22" East along the North line of said Southeast 1/4 a distance of 2676.66 feet to the point of beginning, County of Arapahoe, State of Colorado.

Note: The foregoing description was created by: Charles N. Beckstrom, PLS No. 33202, on behalf of Engineering Service Company, Survey dated August 16, 2004, Job No. 04125-C

PARCEL FOURTEEN: (WEIMER WHEATFIELD PARCEL):

Parcel FOURTEEN-A:
The Southwest ¼ of Section 12, Township 4 South, Range 65 West of the 6th Principal Meridian, County of Arapahoe, State of Colorado.

Parcel FOURTEEN-B:

Section 13, Township 4 South, Range 65 West of the 6th Principal Meridian, County of Arapahoe, State of Colorado,
LESS AND EXCEPT any portion thereof lying within Watkins Road,

Parcel FOURTEEN-C:
The Northwest ¼ of Section 24, Township 4 South, Range 65 West of the 6th Principal Meridian EXCEPT a circular tract of land having a radius of 750 feet from a center point which bears North 43°02'30" East, 479.52 feet from the West ¼ corner of Section 24, Township 4 South, Range 65 West of the 6th Principal Meridian and EXCEPT roads,
County of Arapahoe, State of Colorado.

COMMITMENT FOR TITLE INSURANCE FORM

SCHEDULE B

SECTION ONE

REQUIREMENTS

The following requirements must be met:

1. Pay the agreed amounts for the interest in the land and/or the mortgage to be insured.

2. Pay us the premiums, fees and charges for the policy.

3. Payment of all taxes and assessments now due and payable.

4. Recordation of a Warranty Deed satisfactory to the Company, from Prosper Farms Investments, LLC, a Colorado limited liability company, vesting fee simple title in and to A Purchaser To Be Determined.

5. Recordation of a Deed of Trust satisfactory to the Company, from A Borrower To Be Determined, to the Public Trustee of Adams and Arapahoe County, for the benefit of the proposed insured lender.

6. Recordation of a Release of the Deed of Trust from F. R. Exchanges, Inc., a Colorado corporation to the Public Trustee of Arapahoe County for the use of William L Turnage, as Personal Representative of the Estate of Edwin Fischahs, deceased to secure an indebtedness in the principal sum of $1,457,200.00, and any other amounts and/or obligations secured thereby, dated August 26, 1999 and recorded August 30, 1999 at Reception No. A9141568.

   NOTE: Assignment of Deed of Trust in connection therewith recorded August 30, 1999 at Reception No. A9141569.

7. Recordation of a Release of the Deed of Trust from Furniture Row USA, LLC, a Colorado limited liability company to the Public Trustee of Arapahoe County for the use of Farm Credit of Southern Colorado to secure an indebtedness in the principal sum of $4,500,000.00, and any other amounts and/or obligations secured thereby, dated June 10, 2010 and recorded June 11, 2010, at Reception No. D0055813.

   NOTE: Waiver of Priority of Mortgage Lien in connection therewith recorded January 21, 2011, at Reception No. D1007850.

8. Receipt by the Company of the following documentation for Prosper Farms Investments, LLC, a Colorado limited liability company:

   Operating Agreement, and all amendments thereto, if any.

9. Receipt by the Company of a satisfactory Final Affidavit and Indemnity, executed by Prosper Farms Investments, LLC, a Colorado limited liability company.

10. Receipt by the Company of a satisfactory Final Affidavit and Indemnity, executed by A Borrower To Be Determined.

11. Receipt by the Company of an ALTA/ACSM Land Title Survey, certified to First American Title Insurance Company, and in form and content satisfactory to the Company. The Company reserves the right to make further requirements and/or exceptions upon review of this survey.

    NOTE: This commitment is subject to further requirements and/or exceptions upon disclosure to the Company of the identity of the proposed insured purchaser.

    NOTE: Upon satisfaction of the requirements, approved by the Company and herein set forth, Exceptions 1-3 will be modified and/or deleted.

COMMITMENT FOR TITLE INSURANCE FORM

SCHEDULE B

SECTION TWO

EXCEPTIONS

Schedule B of the policy or policies to be issued will contain exceptions to the following matters unless the same are disposed of to the satisfaction of the Company:

1. Any facts, rights, interests or claims which are not shown by the Public Records, but which could be ascertained by an inspection of the Land or by making inquiry of persons in possession thereof.

2. Easements, or claims of easements, not shown by the Public Records.

3. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, and any facts which a correct survey and inspection of the Land would disclose, and which are not shown by the public records.

4. Any lien, or right to a lien, for services, labor or material heretofore or hereafter furnished, imposed by law and not shown in the Public Records.

5. Any and all unpaid taxes, assessments and unredeemed tax sales.

6. Unpatented mining claims; reservations or exceptions in patents or in Acts authorizing the issuance thereof.

Exceptions 7 - 27 pertain to Parcel 1: Behrens Parcel (Adams County)

7. Reservations by the Union Pacific Land Company of (1) oil, coal and other minerals underlying the land, (2) the exclusive right to prospect for, mine and remove oil, coal and other minerals, and (3) the right of ingress and egress and regress to prospect for, mine and remove oil, coal and other minerals, all as contained in Deed recorded May 11, 1909 in Book 25 at Page 215 and Release and Quit Claim Deed to Union Pacific Land Resources Corporation recorded November 23, 1998 in Book 5547 at Page 272, and any and all assignments thereof or interests therein.

8. Right to deny or restrict each and every right of access to and from the land insured hereby, directly onto abutting street or highway designated as Interstate 70, (Colorado State Highway No. 8), recorded January 8, 1959 in Book 754 at Page 280.

9. Any rights, interest or easements in favor of the State of Colorado, which exists or are claimed to exist in and over the present and past bed, banks or waters of Box Elder Creek.

10. An undivided 100% interest in all oil, gas and associated liquid hydrocarbons conveyed to Champlin Petroleum Company, a Delaware corporation by Mineral Deed, recorded January 20, 1976 in Book 2041 at Page 115, and any and all assignments thereof or interests therein.

11. An Oil and Gas Lease, from Champlin Petroleum Company as Lessor(s) to Amoco Production Company as Lessee(s) dated October 31, 1975, recorded January 20, 1976 in Book 2041 at Page 119, and any and all assignments thereof or interests therein.

    Affidavit showing Production recorded August 13, 1976 in Book 2083 at Page 85 in connection with the above Oil and Gas Lease.

12. Terms, conditions, provisions, agreements and obligations specified under the Purchase & Sale Agreement by and between the City of Aurora and Box Elder Investment Company, a Colorado limited partnership, Amcor Investments Corporation, a California and Ralph D, Kaufman, Shirleen D. Jensen and Stephen K. Small recorded March 18, 1987 in Book 3298 at Page 473.

13. Terms, conditions, provisions, agreements and obligations specified under the Agreement by and between Ralph Kaufman, Shirleen D. Jensen and Stephen K. Small and the City of Aurora recorded November 25, 1988 in Book 3512 at Page 765.

14. An easement for access, utilities and incidental purposes granted to Frontier Bank of Denver by Ralph D. Kaufman, Shirleen D. Jensen and Stephen K. Small by Easement Deed recorded January 9, 1989 in Book 3525 at Page 419.

    Note: Easement Deed recorded March 12, 1993 in Book 4037 at Page 765 corrects the description in the above easement and Easement Deed recorded October 4, 2000 in Book 6277 at Page 824 being Reception No. C0717694.

15. Terms, conditions, provisions, agreements and obligations contained in the Amendment to Adams County Zoning and Regulations, Case No. 23-91-RA-Front Range Airport Influence Zone recorded May 23, 1991 in Book 3780 at Page 622.

16. An easement for utilities and incidental purposes granted to Public Service Company of Colorado by the instrument recorded June 17, 1996 in Book 4773 at Page 46.

17. An easement for utilities and incidental purposes granted to Public Service Company of Colorado by the instrument recorded September 30, 1996 in Book 4847 at Page 47.

18. The effect of Annexation Ordinance 88-34 recorded May 20, 1988 in Book 3448 at Page 810 and Plat recorded May 20, 1988 at Reception No. B815948 and Annexation Ordinance 88-35 recorded May 20, 1988 in Book 3448 at Page 813 and Plat recorded May 20, 1988 at Reception No. B815950 and Annexation Ordinance 88-36 recorded May 20, 1988 in Book 3448 at Page 816 and Plat recorded May 20, 1988 at Reception No. B815952 and Annexation Ordinance 88-37 recorded May 20, 1988 in Book 3448 at Page 819 and Plat recorded May 20, 1988 at Reception No. B815954.

19. An easement for access and incidental purposes granted to D and L Construction, Inc., a Colorado corporation by the instrument recorded July 17, 1997 in Book 5055 at Page 848 and as conveyed to Powell Professional Partnership, a Colorado partnership by the instrument recorded January 7, 1998 in Book 5203 at Page 1.

20. Terms, conditions, provisions, agreements and obligations contained in the Pipeline Easement Agreement recorded October 16, 2000 in Book 6290 at Page 34.

21. Any assessment or lien of Bennett Park and Recreation District, as disclosed by the instrument recorded January 22, 2001 at Reception No. C0753045.

22. Terms, conditions, provisions, agreements and obligations contained in the Ordinance No. 2001-52 Rezoning Land from Planned Development to Northeast Plains Zone District recorded November 5, 2001 at Reception No. C0882066.

23. Request for Notification of Surface Development filed by RME Petroleum Company and RME Land Corp., recorded May 20, 2002 at Reception No. C0971793.

24. An easement for water drainage and incidental purposes granted to Watkins Storage Company, LLC by the instrument recorded July 22, 2002 at Reception No. C0999666.

25. The following matters as disclosed by ALTA/ACSM Land Title Survey prepared by Western States Surveying, Inc. on August 04, 2005, Job No. 20302-002, as follows:

    a.) Apparent easements for overhead electric lines, power poles and electric meter lying outside of a recorded easement.
    b.) Water wells
    c.) Underground utilities running along the Northerly and Easterly portion of said premises as disclosed by underground markers.

26. Any loss, claim or damage, including the rights, interest or claims of others resulting from the conflicting location of the East Section line of Section 31, Township 3 South, Range 64 West of the 6th P.M., Adams County, Colorado and the two sets of monuments used for the East Quarter Corner of said Section as created by Dependent Resurvey of Township 3 South, Range 64 West, 1st Judicial District, Case No. 1467, dated October 4, 1920 and monument set by Cecil Crowe, PE & LS 12330 on April 11, 1986 and as located on ALTA/ACSM Land Title Survey prepared by Western States Surveying, Inc. on August 04, 2005, Job No. 20302-002.

27. Terms, conditions, provisions, obligations and agreements as set forth in the Affidavit of Possession, Use and Occupancy of Land recorded May 27, 2015 at Reception No. 2015000039423.

    Exceptions 28 - 32 Pertains to Parcel 2: Brennan Parcel (Arapahoe County)

28. Terms, conditions, provisions, agreements and obligations specified under the Access Easement Agreement by and between McCluskey Family Living Trust, G.A. Van Dyk and Dorothy Margaret Van Dyk and Billie Marie Brennan and Dewitt Brennan recorded October 28, 2003 at Reception Number B3234045.

29. Terms, conditions, provisions, obligations, easements and agreements as set forth in the Memorandum of Surface Use Agreement recorded December 28, 2010, at Reception No. D0135149.

30. Paid-Up Oil and Gas Lease recorded December 28, 2010, at Reception No. D0135150, and any and all assignments thereof or interest therein..

    NOTE: Assignment and Bill of Sale in connection therewith recorded December 21, 2012 at Reception No. D2147994.

31. Terms, conditions, provisions, obligations and agreements as set forth in the Order recorded August 15, 2013 at Reception No. D3103482 and August 15, 2013 at Reception No. D3103483.

32. Terms, conditions, provisions, obligations and agreements as set forth in the Affidavit of Surface Inspection recorded December 2, 2013 at Reception No. D3144321.

Exceptions 33 - 41 pertain to Parcel 3:Bryce and Hawthorne Parcel (Arapahoe County)

33. Reservations of (1) right of proprietor of any penetrating vein or lode to extract his ore; and (2) right of way for any ditches or canals constructed by authority of the United States, in U.S. Patent recorded January 13, 1896 in Book A57 at Page 100.

34. Any assessment or lien of West Arapahoe Soil and Conservation District, as disclosed by the instrument recorded December 27, 1955 in Book 948 at Page 214.

35. Any assessment or lien of Bennett Fire Protection District, as disclosed by the instrument recorded October 2, 1962 in Book 1376 at Page 111.

36. Terms, conditions, provisions, obligations, easements and agreements as set forth in the Memorandum of Surface Use Agreement recorded December 28, 2010, at Reception No. D0135148.

37. Terms, conditions, provisions, obligations, easements and agreements as set forth in the Affidavit of Non-Development recorded October 1, 2013 at Reception No. D3122332.

38. Terms, conditions, provisions, obligations and agreements as set forth in the Affidavit of Surface Inspection recorded May 21, 2014 at Reception NO. D4042797.

39. Mineral rights as conveyed by Bargain and Sale Deed recorded October 6, 2014 at Reception No. D4093205, and any and all assignments thereof or interests therein.

40. Oil and Gas Lease recorded October 28, 2014 at Reception No. D4101519.

41. Oil and Gas Lease recorded November 5, 2014 at Reception No. D4104039.

Exceptions 42 - 47 pertain to Parcel 4: Carruthers. (Arapahoe County)

42. Right of way for ditches and canals as constructed by the authority of the United States, as reserved in United States Patent recorded December 4, 2013 at Reception No. D3145413.

43. An easement for communication systems and incidental purposes, 16.5 feet in width runs along either side of the North property line, granted to the Mountain States Telephone and Telegraph Company by the instrument recorded May 13, 1960 in Book 1189 at Page 509.

44. Any assessment or lien of the Bennett Fire Protection District, as disclosed by the instrument recorded October 2, 1962 in Book 1376 at Page 111.

45. Terms, conditions, provisions, agreements and obligations specified under the Easement to Conduct Exploratory Operations, Option for Gas Storage Grant, Oil and Gas Lease by and between Douglas A. Carruthers and Public Service Company of Colorado, a corporation recorded July 2, 1963 in Book 1441 at Page 561.

46. Terms, conditions, provisions, obligations and agreements as set forth in the Findings of Facts, Conclusions of Law, Ruling of Referee, and Decree recorded March 23, 2006, at Reception No. B6045138.

47. Terms, conditions, provisions, obligations, easements and agreements as set forth in the Right of Way Contract recorded September 17, 2013 at Reception No. D3116432.

Exceptions 48 - 61 pertain to Parcel 5: Fischaus. (Arapahoe County)

48. Right of way for pipeline granted to the Colorado Interstate Gas Company in instrument recorded June 7, 1947 in Book 579 at Page 355 (Affects NW1/4 of said Section 2 and the NE 1/4 of said Section 2

    Note: Partial release of Right-of-Way Agreement recorded April 24, 1979 in Book 2977 at Page 67.

49. The effect of the inclusion of the subject property in the Aurora Hospital District, as disclosed by the instrument recorded June 28, 1962 in Book 1351 at Page 259.

50. An undivided 1/4 interest in the proportions of an undivided 1/8 to each of the grantees named within the instrument recorded February 19, 1971 in Book 1909 at Page 614 of all oil, gas and other minerals lying in and under the S1/2 and any and all assignments thereof or interests therein.

51. An easement for a pipe line and additional pipe line for the transportation of oil, gas, petroleum or any of its products and incidental purposes granted to Chase Transportation Company by the instrument recorded 12, 1973 in Book 2117 at Page 787, upon the terms and conditions set forth in the instrument.

52. An easement for a pipe line for the transportation of oil, gas, water, any other substances whether fluid or solid and incidental purposes granted to Amoco Pipeline Company, a Maine corporation by the instrument recorded May 23, 1974 in Book 2240 at Page 741, upon the terms and conditions set forth in the instrument.

53. Terms, conditions, provisions, agreements, obligations and right of way specified under the Right of Way Agreement recorded June 18, 1996 at Reception No. A6076896.

54. Terms, conditions, and provisions of unrecorded Lease Agreement between William L Turnage, as Personal Representative of the Estate of Edwin Fischahs, deceased as Lessor, and Gray A. Van Dyk as Lessee, dated July 16, 1999.

55. An easement for utilities and incidental purposes granted to Williams Communication, Inc., a Delaware Corporation by the instrument recorded November 2, 1998 at Reception No. A8174205.

56. The following matters as set forth on ALTA/ACSM survey by Western States Surveying, Inc. dated May 21, 1999 and last revised August 18, 1999, Job No. 9940-001:

    a) Access road running along the North property line lies within highway right-of-way.

    b) Dirt crop roads running along the South and West lines of said Section 2 encroach over the section line.

    c) Colorado Interstate Gas lines run through the Southeast quarter of said Section 2.

    d) Utility lines run along the North, South and West property lines.

    e) Discrepancies in property line measurements to the existing monuments set for the South right-of-way line of Interstate 70.

57. Terms and conditions including right to limit access by the Department of Highways, State of Colorado as set forth on instrument recorded September 2, 1958 in Book 1080 at Page 568.

58. An easement and right of way agreement for communication facilities and incidental purposes granted to The Mountain State Telephone and Telegraph Company by the instrument recorded May 13, 1960 in Book 1189 at Page 501.

59. Terms, conditions, provisions, obligations and agreements as set forth in the Order: Judgement and Decree Quieting Title recorded February 24, 2014 at Reception No. D4014617.

60. Terms, conditions, provisions, obligations, easements and agreements as set forth in the Affidavit of Surface Inspection recorded April 29, 2014 at Reception No. D4035093.

61. Terms, conditions, provisions, obligations and agreements as set forth in the Affidavit of Possession, Use, and Occupancy recorded December 8, 2014 at Reception No. D4114699.

Exceptions 62 - 76 pertain to Parcel 6: Kissler Parcel. (Arapahoe County)

62. Right of way for ditches and canals as constructed by the authority of the United States, as reserved in United States Patent recorded December 4, 2013 at Reception No. D3145413.

63. Mineral reservation of all coal and other minerals as contained in Deed from Union Pacific Land Company, March 8, 1912 in Book 66 at Page 8, Quit Claim Deed to Union Pacific Land Resources, a Utah corporation recorded April 16, 1971 in Book 1920 at Page 247 and Release and Quit Claim Deed recorded November 28, 1998 at Reception No. A8189797 (affects Section 7)

64. An easement for gas pipeline and incidental purposes granted to Colorado Interstate Gas Company by the instrument recorded May 20, 1947 in Book 578 at Page 111.

65. An easement for utilities and incidental purposes granted to the Mountain States Telephone and Telegraph Company by the instrument recorded May 13, 1960 in Book 1189 at Page 495.

66. An easement for utilities and incidental purposes granted to the Mountain States Telephone and Telegraph Company by the instrument recorded October 26, 1972 in Book 2070 at Page 140.

67. An easement for oil and gas pipeline and incidental purposes granted to Chase Transportation Company by the instrument recorded October 25, 1972 in Book 2181 at Page 702.

68. An easement for oil and gas pipeline and incidental purposes granted to Amoco Pipeline Company by the instrument recorded May 23, 1974 in Book 2240 at Page 733.

69. An easement for oil and gas pipeline and incidental purposes granted to Diamond Shamrock Pipeline Company by the instrument recorded September 6, 1995 in Book 8095 at Page 34.

70. An easement for underground communication system and incidental purposes granted to Williams Communications, Inc. by the instrument recorded October 8, 1998 at Reception No. A8161034.

71. Request for Notification of Surface Development recorded May 16, 2002 at Reception No. B2090857.

72. Right of way 30 feet in width for East Alameda Avenue, East 6th Avenue, Watkins Road and Imboden Mile Road.

73. Terms, conditions, provisions, obligations and agreements as set forth in the Findings of Facts, Conclusions of Law, Ruling of Referee, and Decree recorded February 21, 2006, at Reception No. B6022188.

74. Terms, conditions, provisions, obligations, easements and agreements as set forth in the Colorado Interstate Gas Company Cathodic Protection Unit Easement recorded August 28, 2006, at Reception No. B6123884.

75. Oil and Gas Lease recorded December 21, 2012 at Reception No. D2147993.

76. Terms, conditions, provisions, obligations, easements and agreements as set forth in the Right of Way Contract recorded September 17, 2013 at Reception No. D3116432.

Exceptions 77-103 pertain to Parcel 7: Linnebur-Wehlen. (Arapahoe County)

77. Reservation of all mineral lands as set forth in United State Patent recorded March 19, 2014 at Reception No. D4022050.

78. Reservations by the Union Pacific Land Company of (1) oil, coal and other minerals underlying the land; (2) the exclusive right to prospect for, mine and remove oil, coal and other minerals; and (3) the right of ingress and egress and regress to prospect for, mine and remove oil, coal and other minerals, all as contained in deed recorded September 20, 1889 in Book 66 at Page 23 of the records of the Clerk and Recorder for Arapahoe County, Colorado, and any and all assignments thereof or interests therein.

Note: Quit Claim Deed in connection with said reservations recorded April 16, 1971 in Book 1920 at Page 247.

Note: Mineral Deed in connection with said reservations recorded January 14, 1976 in Book 2410 at Page 77.

79. An easement for right-of-way and incidental purposes granted to American Telephone and Telegraph Company by the instrument recorded March 19, 1929 in Book 278 at Page 325.

80. An easement for right-of-way and incidental purposes granted to Colorado Interstate Gas Company by the instrument recorded October 17, 1947 in Book 591 at Page 152.

81. Each and every right or rights of access to and from any part of the right-of-way for Colorado State Highway No. 8 (Interstate 70) as contained in instrument recorded August 14, 1958 in Book 1078 at Page 60.

82. An easement for right-of-way and incidental purposes granted to Mountain States Telephone and Telegraph Company by the instrument recorded May 13, 1960 in Book 1189 at Page 503.

83. Any assessment or lien of Aurora Hospital District, as disclosed by the instrument recorded June 28, 1962 in Book 1351 at Page 259; and of Bennett Fire Protection District, as disclosed by the instrument recorded October 2, 1962 in Book 1376 at Page 111.

84. Terms, agreements, provisions, conditions and obligations as contained in Agreement recorded March 29, 1973 in Book 2113 at Page 576.

85. An easement for right-of-way and incidental purposes granted to Chase Transportation Company by the instrument recorded March 29, 1973 in Book 2113 at Page 581.

86. Easement Agreement, together with the provisions therein contained, as granted to Amoco Pipeline Company in instrument recorded May 23, 1974 in Book 2240 at Page 719.

87. Oil and Gas Lease between Champlin Petroleum Company and Amoco Production Company, recorded January 22, 1976 in Book 2412 at Page 347, and any and all assignments thereof or interest therein.

Note: Affidavit of Lease Extension in connection with said Oil and Gas Lease recorded February 9, 1981 in Book 3363 at Page 424.

Note: Affidavit of Production in connection with said Oil and Gas Lease recorded April 22, 1981 in Book 3400 at Page 733

88. Right-of-way for ditches or canals constructed by the authority of the United States as reserved in United States Patent recorded January 22, 1901 in Book A57 at Page 207.

89. The right of proprietor of a vein or lode to extract or remove his ore should the same be found to penetrate or intersect the premises thereby granted as reserved in United States patent recorded January 22, 1901 in Book A57 at Page 207; and any and all assignments thereof or interests therein.

90. Reservations of right of way for any ditches or canals constructed by authority of the United States, in U.S. Patent recorded March 24, 1893 in Book A57 at Page 483.

91. The right of proprietor of a vein or lode to extract or remove his ore should the same be found to penetrate or intersect the premises thereby granted as reserved in United States patent recorded March 24, 1893 in Book A57 at Page 483; and any and all assignments thereof or interests therein.

92. An easement for right-of-way and incidental purposes granted to American Telephone and Telegraph Company by the instrument recorded June 4, 1929 in Book 284 at Page 140.

93. An Easement and Release as granted to U.S. West Communications, Inc. by the instrument recorded April 2, 1992 in Book 6424 at Page 330; and Release recorded in Book 6417 at Page 629.

94. Terms, agreements, provisions, conditions and obligations as contained in Right-of-way Agreement by and between Gene L. Linnebur and Shirley M. Linnebur and Diamond Shamrock Pipeline Company recorded March 26, 1996 at Reception No. A6036205. (South 1/2 of Section 1).

95. Terms, agreements, provisions, conditions and obligations as contained in Right-of-way Agreement by and between Gene L. Linnebur and Shirley M. Linnebur and Williams Communications, Inc., recorded October 20, 1998 at Reception No. A8167214.

96. Conveyances and Reservations of Release and Quit Claim Deed from Union Pacific Railroad Company to Union Pacific Land Resources Company recorded November 23, 1998 at Reception No. A8189797.

97. The effect of Notice of Request for Notification of Surface Development recorded May 16, 2002 at Reception No. B2090859.

98. Right-of-way to American Telephone and Telegraph Company recorded in Book 464 at Page 379.

99. The effect of Discontinuance Map of Town of Watkins recorded November 29, 2006 at Reception No. B6167936.

100. Terms, conditions, provisions, obligations and agreements as set forth in the Affidavit of Surface Inspection recorded February 24, 2014 at Reception No. D4014687.

101. Oil and Gas Lease recorded December 21, 2012 at Reception No. D2147993.

102. Terms, conditions, provisions, obligations and agreements as set forth in the Affidavit of Surface Inspection recorded April 29, 2014 at Reception No. D4035094.

103. Terms, conditions, provisions, obligations and agreements as set forth in the Affidavit of Possession, Use, and Occupancy recorded December 8, 2014 at Reception No. D4114699.

Exceptions 104 - 108 pertain to Parcel 8: Luther.

104. The right of proprietor of a vein or lode to extract or remove his ore should the same be found to penetrate or intersect the premises thereby granted as reserved in United States patent recorded on March 23, 1981 in Book 3383 at Page 715, and any and all assignments thereof or interest therein.

105. An easement to construct, operate, maintain, replace and remove such communication system as the grantees may from time to time require consisting of underground conduit, cables, wires, manholes, surface testing terminals and markers and incidental purposes granted to The Mountain States Telephone and Telegraph Company by the instrument recorded May 13, 1960 in Book 1189 at Page 505 and as Shown on ALTA/ACSM Land Title Survey prepared Engineering Service Company on May 11, 2006 Survey No. 06067-C.

106. An easement to construct, reconstruct, renew, operate, maintain, inspect, alter, repair, remove and re-lay a pipe line and additional pipe lines for the transportation of oil, gas, petroleum or any of its products and incidental purposes granted to Chase Transportation Company by the instrument recorded April 12, 1973 in Book 2117 at 764. Assignment of Rights of Way and Permits recorded January 18, 2005 at Reception Number B5007379 and B5007380.

107. House Lease between Luther Seminary and Regy Snyder, as tenant only, dated September 1, 2004.

108. Paid-Up Oil and Gas Lease recorded December 28, 2010, at Reception No. D0135151.

NOTE: Affidavit of Production in connection therewith recorded April 13, 2015 at Reception No. D5035879.

Exceptions 109 - 122 pertain to Parcel 9: Mccluskey. (Arapahoe County)

109. Reservation of all oil, coal and other minerals; thence exclusive right to prospect; the right of ingress, egress and regress; and other reservations under Deed from Union Pacific Land Company to J. M. Gingrich recorded April 5, 1910 in Book 36 at Page 197.

110. Any assessment or lien of Bennett Fire Protection District, as disclosed by the instrument recorded October 2, 1962 in Book 1376 at Page 111.

111. Reservations and Grants of Deed from Union Pacific Railroad Company to Union Pacific Land Resources Coporation recorded April 16, 1971 in Book 1920 at Page 247. As modified by Release and Quit Claim Deed recorded November 23, 1998 at Reception No. 8189797.

112. Terms conditions, provisions, agreements and obligations specified under the Easement and Right-of-Way by and between Florence Marie McCluskey and G. A. VanDyk and recorded May 8, 1975 in Book 2332 at Page 764.

113. Mineral Conveyance to Champlin Petroleum Company recorded January 14, 1978 in Book 2410 at Page 77.

114. The effect of Notification of Surface Development by RME Land Corp. (Fka Union Pacific Land Resources Corporation) recorded May 16, 2002 at Reception No. B2090860.

115. An Oil and Gas Lease, from Champlin Petroleum Company as Lessor(s) to Amoco Production Company as Lessee(s) dated October 23, 1975, recorded January 6, 1976 in Book 2412 at Page 347 (Book 2039 at Page 181, Adams County) and Ratification of Lease recorded January 14, 1991 in Book 6080 at Page 258 (Book 3735 at Page 141, Adams County), and any and all assignments thereof or interests therein.

116. An easement for right-of-way and incidental purposes granted to American Telephone and Telegraph Company by the instrument recorded June 4, 1929 in Book 284 at Page 142.

117. The following matters disclosed on survey dated September 8, 2003 by Burdick Engineering Consultants, Inc., Job No. 94511:

A) Any easement rights by reason of underground electric line crossing subject property at Southwest corner.
B) Any easement rights for the use of the public over the Northerly 30 feet of subject property.
C) Any easement rights by reason of two-track road 12 feet in width along the North boundary line.

118. Terms, conditions, burdens and obligations contained in Access Easement Agreement recorded October 28, 2003 at Reception No. B3234045

119. Terms, conditions, provisions, obligations and agreements as set forth in the Findings of Facts, Conclusions of Law, Ruling of Referee, and Decree recorded February 21, 2006, at Reception No. B6022187.

120. Appurtenant rights of upper and lower owners in and to the free and unobstructed flow of the water of the Box Elder Creek extending through the land, without diminution.

121. Oil and Gas Lease recorded December 21, 2002 at Reception No. D2147993.

122. Terms, conditions, provisions, obligations and agreements as set forth in the Affidavit of Surface Inspection recorded January 8, 2014 at Reception No. D4001767.

Exceptions 123 - 130 pertain to Parcel 10: Stewart Parcel. (Arapahoe County)

123. Lack of access to Colorado Highway No. 8 (now known as Interstate I-70) as set forth in Deed recorded July 7, 1958 in Book 1071 at Page 358.

124. An easement and right of way for utilities as granted to The Mountain States and Telephone and Telegraph Company in instrument recorded May 13, 1960 in Book 1189 at Page 513.

125. Terms, conditions, provisions, obligations, easements and agreements as set forth in the Declaration of Reciprocal Easements recorded March 06, 1996 at Reception No. A6027753.

126. Terms, conditions, provisions, obligations and agreements as set forth in the Aircraft Activity Covenant with Disclosure recorded June 13, 2001 at Reception No. B1094411 and re-recorded September 12, 2001 at Reception No. B1154717.

127. Terms, conditions, provisions, obligations, easements and agreements as set forth in the Memorandum Giving Notice of Oil and Gas Lease recorded July 06, 2010 at Reception No. D0064421.

NOTE: Assignment of Overriding Royalty Interests in connection therewith recorded April 15, 2011 at Reception No. D1036327 and Correction Assignment of Overriding Royalty Interests recorded June 23, 2011 at Reception No. D1059356.

NOTE: Assignment, Bill of Sale and Conveyance in connection therewith recorded May 12, 2011 at Reception No. D1045360.

NOTE: Correction to Assignment of Oil and Gas Leases in connection therewith recorded June 23, 2011 at Reception No. D1059381.

128. Oil and Gas Lease recorded September 1, 2010, at Reception No. D0086115.

129. Any rights, interests, or claims which may exist or arise by reason of the following facts shown on the ALTA/ACSM Land Title Survey dated August 31, 2010, prepared by Alpha Surveying Company, as Job Number 5-4s4-19:

a) Any loss or damage arising from the fact that the fence lines on or near the perimeter of subject property do not coincide with the exact property lines.

b) Encroachment of fences onto the property adjacent and to the South and East of subject property.

c) Apparent easement for Highway Billboard as shown on the survey.

130. Oil and Gas Lease recorded December 31, 213 at Reception No. D3153251.

Exceptions 131 - 134 pertain to Parcel 11: Van Dyk (108ac). (Arapahoe County)

131. Reservations as contained in Patent of the United States recorded October 5, 1915 in Book 78 at Page 528.

132. The effect of Notice setting forth description of area of Arapahoe County, Colorado subject to building code recorded October 7, 1963 under Reception No. 880751.

133. Terms, conditions, burdens and obligations contained in Access Easement Agreement recorded October 28, 2003 at Reception No. B3234045.

134. Terms, conditions, provisions, obligations and agreements as set forth in the Affidavit of Surface Inspection recorded December 2, 2013 at Reception No. D3144321.

Exceptions 135 - 142 pertain to Parcel 12: Van Dyk (170ac). (Arapahoe County)

135. An easement to construct, operate, maintain, replace and remove such communication systems as the grantees may from time to time require consisting of underground conduit, cables, wires, manholes, surface testing terminals and markers and incidental purposes granted to The

Mountain States Telephone and Telegraph Company by the instrument recorded May 13, 1960 in Book 1189 at Page 505.

136. Any assessment or lien of The Bennett Fire Protection District, as disclosed by the instrument recorded October 2, 1962 in Book 1376 at Page 111.

137. An easement to construct, reconstruct, renew, operate, maintain, inspect, alter, repair, remove and re-lay a pipe line and additional pipe lines for the transportation of oil, gas, petroleum, or any of its products and incidental purposes granted to Chase Transportation Company by the instrument recorded April 12, 1973 in Book 2117 at Page 764.

138. An easement for the transportation of oil, gas, water, any other substances whether fluid or solid and incidental purposes granted to Amoco Pipeline Company by the instrument recorded May 23, 1974 in Book 2240 at Page 731.

139. An easement for underground communication system(s) and incidental purposes granted to Williams Communications, Inc., a Delaware corporation by the instrument recorded November 24, 1998 at Reception No. A8190324.

140. Terms, conditions, provisions, agreements, and obligations specified under the Deferred Payment of Right of Way Agreement by and between Charles J. Taft, as Personal Representative for Margaret I. Taft, deceased, Charles J. Taft, Susan K. Taft, Charles H. Taft, Rachel S. Taft and Luther Seminary, a non-profit corporation f/k/a Luther Northwestern Theological Seminary and Diamond Shamrock Pipeline Company, recorded September 6, 1995 in Book 8096 at Page 36.

141. Terms, conditions, provisions, agreements, and obligations specified under the Deferred Payment of Right of Way Agreement by and between Charles J. Taft, as Personal Representative for Margaret I. Taft, deceased, Charles I. Taft, Susan K. Taft, Charles H. Tall, Rachel S. Taft and Luther Seminary, a non-profit corporation f/k/a Luther Northwestern Theological Seminary and Diamond Shamrock Pipeline Company, recorded September 6, 1995 in Book 8096 at Page 41.

142. The following matters disclosed by ALTA/ACSM Land Title Survey prepared by Engineering Services Company, Charles N. Beckstrom, Professional Land Surveyor, P.L.S. No. 33202, dated August 16, 2004 Survey No. 04,120-C:

a. Telephone pedestals along the Southerly and Westerly portion of Parcel A.
b. Six foot wood fence enclosure, electric transformers, concrete and manhole located in the Southwest portion of Parcel A.
c. Telephone markers along the Southerly arid Westerly portion of Parcel A.
d. Gas markers along the Southerly and Westerly portion of Parcel A.
e. Underground gas lines affecting the Southerly portion of Parcel A.

Exceptions 143 - 149 pertain to Parcel 13: Van Dyk Kids. (Arapahoe County)

143. An easement to construct, operate, maintain, replace and remove such communication systems as the grantees may from time to time require consisting of underground conduit, cables, wires, manholes, surface testing terminals and markers and incidental purposes granted to The Mountain States Telephone and Telegraph Company by the instrument recorded May 13, 1960 in Book 1189 at Page 505.

144. Any assessment or lien of The Bennett Fire Protection District, as disclosed by the instrument recorded October 2, 1962 in Book 1376 at Page 111.

145. An easement to construct, reconstruct, renew, operate, maintain, inspect, alter, repair, remove and re-lay a pipe line and additional pipe lines for the transportation of oil, gas, petroleum or any

of its products and incidental purposes granted to Chase Transportation Company by the instrument recorded April 12, 1973 in Book 2117 at Page 764.

146. Terms, conditions, provisions, agreements and obligations specified under the Deferred Payment Right of Way Agreement by and between Charles J. Taft, as Personal Representative for Margaret I. Taft, deceased, Charles J. Taft, Susan K. Taft, Charles H. Taft, Rachel S. Taft and Luther Seminary, a non-profit corporation f/k/a Luther Northwestern Theological Seminary and Diamond Shamrock Pipeline Company, recorded September 6, 1995 in Book 8096 at Page 36.

147. Terms, conditions, provisions, agreements and obligations specified under the Deferred Payment Right of Way Agreement by and between Charles J. Taft, as Personal Representative for Margaret I. Taft, deceased, Charles J. Taft, Susan K. Taft, Charles H. Taft, Rachel S. Taft and Luther Seminary, a non-profit corporation f/k/a Luther Northwestern Theological Seminary and Diamond Shamrock Pipeline Company, recorded September 6, 1995 in Book 8096 at Page 41.

148. An easement for public ingress and egress and incidental purposes granted to Watkins Development Farm, LLC, a Colorado limited liability company by the instrument recorded June 8, 2000 at Reception No. B0069063.

Note: Affidavit to Correct Easement recorded September 15, 2004 at Reception No. B4164313.

149. The following matters are disclosed by ALTA/ACSM Land Title Survey prepared by Engineering Service Company, Charles N. Beckstrom, Professional Land Surveyor, P.L.S. No. 33202, dated August 16, 2004 Survey No. 04, 120-C:

a. Apparent easement for two track dirt road 8 feet in width along the Easterly property line.
b. Fences on Easterly property line do not conform to property line.
c. 2.5 foot encroachment of asphalt drive along the Northwest portion of the North property line.

Exceptions 150 - 162 pertain to Parcel 14:Weimer Wheatfield. (Arapahoe County).

150. Reservation of all mineral lands as set forth in United State Patent recorded April 8, 2014 at Reception No. D4028519.

151. The Effect of Notice recorded October 7, 1963 under Reception No. 880751.

152. Right of the proprietor of a vein or lode to extract and remove his ore therefrom. Should the same be found to penetrate or intersect the premises hereby granted, and a right of way for ditches or canals constructed by the Authority of the United States, as reserved in United States Patent recorded May 17, 1897 as Application No. 16023.
(Affects Section 12)

153. Mineral Deed to Champlen Petroleum Company recorded January 22, 1976 in Book 2412 at Page 351.

154. Right of way for ditches or canals constructed by the Authority of the United States as reserved in United States Patent of Record.

Note: Patent Number 222010 dated August 24, 1911. (Affects Section 24)

155. Reservations of all mineral and coal rights in and/or under said Land in Deed recorded March 4, 1950 in Book 666 at Page 466.

156. Request for Notification of Surface Development as evidenced by Instrument recorded May 16, 2002 under Reception No. B2090861.

157. Rights of the County of Arapahoe and the public in and to that portion of Section 13 lying within Watkins Road.

158. Terms, conditions, provisions, burdens, obligations and easements as set forth and granted in restrictive perpetual easement recorded April 09, 1991 in Book 6129 at Page 524.

159. The effect of discontinuance Map of Town of Watkins, recorded November 29, 2006, under Reception No. B6167936.

160. Any rights, interests, or claims which may exist or arise by reason of the following facts shown on the ALTA/ACSM Land Title Survey dated August 18, 2011, prepared by Engineering Service Company, as Job Number 11082C:

   A) Any loss or damage arising from the fact that the fence lines on or near the perimeter of subject property do not coincide with the exact property lines.

161. Terms, conditions, provisions, obligations and agreements as set forth in the Affidavit of Surface Inspection recorded December 2, 2013 at Reception No. D3144332.

162. Terms, conditions, provisions, obligations and agreements as set forth in the Affidavit of Surface Inspection recorded February 24, 2014 at Reception No. D4014687.

The following Exceptions Identify Each Parcel It Pertains to:

163. Oil and Gas Lease, as evidenced by Memorandum of Agreement and Lease recorded December 21, 2012 at Reception No. D2147993 of the Arapahoe County records, and any and all assignments thereof or interest therein (As to Parcels 1, 6, 7 9 12 14).

164. Oil and Gas Lease, as evidenced by Memorandum of Agreement and Lease recorded December 26, 2012 at Reception No. 2012000097994 of the Adams County records, and any and all assignments thereof or interest therein (As To Parcel 1).

165. Terms, conditions, provisions, obligations and agreements as set forth in the Special Warranty Deed, Assignment, Bill of Sale and Conveyance recorded January 14, 2013 at Reception No. D3005790 (As to Parcels 4,6, 7,8,10, 12,13,14).

166. Terms, conditions, provisions, obligations and agreements as set forth in the Surface Use Agreement RE: Setbacks recorded July 29, 2013 at Reception No. D3095288 (As to Parcels 2, 3, 5, 6, 7, 8, 9, 10, 12, 13, 14).

167. Terms, conditions, provisions, obligations, easements and agreements as set forth in the Right of Way Contract recorded August 27, 2014 at Reception No. D4079302 (As to Parcels 2, 4, 5, 6, 7,8, 9, 10, 12, 13, 14).

168. Terms, conditions, provisions, obligations, easements and agreements as set forth in the Right of Way Contract recorded August 27, 2014 at Reception No. D4079303 and Amendments thereto recorded April 30, 2015 at Reception No. D5043056, September 28, 2015 at Reception No. D5109906 (As to Parcels 2, 3, 4, 5, 6, 7,8, 9, 10, 12, 13, 14).

169. Terms, conditions, provisions, obligations, easements and agreements as set forth in the Surface Use and Compensation Agreement recorded August 27, 2014 at Reception No. D4079306 (As to Parcels 2, 3, 4, 5, 6, 7,8, 9, 10, 12, 13, 14).

170. Terms, conditions, provisions, obligations and agreements as set forth in the Affidavit of Possession, Use, and Occupancy recorded November 18, 2014 at Reception No. D4108584 (2, 3, 7, 9, 14).

171. Any tax, lien, fee or assessment by reason of inclusion of subject property in the Prosper Metropolitan District No. 1, as evidenced by instrument recorded June 23, 2015 at Reception No. D5066176 (As to Parcels 5, 7, 8, 14).

172. Any tax, lien, fee or assessment by reason of inclusion of subject property in the Prosper Metropolitan District No. 2, as evidenced by instrument recorded June 23, 2015 at Reception No. D5066177 (As to Parcels 2,5, 7, 8, 9, 12, 14) .

173. Any tax, lien, fee or assessment by reason of inclusion of subject property in the Prosper Metropolitan District No. 3, as evidenced by instrument recorded June 23, 2015 at Reception No. D5066178 (As to Parcels 4, 6, 10, 12,13,14).

174. Any tax, lien, fee or assessment by reason of inclusion of subject property in the Prosper Metropolitan District No. 4, as evidenced by instrument recorded June 23, 2015 at Reception No. D5066179 (As to Parcels 2, 5, 7, 9, 14).

175. Any tax, lien, fee or assessment by reason of inclusion of subject property in the Prosper Water and Sanitation Financing Metropolitan District, as evidenced by instrument recorded June 23, 2015 at Reception No. D5066181 (2, 4, 5, 6, 7, 9, 10, 12, 13, 14) .

176. Any tax, lien, fee or assessment by reason of inclusion of subject property in the Prosper Park & Recreation Financing Metropolitan District, as evidenced by instrument recorded June 23, 2015 at Reception No. D5066182 (2, 4, 5, 6, 7, 9, 10, 12, 13, 14).

177. Terms, conditions, provisions, obligations and agreements as set forth in the Affidavit of Surface Inspection recorded December 2, 2013 at Reception No. D3144321.

178. Water rights, claims or title to water, whether or not shown by the public records.

179. Existing leases and tenancies. (As to all Parcels)

EXHIBIT B
Statement of Charges

ALTA Owner Policy - 2006	TBD
Tax Certification ($25 per parcel)	$625.00
Deletion of Standard Exceptions 1-3	$60.00
Deletion of Standard Exception 4	(Underwriting Approval Required)

CONDITIONS

1. The term mortgage, when used herein, shall include deed of trust, trust deed, or other security instrument.

2. If the proposed Insured has or acquired actual knowledge of any defect, lien, encumbrance, adverse claim or other matter affecting the estate or interest or mortgage thereon covered by this Commitment other than those shown in Schedule B hereof, and shall fail to disclose such knowledge to the Company in writing, the Company shall be relieved from liability for any loss or damage resulting from any act of reliance hereon to the extent the Company is prejudiced by failure to so disclose such knowledge. If the proposed Insured shall disclose such knowledge to the Company, or if the Company otherwise acquires actual knowledge of any such defect, lien, encumbrance, adverse claim or other matter, the Company at its option may amend Schedule B of this Commitment accordingly, but such amendment shall not relieve the Company from liability previously incurred pursuant to paragraph 3 of these Conditions and Stipulations.

3. Liability of the Company under this Commitment shall be only to the named proposed Insured and such parties included under the definition of Insured in the form of policy or policies committed for and only for actual loss incurred in reliance hereon in undertaking in good faith (a) to comply with the requirements hereof, or (b) to eliminate exceptions shown in Schedule B, or (c) to acquire or create the estate or interest or mortgage thereon covered by this Commitment. In no event shall such liability exceed the amount stated in Schedule A for the policy or policies committed for and such liability is subject to the insuring provisions and Conditions and Stipulations and the Exclusions from Coverage of the form of policy or policies committed for in favor of the proposed Insured which are hereby incorporated by reference and are made a part of this Commitment except as expressly modified herein.

4. This Commitment is a contract to issue one or more title insurance policies and is not an abstract of title or a report of the condition of title. Any action or actions or rights of action that the proposed Insured may have or may bring against the Company arising out of the status of the title to the estate or interest or the status of the mortgage thereon covered by this Commitment must be based on and are subject to the provisions of this Commitment.

5. The policy to be issued contains an arbitration clause. All arbitrable matters when the Amount of Insurance is $2,000,000 or less shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. You may review a copy of the arbitration rules at http://www.alta.org/.

First American Title

Privacy Information

We Are Committed to Safeguarding Customer Information

In order to better serve your needs now and in the future, we may ask you to provide us with certain information. We understand that you may be concerned about what we will do with such information - particularly any personal or financial information. We agree that you have a right to know how we will utilize the personal information you provide to us. Therefore, together with our subsidiaries we have adopted this Privacy Policy to govern the use and handling of your personal information.

Applicability

This Privacy Policy governs our use of the information that you provide to us. It does not govern the manner in which we may use information we have obtained from any other source, such as information obtained from a public record or from another person or entity. First American has also adopted broader guidelines that govern our use of personal information regardless of its source. First American calls these guidelines its Fair Information Values.

Types of Information

Depending upon which of our services you are utilizing, the types of nonpublic personal information that we may collect include:

- Information we receive from you on applications, forms and in other communications to us, whether in writing, in person, by telephone or any other means;
- Information about your transactions with us, our affiliated companies, or others; and
- Information we receive from a consumer reporting agency.

Use of Information

We request information from you for our own legitimate business purposes and not for the benefit of any nonaffiliated party. Therefore, we will not release your information to nonaffiliated parties except: (1) as necessary for us to provide the product or service you have requested of us; or (2) as permitted by law. We may, however, store such information indefinitely, including the period after which any customer relationship has ceased. Such information may be used for any internal purpose, such as quality control efforts or customer analysis. We may also provide all of the types of nonpublic personal information listed above to one or more of our affiliated companies. Such affiliated companies include financial service providers, such as title insurers, property and casualty insurers, and trust and investment advisory companies, or companies involved in real estate services, such as appraisal companies, home warranty companies and escrow companies. Furthermore, we may also provide all the information we collect, as described above, to companies that perform marketing services on our behalf, on behalf of our affiliated companies or to other financial institutions with whom we or our affiliated companies have joint marketing agreements.

Former Customers

Even if you are no longer our customer, our Privacy Policy will continue to apply to you.

Confidentiality and Security

We will use our best efforts to ensure that no unauthorized parties have access to any of your information. We restrict access to nonpublic personal information about you to those individuals and entities who need to know that information to provide products or services to you. We will use our best efforts to train and oversee our employees and agents to ensure that your information will be handled responsibly and in accordance with this Privacy Policy and First American's Fair Information Values. We currently maintain physical, electronic, and procedural safeguards that comply with federal regulations to guard your nonpublic personal information.

Information Obtained Through Our Web Site

First American Financial Corporation is sensitive to privacy issues on the Internet. We believe it is important you know how we treat the information about you we receive on the Internet.

In general, you can visit First American or its affiliates' Web sites on the World Wide Web without telling us who you are or revealing any information about yourself. Our Web servers collect the domain names, not the e-mail addresses, of visitors. This information is aggregated to measure the number of visits, average time spent on the site, pages viewed and similar information. First American uses this information to measure the use of our site and to develop ideas to improve the content of our site.

There are times, however, when we may need information from you, such as your name and email address. When information is needed, we will use our best efforts to let you know at the time of collection how we will use the personal information. Usually, the personal information we collect is used only by us to respond to your inquiry, process an order or allow you to access specific account/profile information. If you choose to share any personal information with us, we will only use it in accordance with the policies outlined above.

Business Relationships

First American Financial Corporation's site and its affiliates' sites may contain links to other Web sites. While we try to link only to sites that share our high standards and respect for privacy, we are not responsible for the content or the privacy practices employed by other sites.

Cookies

Some of First American's Web sites may make use of "cookie" technology to measure site activity and to customize information to your personal tastes. A cookie is an element of data that a Web site can send to your browser, which may then store the cookie on your hard drive.

FirstAm.com uses stored cookies. The goal of this technology is to better serve you when visiting our site, save you time when you are here and to provide you with a more meaningful and productive Web site experience.

Fair Information Values

Fairness We consider consumer expectations about their privacy in all our businesses. We only offer products and services that assure a favorable balance between consumer benefits and consumer privacy.

Public Record We believe that an open public record creates significant value for society, enhances consumer choice and creates consumer opportunity. We actively support an open public record and emphasize its importance and contribution to our economy.

Use We believe we should behave responsibly when we use information about a consumer in our business. We will obey the laws governing the collection, use and dissemination of data.

Accuracy We will take reasonable steps to help assure the accuracy of the data we collect, use and disseminate. Where possible, we will take reasonable steps to correct inaccurate information. When, as with the public record, we cannot correct inaccurate information, we will take all reasonable steps to assist consumers in identifying the source of the erroneous data so that the consumer can secure the required corrections.

Education We endeavor to educate the users of our products and services, our employees and others in our industry about the importance of consumer privacy. We will instruct our employees on our fair information values and on the responsible collection and use of data. We will encourage others in our industry to collect and use information in a responsible manner.

Security We will maintain appropriate facilities and systems to protect against unauthorized access to and corruption of the data we maintain.

DISCLOSURE STATEMENT

Pursuant to C.R.S 30-10-406(3)(a) all documents received for recording or filing in the Clerk and Recorder's office shall contain a top margin of at least one inch and a left, right and bottom margin of at least one-half of an inch. The Clerk and Recorder will refuse to record or file any document that does not conform to the requirements of this section.

NOTE: If this transaction includes a sale of the property and the price exceeds $100,000.00, the seller must comply with the disclosure/withholding provisions of C.R.S. 39-22-604.5 (Non-residential withholding).

NOTE: Colorado Division of Insurance Regulations 3-5-1, requires that "Every title entity shall be responsible for all matters which appear of record prior to the time of recording whenever the title entity conducts the closing and is responsible for recording or filing of legal documents resulting from the transaction which was closed." Provided that First American Title Insurance Company conducts the closing of the insured transaction and is responsible for recording the legal documents from the transaction.

Pursuant to C.R.S. 10-11-122, the company will not issue its policy or policies of title insurance contemplated by this commitment until it has been provided a Certificate of Taxes due or other equivalent documentation from the County Treasurer or the County Treasurer's authorized agent; or until the Proposed Insured has notified or instructed the company in writing to the contrary.

The subject property may be located in a special taxing district. A Certificate of Taxes due listing each taxing jurisdiction shall be obtained from the County Treasurer or the County Treasurer's authorized agent. Information regarding special districts and the boundaries of such districts may be obtained from the Board of County Commissioners, the County Clerk and Recorder, or the County Assessor.

NOTE: Pursuant to CRS 10-11-123, notice is hereby given:

This notice applies to owner's policy commitments containing a mineral severance instrument exception, or exceptions, in Schedule B, Section 2.

A. That there is recorded evidence that a mineral estate has been severed, leased, or otherwise conveyed from the surface estate and that there is a substantial likelihood that a third party holds some or all interest in oil, gas, other minerals, or geothermal energy in the property; and
B. That such mineral estate may include the right to enter and use the property without the surface owner's permission.

NOTE: Pursuant to Colorado Division of Insurance Regulations 3-5-1, Affirmative mechanic's lien protection for the Owner may be available (typically by deletion of Exception no. 4 of Schedule B, Section 2 of the Commitment from the Owner's Policy to be issued) upon compliance with the following conditions:

A. The land described in Schedule A of this commitment must be a single family residence which includes a condominium or townhouse unit.
B. No labor or materials have been furnished by mechanics or material-men for purposes of construction on the land described in Schedule A of this Commitment within the past 6 months.
C. The Company must receive an appropriate affidavit indemnifying the Company against un-filed mechanic's and material-men's liens.
D. The Company must receive payment of the appropriate premium.

E. If there has been construction, improvements or major repairs undertaken on the property to be purchased within six months prior to the Date of the Commitment, the requirements to obtain coverage for unrecorded liens will include: disclosure of certain construction information; financial information as to the seller, the builder and or the contractor; payment of the appropriate premium, fully executed Indemnity Agreements satisfactory to the company, and, any additional requirements as may be necessary after an examination of the aforesaid information by the Company.

No coverage will be given under any circumstances for labor or material for which the insured has contracted for or agreed to pay.

NOTE: Pursuant to C.R.S, 38-35-125(2) no person or entity that provides closing and settlement services for a real estate transaction shall disburse funds as a part of such services until those funds have been received and are available for immediate withdrawal as a matter of right.

NOTE: C.R.S. 39-14-102 requires that a real property transfer declaration accompany any conveyance document presented for recordation in the State of Colorado. Said declaration shall be completed and signed by either the grantor or grantee.

Nothing herein contained will be deemed to obligate the company to provide any of the coverages referred to herein unless the above conditions are fully satisfied.

NOTE: Pursuant to CRS 10-1-128(6)(a), It is unlawful to knowingly provide false, incomplete, or misleading facts or information to an insurance company for the purpose of defrauding or attempting to defraud the company. Penalties may include imprisonment, fines, denial of insurance and civil damages. Any insurance company or agent of an insurance company who knowingly provides false, incomplete, or misleading facts or information to a policyholder or claimant for the purpose of defrauding or attempting to defraud the policyholder or claimant with regard to a settlement or award payable from insurance proceeds shall be reported to the Colorado division of insurance within the department of regulatory agencies.

Attachment C

CDPHE Request for PELs

Dewberry Engineers Inc.
990 South Broadway, Suite 400
Denver, CO 80209
303.825.1802
303.825.2322 fax
www.dewberry.com

January 11, 2016

CDPHE
Control Division, Permits Section P-B-2
4300 Cherry Creek Drive South
Denver, CO 80246-1530

Re: Prosper Development Wastewater Treatment Facility Letter of Intent

Dear Control Division:

Our company, Dewberry Engineers Inc., on behalf of the property owner, Prosper Farms Investment LLC, is proposing a project within unincorporated Arapahoe County. The project is located in between Hayesmount Road and N Watkins Road just south of interstate 70 in the north portion of parcel #035150836. This project includes 8.22 acres and is currently zoned Prosper PDP WWTF.

The intent is to construct a new Waste Water Treatment Facility (WWTF) to serve the new Prosper community. The estimated influent flow to the new facility for Phase 1 is 264,600 gpd. The proposed building structures include an administration/lab, headworks, pumping station, UV disinfection, aerobic digester, solids handling, and maintenance shop.

Sincerely,
Dewberry Engineers Inc.

Stacy Roberts, PE
Project Engineer

COLORADO
Department of Public Health & Environment

Date Received:_____

Dedicated to protecting and improving the health and environment of the people of Colorado

PEL APPLICATION

1. **General Information**
   a. **Requestor name** Stacy Roberts (note questions can go to Stacy and fee will be paid by Jeff)
   b. **Facility contact (if different from above)** Jeff Vogel (developer) 303.893.4288
   c. **Facility name** Prosper WWTF
   d. **Facility Street Address** in between Hayesmount Road and N Watkins Road just south of interstate 70
   e. **Facility City, State, Zip Code** _____
   f. **Phone number** (303) 951-0637
   g. **Email address(s)** sroberts@dewberry.com and jvogel@vogelassoc.com

2. **Facility Information**
   a. **Domestic or Industrial Discharge** ☑ DOMESTIC ☐ INDUSTRIAL
   b. **SIC Code(s)** _____ _____ _____ _____
   c. **General description of operations**

The intent is to construct a new Waste Water Treatment Facility (WWTF) to serve the new Prosper community. The estimated influent flow to the new facility for Phase 1 is 264,600 gpd. The proposed building structures include an administration/lab, headworks, pumping station, UV disinfection, aerobic digester, solids handling, and maintenance shop. A preliminary site layout of the new facility is attached. Note the request is only for Phase 1 as mentioned above, the remaining phases will be built in the future for an ultimate buildout of approximately 3.30 MGD.

3. **Discharge Information**
   a. **Is this a new facility or an upgrade to an existing facility?** ☑ NEW ☐ UPGRADE
   b. **Proposed discharge location**
      i. **Attach map showing facility and discharge point location(s)**
      ii. **Receiving stream** Box Elder Creek that eventually discharges to the South Platte River near Hudson
      iii. **Latitude (dec.degrees)** 39.738
      iv. **Longitude (dec.degrees)** -104.614
      v. **Proposed discharge flow rate (mgd)** 0.2646

4300 Cherry Creek Drive S., Denver, CO 80246-1530 P 303-692-2000 www.colorado.gov/cdphe/wqcd
John W. Hickenlooper, Governor | Larry Wolk, MD, MSPH, Executive Director and Chief Medical Officer

(3. Discharge information continued)

c. Any additional discharge locations (additional fees may apply)

i. Attach map showing facility and discharge point location(s)

ii. Receiving stream _____

iii. Latitude(dec.degrees)_____

iv. Longitude (dec.degrees)_____

v. Proposed discharge flow rate (mgd)_____

d. Pollutants of concern (check all that apply)

X BOD

___CBOD

___Temperature

___Cyanide

___Nitrate/Nitrite

___Metals (all inclusive

X Ammonia (if upgrade to facility include most recent CAM/AMMTOX results

___Radionuclides (ex. Radium, list specific radionuclides below)

___Organics (list specific organics below)

e. List radionuclides (or note all inclusive)

f. List organics (or note all inclusive)

g. List any other pollutant of concern or additional information

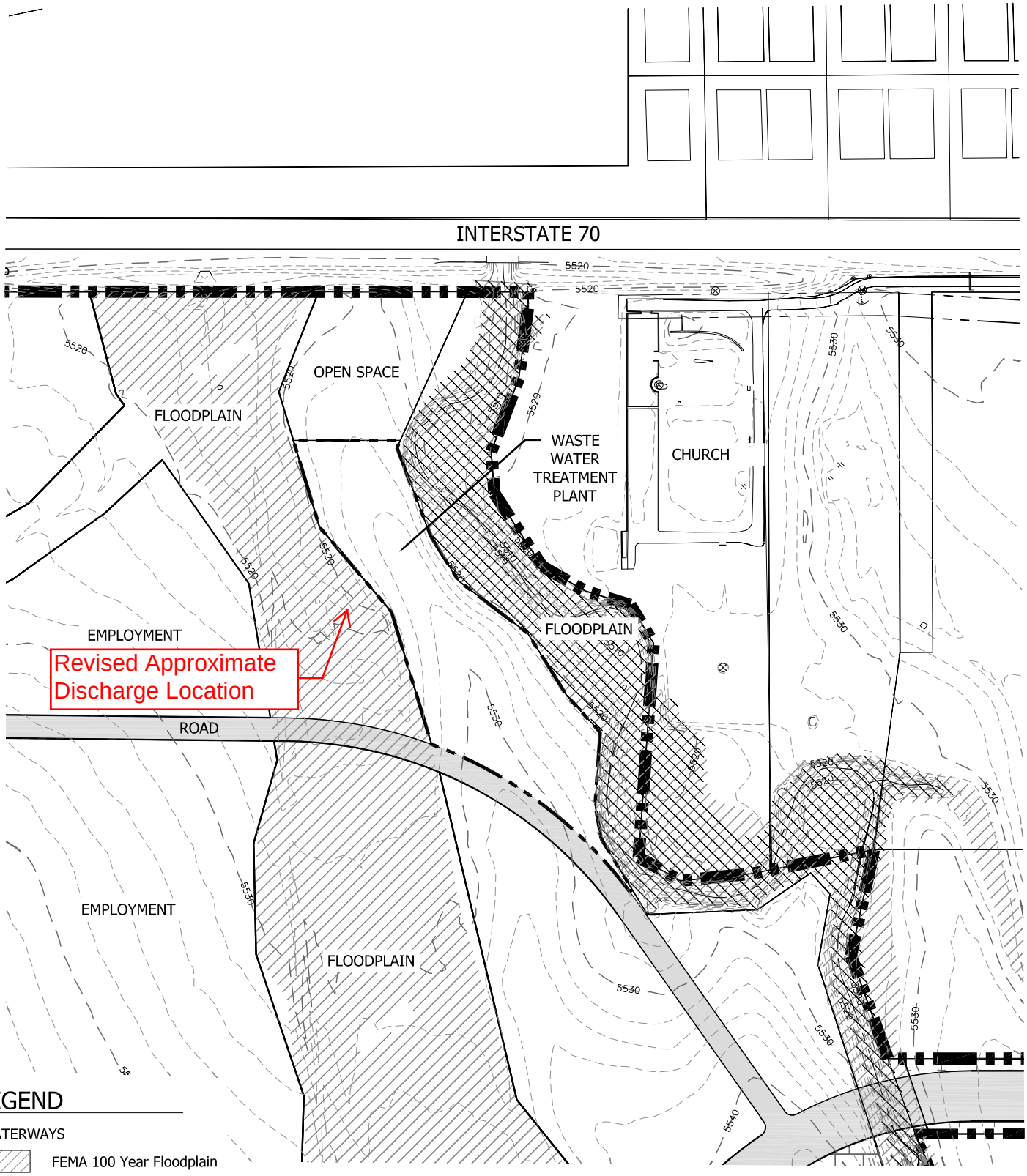
Total Suspended Solids

Attach extra pages as needed

4300 Cherry Creek Drive S., Denver, CO 80246-1530 P 303-692-2000 www.colorado.gov/cdphe/wqcd
John W. Hickenlooper, Governor | Larry Wolk, MD, MSPH, Executive Director and Chief Medical Officer

PROSPER

PARCELS OF LAND SITUATED IN SECTIONS 5, 6, 7 & 18, T.4S., R.64W.,
AND SECTIONS 1, 2, 11, 12, 13, 14 & 24, T.4S., R.65W., OF THE 6TH P.M.
COUNTY OF ARAPAHOE, STATE OF COLORADO



LEGEND

WATERWAYS

- FEMA 100 Year Floodplain
- FEMA Floodway

WWTP

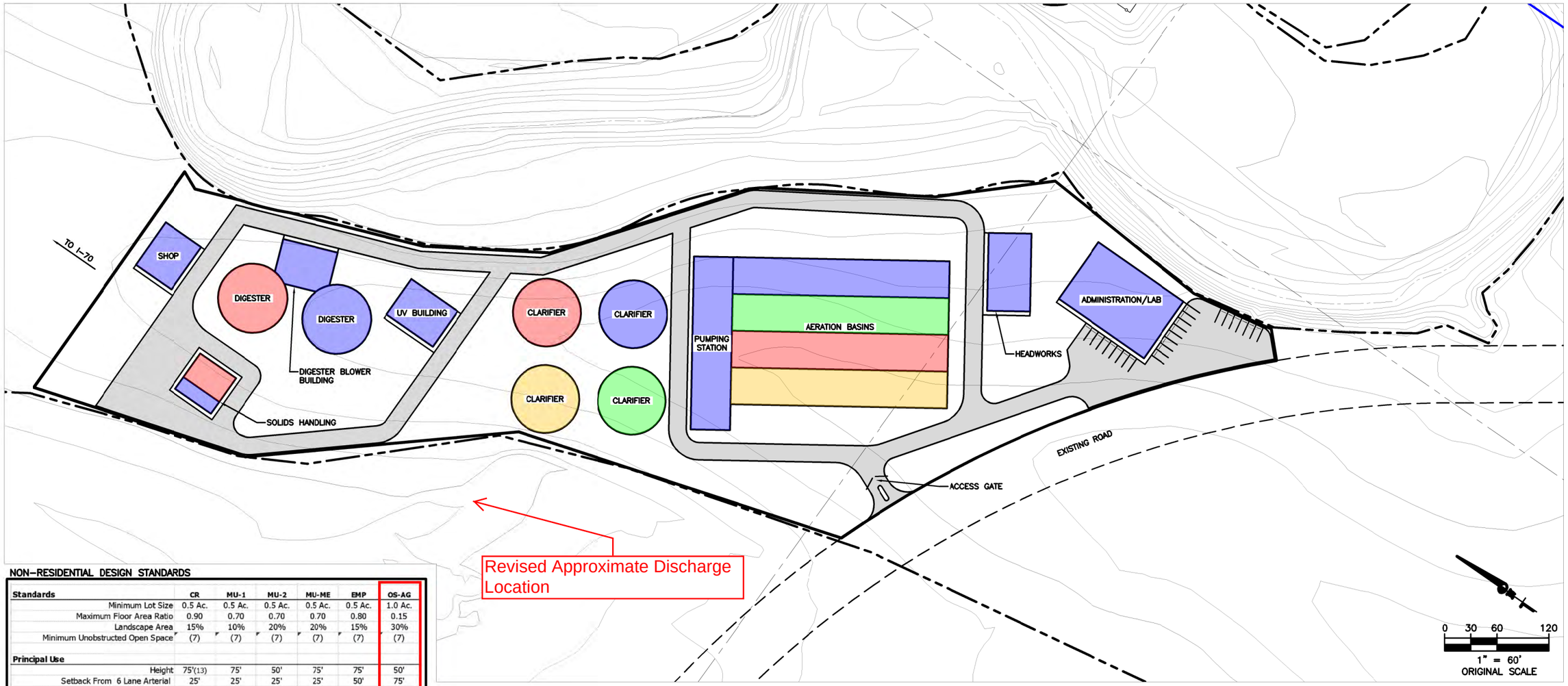
Scale: 1"=1000'

Date: FEBRUARY 23, 2015

Revision Date:

Scale in Feet: 0 200 400

VOGEL & ASSOCIATES
475 W. 12th Avenue - Suite E
Denver, Colorado 80204-3688
(303) 893-4288



PHASE 1
PHASE 2
PHASE 3
PHASE 4

NON-RESIDENTIAL DESIGN STANDARDS

Standards	CR	MU-1	MU-2	MU-ME	EMP	OS-AG
Minimum Lot Size	0.5 Ac.	0.5 Ac.	0.5 Ac.	0.5 Ac.	0.5 Ac.	1.0 Ac.
Maximum Floor Area Ratio	0.90	0.70	0.70	0.70	0.80	0.15
Landscape Area	15%	10%	20%	20%	15%	30%
Minimum Unobstructed Open Space	(7)	(7)	(7)	(7)	(7)	(7)
Principal Use						
Height	75'(13)	75'	50'	75'	75'	50'
Setback From 6 Lane Arterial	25'	25'	25'	25'	50'	75'
Setback From 4 Lane Minor Arterial	25'	25'	25'	25'	20'	30'
Setback From 2 Lane Boulevard	20'	20'	20'	20'	10'	30'
Setback From Connector Road	20'	10'	10'	20'	15'	30'
Setback From Local Road	20'	10'	10'	20'	20'	30'
Setback From Parking	10'	10'	10'	10'	10'	15'
*Building Separation	0'	0'	0'	0'	20'	30'
Setback From Single Family Detached	50'	20'	20'	50'	50'	75'
Setback From Single Family Attached	50'	20'	20'	50'	50'	75'
Setback From Multi-Family	30'	0'	0'	30'	50'	75'
Accessory Use						
Height	35'	35'	35'	35'	35'	90'
Structure Setback From 6 Lane Arterial	30'	30'	30'	30'	30'	30'
Parking Setback From 6 Lane Arterial	15'	15'	15'	15'	15'	15'
Setback From 4 Lane Minor Arterial	15'	15'	15'	15'	15'	15'
Setback From 2 Lane Boulevard	5'	5'	5'	10'	10'	10'
Setback From Connector Road	5'	5'	5'	10'	10'	10'
Setback From Local Road	10'	10'	10'	15'	15'	15'
Setback From Parking	10'	10'	10'	10'	10'	10'
Setback From Property Line	5'	5'	5'	5'	5'	5'

* OR AS REQUIRED BY CURRENT FIRE CODE / INTERNATIONAL BUILDING CODE (I.B.C.)

BUILDING HEIGHTS

Building	Height (ft)
Admin/Lab	20
Headworks	20
Pumping Station	25
UV/Reuse	20
Digester Blower	15
Solids Handling	15
Shop	25

Dewberry®
Dewberry Engineers Inc.
990 S. BROADWAY, SUITE 400
Denver, Colorado 80209
(303) 825-1802

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"–SCALE ACCORDINGLY)

DRAWING 9191FIG1
DRAWN
DESIGNED
CHECKED

APPROVED:
PRINCIPAL
DATE:

REVISIONS

REV.	DESCRIPTION	BY	DATE	APP.
A				

PROSPER FARMS INVESTMENTS, LLC
PROSPER, COLORADO

PROSPER
WASTEWATER TREATMENT FACILITY

CIVIL

PRELIMINARY SITE LAYOUT

DATE: 12/29/15
PROJECT NUMBER: 50079191
REVISION NO. A
DRAWING NUMBER C-1
SHEET NUMBER

Attachment D

Proposer Water Supply Plan Report

PROSPER, COLORADO

WATER SUPPLY PLAN REPORT

Prepared for

PROSPER FARMS INVESTMENTS, LLC

Prepared by

HRS WATER CONSULTANTS, INC.

04-02.1
January, 2014

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EXECUTIVE SUMMARY

The Prosper project is expected to include approximately 9,000 dwelling units and 8,600,000 square feet of non-residential uses. This water supply plan report for Prosper Farms Investments, LLC ("Prosper") addresses the statutory water supply plan requirements of S.B. 1141 (C.R.S. § 29-20-301, *et. seq.*) and C.R.S. § 30-28-136(h)(I) with respect to the adequacy of the proposed water supply for the Prosper project. Prosper's build-out planning horizon is currently estimated at 30 years. This water supply plan is based on reasonable engineering and hydrogeologic parameters and procedures that are commonly accepted in water court and the water supply industry. Furthermore, the proposed Prosper water supply is customary and reasonable with respect to current Front Range water supply planning. The water supply plan describes Prosper's: (a) annual water demands at build-out, (b) maximum per day water demands at build-out, (c) the project's four sources of water, (d) the adequacy of the water supplies, (e) the variability of the water supplies under various hydrologic conditions, and (f) the project's water conservation plan and demand management measures.

The project's annual water demand is 5,986 acre-feet per year ("af/yr"). The project's four sources of water supply are Denver Basin ground water, renewable surface water, reclaimed wastewater, and lawn irrigation return flow. Denver Basin ground water accounts for 27 percent of the total supply. Prosper has a decree for over 5,400 acre-feet ("af") of Denver Basin ground water underlying the project. Renewable and fully reusable surface water makes up 35 percent of the total supply. Reclaimed wastewater is 32 percent of the total supply. Lawn irrigation return flow is seven percent of the total supply. Specifically, with respect to renewable and fully reusable surface water, this water supply plan proposes a water supply served by Arapahoe County Water & Wastewater Authority ("ACWWA"), although other options are also discussed and available. This water supply plan includes a conditional will-serve letter issued by ACCWA to Prosper.

1.0 Introduction

This water supply plan report has been prepared on behalf of Prosper Farms Investment, LLC, ("Prosper") by HRS Water Consultants, Inc. ("HRS") for the Arapahoe County Public Works and Development Planning Division ("Arapahoe County"). The purpose of this report is to explain Prosper's water supply plan and to demonstrate that it is adequate in accordance with the provisions of Colorado Senate Bill 08-1141 ("S.B. 1141"), C.R.S. § 30-28-136(h)(I), and the Colorado Division of Water Resources Subdivision Water Supply Plan Regulations. The author of this report is Mark R. Palumbo, Principal Hydrologist. The majority of the water conservation discussion in Section 4.4 was provided by Jeff Vogel of Vogel and Associates. Prosper's water attorney, Stephen C. Larson, of Johnson and Repucci LLP, contributed to discussions concerning the proposed renewable surface water supply in Section 4.3.2, and, generally, concerning the requirements of Colorado statutes. Alan Pratt with Dewberry provided information on waste water and water treatment.

S.B. 1141 is incorporated in Colorado Revised Statutes ("C.R.S.") § 29-20-301 through § 29-20-306. The relevant portions of Colorado Division of Water Resources water supply criteria are in C.R.S. § 30-28-136-(1)(h)(I). This report addresses these statutes with respect to Prosper's proposed water supply plan. This report begins with a brief description of the Prosper development and then discusses the Prosper proposed water supply plan with respect to the statutes. Compliance with the specific requirements of S.B. 1141 is also summarized in Appendix A.

2.0 Prosper Development

Prosper is a mixed-use residential and commercial master-planned development that includes an area of approximately 5,130 acres located in Arapahoe County, south of Interstate Highway 70, in the vicinity of Watkins. Figure 1 shows the Prosper development area. Prosper is seeking Arapahoe County zoning approval for 9,000 dwelling units and approximately 8,600,000 square feet of non-residential uses. Prosper's build-out planning horizon is approximately 30 years.

Water and wastewater service to Prosper will be provided through central water and wastewater systems.

3.0 Water Supply Requirements

3.1 S.B. 1141 Statutes C.R.S. § 29-20-304

S.B. 1141 is incorporated in C.R.S. § 29-20-101 through § 29-20-306. A copy of the relevant portions of this statute is included in Appendix B. C.R.S. § 29-20-304(1) includes the water supply requirements. The water supply plan report requirements from C.R.S. § 29-20-304(1) (a-f) are listed below.

(a) An estimate of the water supply requirements for the proposed development through build-out conditions;
(b) A description of the physical source of water supply that will be used to serve the proposed development;
(c) An estimate of the amount of water yield projected from the proposed water supply under various hydrologic conditions;
(d) Water conservation measures, if any, that may be implemented within the development;
(e) Water demand management measures, if any, that may be implemented within the development to account for hydrologic variability; and
(f) Such other information as may be required by the local government.

This report addresses the six S.B. 1141 requirements listed above and demonstrates pursuant to C.R.S. § 29-20-302 and 303 that Prosper's proposed water supply is adequate. With respect to requirement (f) above, Prosper has submitted water supply information to Arapahoe County in Sections 12 of its 1041 submittal. Relevant portions of that information have also been included in this report.

3.2 C.R.S. § 30-28-136

A copy of C.R.S. § 30-28-136 is included as Appendix C. C.R.S. § 30-28-136(1)(h)(I) sets forth the relevant State Engineer's referral and review requirements from county planning. A copy of the State Engineer's Office ("SEO") March 16, 2005 Memorandum concerning the SEO referral process is included as Appendix D. Because the current application before County Planning does not involve a "subdivision" of land pursuant to C.R.S. § 30-28-101(10)(a), the SEO has no statutory responsibility to review this land use application. If a referral to the SEO is made by the County in this *non-subdivision* proceeding, the SEO will perform a *"cursory review and provide only informal comments regarding the proposed water supply."* See SEO Memorandum dated March 16, 2005, Appendix D. Please note that a part of the SEO's statutory responsibility to review land use applications when a subdivision *is* involved, is to address the question of injury to other water rights. Because some of the water rights proposed in this report as the supply for Prosper have not yet been acquired, (i.e. the renewable water supplies), all of the specific decrees for operation of Prosper's water supply system are not yet adjudicated. Only the decree for Prosper's Denver Basin water has been adjudicated. Until all of the specific decrees are adjudicated, it is not possible or necessary to fully address the question of injury to other water rights in the present report. Nevertheless, to the extent feasible at this time, an opinion regarding the question of injury to other water rights is included in this water supply plan report, along with demonstrating the adequacy of the proposed supply.

4.0 S.B. 1141/C.R.S. § 29-20-304 Water Supply Requirements

4.1 An Estimate of the Water Supply Requirements for the Proposed Development through Build-Out Conditions

4.1.1 Average Annual Water Supply Demands

The annual water demands shown on Table 1 are calculated for 9,000 dwelling units and retail, commercial, medical, civic and educational development which equates to 11,847 single family equivalents ("SFE"). The total annual demand is 5,986 af/yr. Of this amount, 2,369 af/yr is

indoor demand and 2,788 af/yr is outdoor irrigation demand. The annual water supply requirements also includes 375 af/yr for reservoir evaporation for a 2,000 af South Platte River reservoir and 306 af/yr for evaporation for an 800 af irrigation reservoir at Prosper, and water and wastewater treatment plant losses. The indoor demand is based on 0.2 af/yr/SFE and the irrigation demand is also based on 0.2 af/yr/SFE. The total annual amount of water per SFE is 0.4 af/yr.

Table 1

Annual Water Supply Requirements

Prosper Water Demands	
Total Annual Indoor Demand	2,369 af/yr
Total Annual Irrigation Demand	2,788 af/yr
Reservoir Evaporation	681 af/yr
Water and Wastewater Treatment Plant Losses	148 af/yr
Total Annual Demand	**5,986 af/yr**
Total Number of SFEs	11,847
Total Dwelling Units	9,000
Indoor Demand	0.2 af/yr/SFE
Irrigation Demand	0.2 af/yr/SFE and 2.25 af/acre
Total Irrigated Acreage – approximate	**1,239 acres**

The 0.4 af/yr/SFE value is reasonable and adequate. As discussed above, this value includes 0.2 af/yr/SFE for indoor use and 0.2 af/yr/SFE for outdoor irrigation. The 0.2 af/yr/SFE value for indoor use and 0.2 af/yr/SFE for outdoor irrigation are supported by several references. Table 3.1 in the Arapahoe County Comprehensive Plan includes total indoor and outdoor use values that range from 0.31 af/yr/SFE to 0.67 af/yr/SFE. The 0.67 af/yr/SFE is from a 1990 *Water Resources Plan for the Arapahoe County Water Study Area.* Data from this study is now 22 years old. The 0.4 af/yr/SFE value used in this study is reasonable when compared to the 0.67 af/yr/SFE when advances in water conservation over the last 22 years are considered. Additionally, data from *Residential End Uses of Water*, (AWWA, 1999) supports the indoor demand of 0.2 af/yr/SFE value. The 2.25 af/yr/acre irrigation application rate value equates to an outdoor irrigation value of 0.2 af/yr/SFE. This value is also supported by AWWA, 1999 and the irrigation conservation measures that are discussed in Section 4.4.

Table 2 provides additional detail on the quantification of the annual potable water demand at build-out. The building square foot areas, the number of building units or students, the number of SFEs, and the annual indoor or outdoor demand is provided for each land use type.

Table 2

Land Use and Potable Water Annual Demand at Build-Out

Land Use	Building Sq. Feet	No. of Units or Students	SFE	Indoor Demand (af/yr)	Outdoor Demand (af/yr)	Annual Demand (af/yr)
Commercial/Retail	2,000,000		600	120	*	120
Mixed Use 1	1,500,000	400	1,050	210	*	210
Mix Use 2	500,000	900	925	185	*	185
Mixed Use Medical/Educational	500,000		250	50	*	50
Employment Industrial/Flex/Office	3,500,000		1,750	350	*	350
High School	220,000	**1,700**	102	20	*	20
K-8 School	380,000	**4,250**	255	51	*	51
Low Density Residential		1,500	1,500	300	300	600
Medium Density Residential		5,100	4,590	918	918	1,836
High Density Residential		1,100	825	165	*	165
Totals	**8,600,000**	**9,000 Units**	**11,847**	**2,369**	**1,218**	**3,587**
Total		**5,950 Students****				

* Reuse or Raw Water Irrigation – See Table 3 for annual amounts.
** Three SFEs are assigned to each 50 students.

Irrigation with potable water is projected for rural residential, medium residential, and a portion of the park irrigation. The potable irrigation demand is 1,218 af/yr or 44 percent of the total irrigation demand of 2,788 af/yr. Table 3 quantifies annual non-potable irrigation at build-out. The non-potable irrigation demand is 1,570 af/yr, or 56 percent of the total irrigation demand. The 1,218 af/yr of potable irrigation demand from Table 2 and the 1,570 af/yr of non-potable irrigation demand from Table 3 equals the 2,788 af/yr of total irrigation demand shown on Table 1. Total irrigated area in these irrigation estimates is approximately 1,239 acres. The potable

irrigation demand of 1,218 af/yr on Table 2 is approximately 541 acres.[1] There are 673 non-potable irrigated acres shown on Table 3.[2]

Table 3

Annual Non-Potable Irrigation Demand at Build-out

Land Use	Irrigated Area (acres)	Annual Irrigation (af/yr)
Commercial/Retail	52	117
Mixed Use 1	37	84
Mixed Use 2	32	71
Mixed Use Medical/Educational	11	24
Employment Industrial/Flex/Office	65	146
School/Parks	65	146
Parks	54	122
High Density Residential	30	68
Waste Water Treatment Plant	3	6
Agriculture	150	338
Open Space and ROW	200	450
Total	**698**	**1,570**

This plan proposes a dual water system whereby non-potable irrigation water will be delivered to the demands listed in Table 3 through an irrigation system that is completely separated from the potable water supply system. According to Colorado's reclaimed water regulations (Department of Public Health and Environment, Water Quality Control Commission, 5 CCR 1002-84 Reclaimed Water Control Regulation), wastewater effluent can be directly reused when treated to a certain standard for industrial water, landscape irrigation in restricted access and non-residential areas, street cleaning, and fire protection. Reclaimed wastewater can also be directly used for landscape irrigation in a resident-control community if it is treated to a higher standard.

[1] 1,218 af/yr/2.25 af/ac = 541 acres/year
[2] 541 acres + 673 acres = 1,214 acres

4.1.2 Maximum Day Water Supply Demands

Prosper's maximum ("max") day water supply demands for potable and non-potable water supplies are listed on Tables 4 and 5, respectively. Table 4 provides the potable max day demands by land use and Table 5 provides the non-potable max day demands by land use.

Table 4

Maximum Day Potable Water Demands

Land Use	Maximum Day Indoor Use Demand (gallons per day)	Maximum Day Irrigation Demand (gallons per day)
Commercial/Retail	192,672	
Mixed Use 1	337,176	
Mix Use 2	247,530	
Mixed Use Medical/Educational	80,280	
Employment Industrial/Flex/Office	561,960	
High School	32,754	
K-8 School	81,886	
Low Density Residential	401,400	1,402,393
Medium Density Residential	1,228,284	4,291,324
High Density Residential	220,770	
Totals (mgd)	**3.38**	**5.69**

The data on Table 4 shows the max day potable irrigation demand for the rural and medium residential development. The total max day potable demand is 9.08 million gallons per day (mgd) (3.38 mgd + 5.69 mgd). The total non-potable max day demand data is shown on Table 5. The total max day non-potable irrigation demand is 3.95 mgd.

Table 5 Maximum Day Non-Potable Water Irrigation Demands	
Land Use	**Maximum Day Irrigation Demand (mgd)**
Commercial/Retail	0.35
Mixed Use -1	0.25
Mixed Use - 2	0.21
Mixed Use Medical/Educational	0.07
Employment Industrial/Flex/Office	0.44
School/Parks	0.44
Parks	0.37
High Density Residential	0.20
Waste Water Treatment Plant	0.02
Agriculture	0.68
Open Space & ROW	0.91
Total	**3.95**

Additional detail on the calculation of these max day demands are included in Appendix E for the potable max day values and in Appendix F for the non-potable max day values.

4.2 A Description of the Physical Source of the Proposed Water Supply That Will be Used to Serve the Proposed Development

The physical sources of Prosper's proposed water supply of 5,986 af/yr are shown on Table 6. The build-out water supply is met with: (a) Denver Basin ground water, (b) renewable surface water, (c) reclaimed wastewater, and (d) lawn irrigation return flow ("LIRF"). S.B. 1141 (C.R.S. § 29-20-302(2)) states that applicant is not required to own or have acquired the proposed water supply or infrastructure that is the subject of its S.B. 1141 water supply report. Nevertheless, Prosper does have a decree for over 5,400 af/yr of nontributary and not nontributary Denver Basin ground water underlying the project. Under this water supply plan, Prosper will use 1,595 af/yr of its nontributary Denver Basin groundwater. This amount represents 27 percent of the total demand for the Prosper development at full build-out and only 49 percent of Prosper's nontributary water (3,250.6 af/yr) available under its decree. Prosper proposes to meet 33 percent of the total supply, or 2,085 af/yr, with renewable surface water.

Table 6 Average Annual Water Supply		
Prosper Water Supply		
	Volume (af/yr)	Percentage
Denver Basin Aquifer Ground Water (nontributary)	1,595	27
Renewable Surface Water	2,085	35
Reclaimed Wastewater	1,913	32
Lawn Irrigation Return Flow	392	7
Total	**5,986**	**100**

Reclaimed water in the form of reclaimed wastewater and LIRF is 39 percent of the total supply. Reclaimed wastewater is 1,913 af/yr and LIRF is 392 af/yr. Nontributary Denver Basin ground water and the renewable surface water are reusable water supplies. The return flow from the application of these waters to indoor and outdoor uses will be diverted, treated, and used as a water supply. Approximately 95 percent of indoor use water and approximately 15 percent of irrigation water will return to the surface water system as return flow and be reused. Current plans call for the diversion of reclaimed wastewater, either through direct non-potable reuse for irrigation, or by indirect reuse through underground storage or as recaptured by Box Elder Creek alluvial wells located in the northeastern portion of the development.

4.2.1 Denver Basin Ground Water

4.2.1.1 Prosper's Decreed Denver Basin Ground Water

Over 5,400 af/yr of Denver Basin ground water beneath the Prosper development lands was decreed to Prosper Farms Investments, LLC, in Division 1 Water Court, Case No. 11CW22. The 5,130 acres of development lands that are the subject of this zoning application are decreed as a well field pursuant to the 11CW22 decree. The decree for 11CW22 is included as Appendix G. Table 7 below is taken from the 11CW22 decree. Table 7 shows the ground water type and the decreed annual withdrawal amounts for each Denver Basin aquifer beneath Prosper.

Table 7 Prosper Farms Contiguous Lands – Summary of Denver Basin Water Underlying Approximately 5,262.2 Acres		
Aquifer	**Ground-Water Type**	**Annual Withdrawal (af/yr)**
Denver	Not Nontributary – Actual	876.0
Denver	Not Nontributary – 4%	1,298.6
Upper Arapahoe	Nontributary	1,314.0
Lower Arapahoe	Nontributary	626.0
Laramie-Fox Hills	Nontributary	1,310.6
Total		**5,425.2**

The well field lands adjudicated in the 11CW22 decree are shown on Figure 1. The land area shaded in purple on Figure 1 is not owned by Prosper and is not a part of the well field included in the 11CW22 decree. The 11CW22 decree includes 3,250.6 af/yr of nontributary ground-water in the Upper Arapahoe, Lower Arapahoe, and Laramie-Fox Hills aquifers. Of this amount, Prosper anticipates that it will only pump a total amount of 1,595 af/yr at full build-out. All of the Denver Basin ground water beneficial uses required for the Prosper development are included in the 11CW22 decree.

4.2.1.2 Adequacy of the Denver Basin Ground Water

Decreed nontributary Denver Basin ground water beneath Prosper totals 3,250.6 af/yr. Under this water supply plan, only 1,595 af/yr of Prosper's 3,250.6 af/yr of nontributary ground water is proposed as a part of the physical water supply for the development. Three hundred six af/yr of Denver Basin ground water is assigned to evaporation from the 80 acre irrigation reservoir located on Prosper. It is anticipated that this water will primarily be withdrawn from the Lower Arapahoe and Laramie-Fox Hills aquifers. The decreed annual appropriation from the Lower Arapahoe and Laramie-Fox Hills aquifers is 1,936.6 af/yr (626 af/yr + 1,310.6 af/yr). It is anticipated that approximately one-third of Prosper's Denver Basin component of its water supply, or 532 af/yr (1,595 af/yr x .3333) will come from the Lower Arapahoe aquifer and approximately two-thirds of the Denver Basin component, or 1,063 af/yr (1,595 af/yr x .6666),

will come from the Laramie-Fox Hills Aquifer. Pumping from the Denver Aquifer (decreed for 2,174.6 af/yr) and Upper Arapahoe aquifer (decreed for 1,314 af/yr) is not included as a primary physical source of water under this plan. Denver and Upper Arapahoe ground water may, however, be used as an auxiliary supply, if needed during extreme drought periods. The proposed annual volume of Denver Basin ground water to be used in this plan is 29 percent of the total volume of Denver Basin water available to Prosper Farms under its decree (1,595 af/yr ÷ 5,425.2 af/yr = 29 percent). The proposed use of 1,595 af/yr of Denver Basin nontributary water is very reasonable and conservative. This amount also demonstrates the dependability and availability of the Denver Basin component of Prosper's proposed water supply, because 1,595 af/yr represents only 29 percent of Prosper's total decreed Denver Basin water; only 49 percent of Prosper's decreed nontributary water; and only 27 percent of Prosper's total supply proposed for the development.

The adequacy of the nontributary component of Prosper's water supply plan under S.B. 1141 is defined in terms of water quantity, quality, dependability and availability. The quantity, dependability and availability elements are met, as discussed above. As for the water quality component, in Phase 1 the Denver Basin ground water will be treated at the well head and if necessary blended to meet all applicable potable water quality standards. After Phase 1 the Denver Basin ground water may be treated by a on-site water treatment facility. The Leonard Rice 2001 report states that, "The water quality of all of the aquifers ranges from good on the west side of the county to fair to poor on the east side. Total dissolved solids, sulfate and hardness increase from west to east across the County." (page 3, Section 1.3). Section 6.0 of the same report includes a water quality analysis for each aquifer. In the Leonard Rice report, the Upper and Lower Arapahoe aquifers are combined as the Arapahoe aquifer. Prosper is located in the west-central portion of Arapahoe County. The Leonard Rice, 2001 report water quality analyses for the Arapahoe and Laramie-Fox Hills aquifers provides some information on water quality with respect to primary drinking water standards. Water quality sample data for some of the primary drinking water standards is provided in the report. This data shows that the Arapahoe and Laramie-Fox Hills ground water meets the reported primary drinking water standards. Arapahoe and Laramie-Fox Hills water quality data is also provided for secondary water quality standards. This data shows that some of the Arapahoe and Laramie-Fox Hills

ground water samples tested exceed some of the secondary water quality standards. As stated above, Lower Arapahoe and Laramie-Fox Hills ground water will be treated in order to provide good quality water to Prosper. Lower Arapahoe water quality is normally better than Laramie-Fox Hills water quality.

Phase 1 of the project will be served with Denver Basin ground water as the supply and a central WWTP. A central water supply treatment plant may be built to serve Prosper after Phase 1. Potential ground water supply treatment for iron and manganese will occur at the well site. Chlorination of the ground water will also occur at the well site. Blending of Lower Arapahoe and Laramie-Fox Hills aquifer ground water may occur.

4.2.2 Renewable Surface Water

4.2.2.1 Renewable Surface Water Supplies and Delivery

Prosper's proposed water supply plan includes 1,903 af/yr of renewable surface water. This volume of water represents 33 percent of Prosper's total water supply at full build-out. Three hundred seventy five af/yr is assigned to evaporation from a 2,000 af raw water reservoir. No portion of the renewable surface water will be needed by the project until approximately ten years after development begins. Currently, the proposed renewable portion of Prosper's water supply for the development is renewable water delivered by ACWWA and the East Cherry Creek Valley Water and Sanitation District (ECCV) pipeline. Prosper is evaluating other renewable supply alternatives, several of which involve participation in the same ECCV pipeline system, under augmentation plans similar to those already approved for or pending for the Barr Lake - ECCV pipeline system discussed below. If Prosper ultimately settles upon a renewable water supply that is other than the renewable components described in this report, Prosper will submit such revisions to the proposed water supply plan for review and consideration by the County.

The ECCV pipeline is located approximately three miles west of Prosper's western boundary. The pipeline's capacity is 47 mgd. Service to Prosper via the ECCV pipeline requires approximately 1,598 af/yr (2,085 af/yr – 375 af/yr – 112 af/yr) of capacity. Prosper's ultimate renewable water max day pipeline demand is 7.9 mgd. ECCV has indicated that 7.9 mgd of

capacity is currently available for acquisition to serve Prosper. Prosper has been in discussions with ACWWA and ECCV concerning, among other things, acquiring the capacity in the ECCV pipeline required to serve Prosper's 1,598 af/yr of renewable water supply; and tying into ECCV's pipeline, with an approximately three-mile pipeline that runs from the ECCV pipeline, east to the Prosper development. These are a part of the discussions that have led to the conditional will-serve letter ACWWA issued to Prosper.

Under the ECCV cases adjudicated to date for utilization of the ECCV pipeline (Case Nos. 02CW403 and 02CW404), the pipeline project is operated under a conventional augmentation plan concept. Simply stated, the Barr Lake alluvial wells pump junior ground water to a treatment plant, where it is treated and subsequently pumped into the ECCV pipeline for delivery south. The junior alluvial well water pumped near Barr Lake is replaced with augmentation water recharged from locations in Beebe Draw and from augmentation water delivered to approximately the confluence of Beebe Draw and the South Platte River. The augmentation plan replacement requirement is 100 percent of the water pumped from the well field, because the water is transported and used out of the basin. The renewable water delivered via the ECCV pipeline is therefore 100 percent reusable.

Currently, the ECCV pipeline system is in operation and is delivering treated water from near Barr Lake, south to the ECCV and ACWWA service areas. There is approximately 10 mgd of capacity at the ECCV treatment plant. Both the Barr Lake well field and the treatment plant would need to be upsized to accommodate Prosper's renewable water needs. Upsizing of these facilities has also been discussed with ACWWA, which believes such upsizing would be a reasonable and feasible condition of ACWWA providing water service to Prosper. Prosper's purchase of renewable surface water from ACWWA, or Prosper's purchase of renewable surface water from third parties for dedication to ACWWA, would be required for ACWWA to provide water service to the development. This has also been discussed with ACWWA and is viewed by ACWWA and Prosper as a reasonable and feasible condition. The conditional will-serve letter issued by ACWWA to Prosper is included as Appendix H to this report.

At these early stages of the Prosper project, the Prosper water development team is diligently working on the acquisition of its proposed renewable augmentation water supplies (which supplies are discussed in further detail below). This work is currently being performed well in advance of the actual need for any renewable supplies (some 10 years from now) because the Prosper water development team understands the time required to: identify, investigate, evaluate, obtain agreements, purchase, and obtain Water Court decrees for the proposed renewable augmentation water. This multi-year process is currently underway and will be completed well before any renewable water is required by the Prosper project.

4.2.2.2 Adequacy of the Renewable Surface Water Supply

Prosper's proposed South Platte River Basin renewable surface water supplies discussed below will be an adequate supply for the 32 percent renewable component of Prosper's water supply plan. Adequacy is defined in terms of water quantity, quality, dependability and availability.

As shown in the water balance calculations (Table 6) 1,913 af/yr of renewable surface water is an adequate quantity of renewable water. As explained above, 1,598 af/yr of renewable surface water may be derived from pumping ACWWA/ECCV wells in the Barr Lake well field, into the ECCV pipeline, delivering that renewable water south to Prosper, and augmenting the well pumping 100 percent with the proposed South Platte River Basin senior water rights discussed in Section 4.3.2 of this report. It will also be possible to develop a South Platte alluvial wellfield. The adequacy of South Platte Basin renewable surface water in terms of quantity, dependability and availability is demonstrated in Section 4.3.2, where the quantity of water under various hydrologic conditions is discussed. In regard to the quality of the proposed renewable component, the South Platte River Basin raw surface water will be treated to potable municipal standards at a water treatment plant before it is delivered to the Prosper project. The initial water quality of the renewable water primarily relates to the required water treatment method. Prosper's water treatment civil engineers will evaluate water treatment alternatives and determine the preferred water treatment method. However, the finished product of the renewable water treatment, regardless of method, will be to meet all applicable potable water standards before the water is delivered to Prosper.

4.2.3 Reclaimed Waste Water

The proposed Prosper water supply includes 1,913 af/yr of reclaimed wastewater. This volume of water represents 32 percent of the project's water supply. Renewable surface water and nontributary Denver Basin ground water are reusable water supplies. Only two percent of nontributary Denver Basin ground water that is produced must be relinquished to the surface water system. The remainder of the nontributary Denver Basin ground water, 98 percent, can be reused to extinction.

Prosper will have an onsite waste water treatment plant ("WWTP") which will treat all return flows accruing from indoor use of Prosper's reusable surface water and reusable Denver Basin supplies.[3] 1,913 af/yr of these treated return flows will then be recaptured and reused by Prosper. Prosper proposes to reuse this water by delivering the reusable wastewater/treated effluent to the Box Elder Creek drainage and/or to alluvial aquifer storage, and recapturing the water with wells located in the northeast portion of the development. Alternatively, Prosper will deliver the treated return flows to a raw water irrigation system. Figure 2 is a map of the subject property, Box Elder Creek, and test holes completed by HRS in the Box Elder Creek alluvium. A detailed discussion of the Box Elder Creek alluvial aquifer is included in Prosper's 1041 submittal in Section 12.d.i and is incorporated herein by reference.

4.2.3.1 Indirect Reuse of Waste Water from the Box Elder Creek Alluvial Aquifer

For the indirect reuse of the indoor-use return flows, Prosper intends to pipe treated wastewater from the Prosper sewer treatment plant discharge to an upgradient location on Box Elder Creek. The wastewater will infiltrate into the Box Elder Creek alluvial aquifer and/or an underground alluvial storage facility. The water would then be diverted from the Box Elder Creek alluvial aquifer through alluvial wells, sub-surface drains, or another diversion system, and may be delivered into Prosper's on-site water treatment plant. In Phase 2 the water supply plan does not

[3] All required details and specifications concerning Prosper's wastewater treatment will be submitted in the context of a separate 1041 permitting process.

contemplate directly treating wastewater to potable standards. Wastewater designated for reuse will either be pumped by exchange from alluvial wells and treated to potable standards (indirect potable reuse) or will be used for irrigation only (direct non-potable reuse). In Phase 2, water will be treated to the appropriate potable standard with appropriated water treatment methodologies. Treatment beyond the conventional approaches of coagulation, sedimentation, filtration and disinfection is not anticipated. Some effluent, approximately 343 af/yr (1,913 af/yr – 1,570 af/yr), may be used as indirect potable supply. This water would come from Box Elder Creek. Recapturing the water via wells located down gradient of the discharge into the Box Elder Creek will be accomplished through a Water Court-approved augmentation plan decree.

The reclaimed water supply is derived from return flows from the first use of reusable water for indoor purposes. 2,369 af/yr is the estimated indoor demand. Indoor use is estimated to be five percent consumptive. Therefore, Prosper anticipates approximately 2,251 af/yr of reusable return flows to be produced from the first use of its 2,369 af/yr reusable indoor-use supplies. From this 2,369 af/yr of return flows, approximately 15 percent is lost during the wastewater treatment process. This leaves 1,913 af/yr available to be recaptured and reused.

4.2.3.2 Direct Reuse of Waste Water for Irrigation

As previously discussed, the non-potable irrigation demand is 1,570 af/yr. Therefore, it is anticipated that a large portion of the reusable waste water supply of 1,913 af/yr will be used in a direct reuse non-potable irrigation system. The direct use of waste water for irrigation is included in Regulation No. 84 of the Colorado Department of Public Health and Environment Water Quality Control Commission. For the direct reuse of the indoor-use return flows, Prosper effluent would be treated to appropriate standards and delivered into the non-potable irrigation system, or, alternatively, delivered from the wastewater treatment plant to storage for subsequent irrigation application. The level of required waste water treatment for direct reuse of waste water for irrigation under Regulation No. 84 is less than the level of waste water treatment required to produce potable water. Under Regulation No. 84 filtration and chlorination is required. A central WWTP will be constructed in Phase 1. The conceptual level master plan for the waste

water system includes 800 af of reuse irrigation storage. The current conceptual plan does not include storage sites outside the Prosper area.

4.2.3.3 Adequacy of the Reclaimed Waste Water Supply

The 1,913 af/yr of reclaimed waste water is derived from the reusable character of nontributary Denver Basin ground water and the reusable surface water components of Prosper's proposed water supply. The 1,913 af/yr quantity is adequate and appropriate, as shown above, based upon return flows arising from use of 2,369 af/yr of indoor-use demand. 1,913 af/yr of reclaimed water is a dependable and available supply because it is based upon the known quantity of reusable supplies applied to indoor use, and reasonable and customary engineering calculations as to the amount of return flows that will arise from the use of the reusable supplies for indoor purposes, as shown above. The quality of the reclaimed water is also adequate, as it will be treated to all water quality standards applicable to its intended uses, as described above. Therefore, the reclaimed water component of Prosper's proposed water supply is adequate in terms of quantity, quality, availability and dependability.

4.2.4 Lawn Irrigation Return Flow

4.2.4.1 Quantification of the Lawn Irrigation Return Flow

Prosper's proposed water supply includes 392 af/yr of lawn irrigation return flow ("LIRF"), which is seven percent of the total annual water supply. LIRF is derived from reusable water sources that are applied to irrigation (whereas, as explained above, Prosper's reclaimed water is derived from reusable water sources that are applied to indoor uses). LIRF will be quantified and approved for re-use by Water Court decree once a hydraulic connection is established between irrigated areas and nearby surface water drainages where the water discharges, and after analyses have been performed to quantify the volume and timing of LIRF to surface water drainages. The total volume of LIRF water will be available to Prosper's water supply after the project is built out. The water can be diverted or exchanged to meet Prosper's demands. Diversion of LIRF from a surface drainage typically includes the pumping of alluvial ground water through alluvial wells. LIRF is then pumped to water treatment and or storage via

pipelines. LIRF diversion wells or other alluvial diversion structures in Coyote Creek are likely. Typically, LIRF can be adjudicated approximately five years after lawn irrigation water is first applied. Therefore, LIRF will be adjudicated as development and irrigation proceeds towards build-out. Until the entire volume of LIRF credit can be claimed, it may be necessary to produce an additional amount of Denver Basin ground water.

4.2.4.2 Adequacy of the Lawn Irrigation Return Flow Supply

LIRF is an adequate source of water. It is included in the water supplies of most Front Range water providers whose water supplies include reusable water. The Prosper LIRF volume of 392 af/yr is based on an estimated LIRF percentage of 15 percent of the water applied to irrigation. Per Section 4.1.1 above, 2,788 af/yr of Prosper's total water demands are attributable to Prosper's irrigation demands. Thus, 2,788 x .15 = 418 af/yr of LIRF. Prosper deducts from this amount the two percent relinquishment associated with use of 1,289 af/yr nontributary water, leaving 392 af/yr LIRF. The LIRF percentage of 15 percent is based on a 13 percent deep percolation value and a two percent surface runoff value. The actual LIRF percentage will be determined based on Prosper's actual lawn irrigation application data and Water Court decree. If the actual volume of LIRF is less than 392 af/yr, additional renewable surface water will be purchased or more nontributary Denver Basin ground water could be produced.

The 392 af/yr quantity of LIRF is appropriate as shown above, based on reasonable engineering principles and the return flows arising from use of 2,788 af/yr of reusable supplies applied to irrigation, as calculated above. The 392 af of LIRF will be recaptured and reused in Prosper's potable or non-potable water systems, and treated to all standards applicable to the intended reuse. The 392 af/yr of LIRF is a dependable and available supply, because it is based upon the known quantity of reusable supplies applied to irrigation use, and reasonable and customary engineering calculations as to the amount of return flows that will arise from the first use of the reusable supplies for irrigation purposes, as shown above. Therefore, the LIRF component of Prosper's proposed water supply is adequate in terms of quantity, quality, availability and dependability.

4.3 An Estimate of the Amount of Water Yield Projected from the Proposed Water Supply Under Various Hydrologic Conditions

4.3.1 Denver Basin Ground Water and Reclaimed Wastewater

Varying hydrologic conditions will not affect Prosper's Denver Basin ground water supply. Under Prosper's proposed water supply plan, the Denver Basin demand at build-out is 1,289 af/yr (1,595 af/yr – 306 af/yr[4]). This amount of water will be available from Prosper's decreed 5,425 acre-feet of Denver Basin ground water underlying the project under all hydrologic conditions. The total amount of reclaimed wastewater at build-out is 1,913 af/yr. Of this amount, 854 af/yr[5] is reclaimed Denver Basin ground water. This volume of reclaimed wastewater will also be available under all hydrologic conditions. Therefore, at full build-out, a total of 2,143 af/yr (1,289 af/yr + 854 af/yr) of Prosper's proposed water supply is available under all hydrologic conditions.

4.3.2 Renewable Surface Water and Reclaimed Wastewater

A number of senior South Platte River Basin water rights have already been approved as augmentation sources for operation of the ECCV pipeline and augmentation plan to replace stream depletions arising from the Barr Lake well field. The following supplies, among others, have been approved as augmentation sources for the pipeline and ECCV well field pumping, in the following cases:

1. Case No. 02CW403, FRICO Burlington /Barr Lake Divisions
2. Case No. 02CW403, Burlington Ditch & Reservoir Co
3. Case No. 02CW404, Lower Latham Ditch & Reservoir Co.

A number of senior water rights are currently pending in Division 1 Water Court as proposed augmentation sources for operation of the ECCV pipeline and augmentation plan to replace stream depletions from the Barr Lake well field pumping, including:

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[4] 306 af/yr is for non-potable reservoir evaporation. Six af/yr of 306 af/yr is for two percent nontributary relinquishment.

[5] ((1,289 af/yr ÷ (1,289 af/yr + 1,598 af/yr)) x 1,913 af/yr) = 854

1. Case No. 10CW313, Fulton Ditch Company
2. Case No. 06CW40, Greeley Irrigation Company (Greeley Canal No. 3)
3. Case No. 12CW73, Farmers Independent Ditch

A number of other senior water rights have been identified in the ECCV-project decrees as additional sources of augmentation to be added to the system, including the Whitney Irrigating Ditch Company.

Generally speaking, many senior ditch rights that are deliverable to approximately the confluence of Beebe Draw and the South Platte River, along with recharge accretions within Beebe Draw, would replace depletions accruing from the Barr Lake well field in time, location and amount, so as to prevent injury to other water rights. Prosper has not yet acquired the senior augmentation water rights needed to be dedicated to or purchased from ACWWA in order to receive water service from ACWWA via the ECCV pipeline, although such water rights as those described above are generally available for acquisition.

In fact, the following water rights would, in our opinion, be particularly suitable for purchase from or dedication to ACWWA in exchange for water service to the Prosper development via the ECCV pipeline, because there are (a) decreed or pending Water Court cases for approved use of these specific water rights in the ECCV pipeline system augmentation plan, and/or (b) established Water Court precedent quantifying the historical consumptive use of these specific water rights:

- Fulton Ditch Company
- Lower Latham Ditch & Reservoir Co.
- Whitney Irrigating Ditch Company
- Greeley Irrigation Company (Greeley Canal No. 3).

Accordingly, Prosper is at this time proposing a combination of the four senior rights listed immediately above, to be used as augmentation sources for the renewable component of Prosper's water supply proposed to be delivered by ACWWA. The average annual yield, on a per-share basis, which is projected to be derived from these sources under various hydrologic conditions has been determined by prior decrees of the Division 1 Water Court and is expressed as the decreed historic consumptive use/average annual historic net depletion associated with these water rights. Below is a summary of the relevant average annual historic net depletion findings, and other factors determining the average annual yield, decreed for each of the above-four proposed water rights.

- <u>Fulton Ditch Company</u>

  The Fulton Ditch is a senior water right (adjudication date of April 28, 1883), which will be legally available for diversion even under drought conditions. The Fulton Ditch diverts from the South Platte River near the Interstate Highway I-76 and Colorado Highway 85 interchange. Fulton Ditch shares have been changed in several previous Water Court cases. A Fulton Ditch report prepared for the City of Brighton in pending Case No. 04CW174 by Leonard Rice Engineering, Inc. ("LRE") includes data of five previous Fulton Ditch transfer cases: City of Brighton Case No. 2000CW202, South Adams County Water and Sanitation District Case No. 2001CW258, Central Colorado Water Conservancy District Case No. 2001CW264, Cannon Water, LLP Case No. 2003CW084 and City of Fort Lupton Case No. 2003CW119. The average annual historic net depletions in these five cases range from 0.97 to 2.19 af/share/year. The LRE report in Case No. 04CW174 calculates an average annual historic net depletion value of 1.71 af/share/year.

- Lower Latham Ditch & Reservoir Co.

  The Lower Latham Ditch is a senior water right (adjudication date of April 28, 1883), which will be legally available for diversion even under drought conditions. The Lower Latham Ditch diverts from the South Platte River near Evans, Colorado. Lower Latham Ditch & Reservoir Co. shares have been changed in Case No. 88CW264(B). The applicant in Case No. 88CW264 (B) was the National Hog Farm. Six shares were changed in 88CW264(B). The average annual historic stream depletion in 88CW264(B) was 126.7 af/share/year based on a maximum 20-year running average value. These same six Lower Latham shares were recently included in Case Nos. 02CW404/03CW442 by: Farmers Reservoir and Irrigation Company ("FRICO"), Sand Hills Metropolitan District, United Water and Sanitation District and ECCV. The 02CW404/03CW442 case relied on the previously-decreed 88CW264(B) stream depletion value of 126.7 af/share.

- Whitney Irrigating Ditch Company.

  The Whitney Ditch is a senior water right (adjudication date of April 11, 1882), which will be legally available for diversion even under drought conditions. The Whitney Ditch diverts from the Cache la Poudre River, which is tributary to the South Platte River. The Whitney Ditch headgate is located west-southwest of Windsor, Colorado. There are three Whitney Ditch change of use cases. Case No. 02CW390 by Trollco, Inc. changed 40 ditch shares. The average annual historic stream depletion was 14.4 af/share/year. Case No. 02CW331 by Roberts changed eight ditch shares. The average annual historic stream depletion was 16.3 af/share/year. Case No. 08CW65 by the Great Western Development Company and Poudre Tech Metropolitan District completed a ditch wide analysis. The results of this analysis resulted in an average annual historic stream depletion of 13.69 af/share/year, which will likely be applied to all future Whitney Ditch change cases.

- Greeley Irrigation Company (Greeley Canal No. 3).

  The Greeley Canal No. 3 is a senior water right (adjudication date of April 11, 1882), which will be legally available for diversion even under drought conditions. The Greeley Canal No. 3 is part of Greeley Irrigation Company. The Greeley No. 3 Ditch diverts from the Cache la Poudre River approximately two miles west of Greeley, Colorado. Case No. 96CW658 by the Poudre Prairie Mutual Reservoir and Irrigation Company completed a transfer of 67.75 shares of the Greeley Irrigation Company. The average annual historic stream depletion in this case was 10.31 af/share/year.

In accordance with the decreed average annual yields of these proposed renewable water rights, 1,903 af/yr of consumptive use water as derived from these water rights may feasibly be obtained either by ACWWA and sold to Prosper, or obtained by Prosper and dedicated to ACWWA, in order to fully augment the renewable water component proposed to be delivered to Prosper via the ECCV pipeline project.

The Prosper water development team will also acquire above-ground storage or Denver Basin aquifer storage for the renewable South Platte River Basin water, either independently or through the proposed water provider ACWWA, as necessary in order to firm up the yield of the proposed Prosper renewable water supply. Thus, the supply will be able to meet augmentation requirements from storage, even under extreme drought conditions, and even if the proposed senior supplies may be out of priority. The storage will also be needed to meet winter return flow obligations associated with the changed water rights.

The total amount of reclaimed wastewater at build-out is 1,913 af/yr. Of this amount 1,059 af/yr[6] is reclaimed renewable surface water. This volume of reclaimed wastewater will be available, as is the renewable surface water. Therefore, at full build-out, a total of 2,657 af/yr (1,598 af/yr + 1,059 af/yr) is expected to be available under all but the most severe drought hydrologic conditions. In such severe drought conditions, the renewable water is still expected to be available as a result of storage as described above.

[6] ((1,598 af/yr ÷ (1,289 af/yr + 1,598 af/yr)) x 1,913 af/yr) = 1,059 af/yr

4.3.3 Lawn Irrigation Return Flow

Under Prosper's proposed water supply plan, at full build-out the volume of LIRF is expected to be 392 af/yr. In severe drought years, if watering restrictions are imposed, irrigation restrictions would result in smaller LIRF volumes in subsequent months or years according to the delayed LIRF accretion timing. Several factors including the severity of the drought and the schedule and duration of irrigation restrictions would affect subsequent LIRF volumes. We expect any lost LIRF volumes arising under irrigation restrictions to be more than offset by the water savings realized as a result of the watering restrictions themselves. In any event, Prosper intends to acquire renewable supply in sufficient volumes to make up for any reduced LIRF supplies experienced as a result of drought conditions or any reduced LIRF supplies that are available prior to full build-out; and, otherwise, as necessary for storage purposes to firm up Prosper's renewable supplies as described above.

4.4 Water Conservation Measures, if any, that may be Implemented within the Development

The above analysis of water demands and Prosper's proposed water supply to meet those demands does not include all possible conservation measures and, therefore, the adequacy of Prosper's proposed water supply is not dependent at this time on conservation measures. The 0.4 af/SFE value may be reduced with additional conservation. Prosper intends to establish a comprehensive water conservation plan that utilizes the latest technologies and methods for efficient utilization and conservation of water. This comprehensive water conservation plan will be implemented in the initial and subsequent phases of the project. The conservation plan will include and incorporate strategies for implementation, monitoring, and evaluation of consumption as required to achieve water efficiency and conservation goals that are to be established for each project within Prosper. This approach will incorporate conservation strategies at a macro and micro level with minimal resident behavioral change required to meet conservation goals. The water conservation plan will be updated over time as new technology and concepts become available. Specific conservation measures for each component of Prosper will be established prior to final plat of such development. To the extent such conservation plans

may alter the demand and proposed supply analysis discussed above, Prosper will update that analysis.

4.4.1 Indoor Water Conservation

Prosper shall include a water conservation plan that requires residential and non-residential structures to incorporate the latest technologies and methods for conserving water. This plan may include a dual metering or other technology monitoring system to determine indoor and outdoor water use. Water efficient technologies will include but not be limited to instantaneous hot water systems and high-efficiency dishwashers. Low-flow water fixtures including toilets and shower heads will be required for each structure constructed within Prosper.

4.4.2 Outdoor Water Conservation

Outdoor water use occurs primarily during the growing season months for irrigation purposes and can account for approximately 50 percent or more of a single-family home's total yearly water consumption. Outdoor water consumption can vary depending on home site size, seasonal climate, and soil conditions. The landscape concept incorporated within each component of the master plan can also significantly impact the amount of water used for irrigation. Irrigation and storm drainage design and configuration can also significantly minimize the amount of water utilized for outdoor use.

The Prosper master plan addresses outdoor water conservation on a macro level by preserving large contiguous areas of open space that is to remain as non-irrigated agricultural land, prairie or riparian corridors. Irrigated open space areas will be restricted to high intensity recreation and pedestrian zones.

Waterwise landscapes that utilize low water-use plants and turf blends will be required for all residential and non-residential projects within Prosper. The use of turf will be reviewed and limited to areas that have higher intensity of use with regards to recreation and pedestrian activity.

Water efficient irrigation systems that include but are not limited to drip and sub-surface drip will be required. Other strategies will include applying the appropriate soil amendments required to retain moisture. On-site drainage plans can also be designed to direct storm water to landscape beds providing supplemental moisture and reducing infrastructure requirements.

4.4.3 Waterwise Certification

Prosper will implement a waterwise certification program for all residential and non-residential products to minimize indoor and outdoor water use. High-efficiency fixtures and appliances will be required for each project within Prosper. The high-efficiency components will include model specifications for all residential toilets, washing machines, dishwashers, kitchen and bath faucets, and showerheads. Commercial installation equipment will also have to include high-efficiency standards as determined for each project. Prosper will contract with respective builders and developers to ensure that the certification program is implemented as each phase of the project is implemented. Builders will be required to achieve minimum efficiency standards that are to be prescribed for specific uses and associated outdoor uses.

4.4.4 Monitoring and Evaluation

The Prosper Water Conservation Plan will include a monitoring and evaluation program. Technology and staff will be utilized to evaluate indoor and outdoor water consumption to ensure efficiency objectives are being achieved. This program will include making required recommendations and revisions to increase efficiency and conservation for specific applications.

4.5 Water Demand Management Measures, if any, that may be Implemented within the Development to Account for Hydrologic Variability

Outdoor watering demand management will be implemented during drought periods to reduce irrigation demand. Outdoor watering demand management could include limiting the number of irrigation days, the time of day when irrigation can occur, and the duration of the irrigation periods. The familiar diamond, circle, square method of limiting the number of residential irrigation days during the week could be implemented.

4.6 Other Information as may be Required by the Local Government

4.6.1 Prosper's Arapahoe County 1041 Submittal

The Prosper project team headed by Vogel and Associates has submitted a 1041 project report to Arapahoe County according to Arapahoe County'1041 regulations.

5.0 C.R.S. § 30-28-136 Water Supply Requirements

Under C.R.S § 30-28-136, counties are required to refer to the SEO the water supply plan included in any land use application that involves a "subdivision" of land pursuant to C.R.S. § 30-28-101(10)(a); and the SEO is required to respond to such referrals by evaluating the proposed water supply with respect to its adequacy and potential for injury to other water rights. The current application before the Planning Department does not involve a subdivision of land pursuant to C.R.S. § 30-28-101(10)(a). Accordingly, the County is not required to refer this application to the SEO and the SEO is not required to, and will not, render an evaluation of the proposed water supply. If the County nevertheless elects to refer this non-Subdivision application to the SEO, the SEO will provide a "cursory" review and "informal" comments only. *See* SEO March 16, 2005 Memorandum, Appendix D, Page 2. Moreover, through our discussions with the SEO we understand that the SEO will not render an affirmative opinion of water supply plan adequacy and non-injury until the applicant has obtained all of the Water Court decrees required by the proposed water supply plan. The SEO will not state that the proposed water supply plan is adequate and non-injurious to other water rights until all decrees are final and the decrees find the plan to be non-injurious.

This water supply plan report explains Prosper's proposed water supply at full build-out, which is anticipated to take place over a 30 year time period. Consequently, this proposed water supply will be implemented according to Prosper's development schedule and the timing of zoning approvals obtained from Arapahoe County. Water Court decrees will be obtained months in advance of the time any water from those decrees is needed in order to meet any project

demands. The Prosper water supply development team understands that this approach will not allow the SEO to conclude that the water supply plan is adequate and non-injurious at this time, should the County elect to make an informational referral of the plan to the SEO during this non-subdivision land use proceeding. A finding of adequacy and non-injury by the SEO will, however, be made at the appropriate time. In the meantime, the Prosper water supply development team will continue in dialogue with the Arapahoe County Planning Department as the water rights for its proposed water supply are acquired by Prosper, water court filings are made in regard to the acquired water supplies, and the proposed supplies are implemented more specifically into the water plan. Prosper will continue to explain and update its adequate and non-injurious water supply plan to the County as necessary. Prosper's water supply development team also looks forward to working with the Arapahoe County Planning Department to develop the appropriate zoning approval conditions with respect to Prosper's proposed water supply plan.

5.1 Adequacy

Discussions of water supply plan adequacy are included in Section 4.2 of this report.

5.2 Non-Injury

5.2.1 Lower Arapahoe and Laramie-Fox Hills Aquifers

Pumping from the Lower Arapahoe and Laramie-Fox Hills aquifers will not result in injury to other Lower Arapahoe and Laramie-Fox Hills wells, or wells completed in the other Denver Basin aquifers. Lower Arapahoe and undifferentiated Arapahoe aquifer well information is included on Table 8 and Figure 3. Laramie-Fox Hills aquifer well information is included on Table 9 and Figure 4. The tabulated well information includes: a counter that locates the well on its respective figure, the well owner's name, the well permit number, the Water Court case number, the county in which the well is located, well location data, the well use, the annual appropriation, the date the well permit was issued, the well depth, the depth to the well's top perforation, the depth to the well's bottom perforation, the well's permitted pumping rate, and the well's recorded depth to ground water. As shown on Figures 3 and 4, there are no Lower Arapahoe, Arapahoe, or Laramie-Fox Hills wells located near Prosper's boundary.

Due to the separating clay and shale layers between all of the Denver Basin aquifers, the Denver and Upper Arapahoe aquifers will not be affected by pumping from the Lower Arapahoe and Laramie-Fox Hills aquifers. The Lower Arapahoe aquifer is below the Upper Arapahoe aquifer. The base of the Lower Arapahoe aquifer ranges from approximately 1,300 feet on the east side of Prosper to approximately 1,500 feet below ground level on the west side of Prosper. The Laramie-Fox Hills aquifer lies below the Laramie Formation which lies below the Lower Arapahoe aquifer. The Laramie Formation, which is not an aquifer, is approximately 300 feet thick beneath Prosper. The base of the Laramie-Fox Hills aquifer ranges from approximately 1,800 feet on the east to approximately 2,100 feet below ground level on the west side of the project area.

5.2.2 Renewable, Reclaimed, and Lawn Irrigation Return Flow Water

Water rights decrees will be obtained changing Prosper's proposed renewable supplies for municipal purposes and pursuant to court-approved augmentation plans, once the proposed renewable supplies are acquired. Water Court decrees will also be obtained that will quantify and permit recapture of the LIRF water, once operations are sufficiently developed to quantify the timing and location of the LIRF accruals. Water Court decrees will include the right to reclaim wastewater return flows from the first use and subsequent uses of renewable surface water and LIRF, in addition to Denver Basin ground water. Each of Prosper's water rights decrees will include the necessary terms and conditions for the prevention of injury to other water rights.

6.0 Conclusion

The Prosper project is expected to include approximately 9,000 dwelling units and 8,600,000 square feet of non-residential uses. Prosper's build-out planning horizon is approximately 30 years. This water supply plan report for Prosper Farms Investment, LLC has addressed the statutory water supply plan requirements of S.B. 1141 and C.R.S. § 30-28-136(h)(I) with respect to the Prosper project. The Prosper water supply plan is based on reasonable engineering and hydrogeologic parameters and procedures that are commonly-accepted in Water Court and the water supply industry. Furthermore, the Prosper water supply is customary and reasonable with respect to current Front Range water supply planning. This water supply plan describes Prosper's: annual water demands at build-out, max day water demands at build-out, the projects four sources of water, demonstrates the adequacy of the water supplies, the variability of the water supplies under various hydrologic conditions, the project's water conservation plan and demand management measures. Specifically, with respect to renewable surface water, this water supply plan includes a conditional will-serve letter from ACWWA. C.R.S. § 30-28-136(h)(I) does not require Prosper to own all of its proposed water supplies at this time. Because Prosper does not own all of the proposed water supplies (namely the renewable component) at this time, Prosper has yet to obtain all of the necessary Water Court decrees for this 30 year project at this time. Prosper does own and has a decree for over 5,400 af/yr of Denver Basin water underlying the project; and will obtain all of the remaining necessary renewable water and associated Water Court decrees months before any of the water included in those additional decrees is needed by the development. This commitment is demonstrated in part through Prosper's advance water planning as evidenced by this report; by Prosper's adjudication of its Denver Basin well field and ground water decree entered on December 14, 2011; and by the advance work Prosper has done with ACWWA to secure a conditional will-serve letter prior to and as a part of the current non-subdivision zoning application. Prosper understands that subsequent project land use approvals in the subdivision stages will be tied to acquiring the balance of its proposed water supply, which is the renewable component discussed in this report.

7.0 REFERENCES

American Water Works Association Research Foundation, 1999, *Residential End Uses of Water.*

Arapahoe County Comprehensive Plan, Adopted June 19, 2011, Revised January 15, 2002.

Colorado Division of Water Resources water well database.

Colorado Revised Statutes § 29-20-310 through 29-20-306.

Colorado Revised Statutes § 30-28-136-(1)(h)(I-II).

HRS Water Consultants, Inc., 2012, Prosper Farms Investments, LLC 1041 Submittals to Arapahoe County.

Leonard Rice Consulting Water Engineers, Inc., March 2001, Water Resource Study for Eastern Arapahoe County, Project No. 1059APR01, Appendix G of the Arapahoe County Comprehensive Plan Revised January 15, 2002.

TABLES

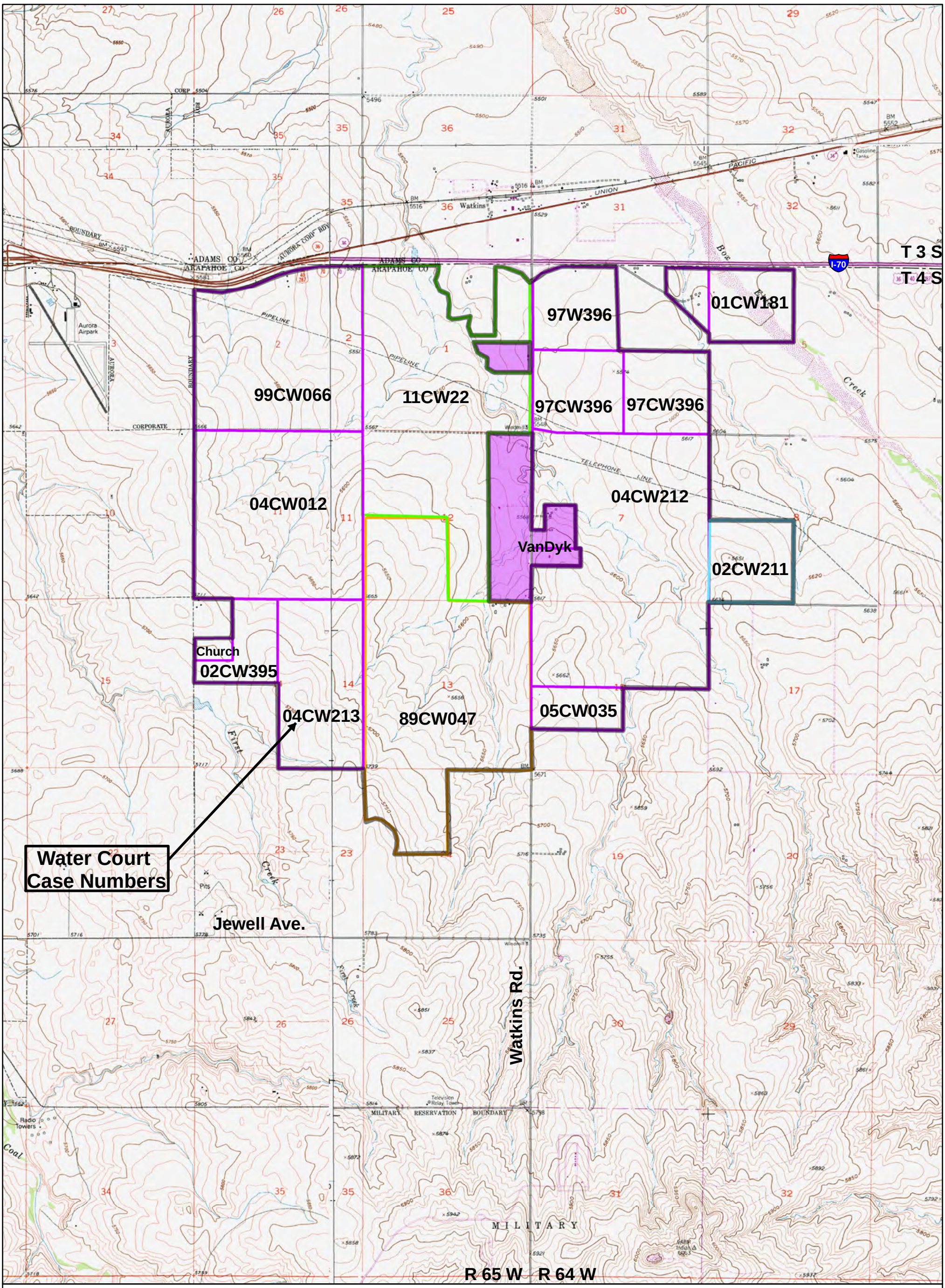
Table 8 - Lower Arapahoe Well Data

Counter	Full Name	Permit No.	Case No.	County	pm	ts	tdir	rng	rdir	sec	q160	q40	coordsns	coordsns_d	coordsew	coordsew_d	UTM_x	UTM_y	Use	Aquifer	Annual Appr (AF)	Date Permit Issued	Date Well Const	Well Depth	tperf	bperf	Pump Rate	Static Wat
1	AMOCO PRODUCT CO	16819 F		ADAMS	S	3	S	65	W	32	SE	NE	2300	S	740	E	527337.60	4399664.90	COMMERCIAL	DENVER-ARAPAHOE	16.0			1060	0	0	20	430
2	AURORA CITY OF	25649 FR	80CW0238	ADAMS	S	3	S	64	W	21	NW	SW	1340	N	1300	W	537698.50	4403328.80	INDUSTRIAL, MUNICIPAL	ARAPAHOE	65.0	5/9/2002	6/13/2002	1208	0	0	177	282
3	AURORA CITY OF	58585 F		ADAMS	S	3	S	65	W	32	SE	NE	1563	S	142	E	527520.80	4399440.40	INDUSTRIAL, MUNICIPAL	LOWER ARAPAHOE	72.0	11/1/2002	7/15/2002	1386	0	0	106	569
4	HILL R	117802		ARAPAHOE	S	4	S	64	W	16	SE	SE	0		0		538712.70	4394252.10	DOMESTIC	ARAPAHOE	1.5	1/9/1981		0	0	0	0	0
5	KISSLER DANIEL M	118529		ARAPAHOE	S	4	S	64	W	10	NW	SW	2468	N	792	W	539171.80	4396512.70	DOMESTIC, STOCK	ARAPAHOE	1.0			0	0	0	0	0
6	PRAIRIE VIEW PROPERTY OWNERS ASSOC	26666 F	83CW0164	ADAMS	S	3	S	64	W	30	SE	SE	56	S	1132	E	535343.80	4400559.80	ALL BENEFICIAL USES	ARAPAHOE	149.9	7/19/1984	9/14/1983	1200	625	730	250	228
7	PRAIRIE VIEW PROPERTY OWNERS ASSOC	28638 F	83CW0164	ADAMS	S	3	S	64	W	30	SE	SE	56	S	1132	E	535343.80	4400559.80	MUNICIPAL	ARAPAHOE	32.1	6/27/1985	9/14/1983	1200	625	730	250	228
8	YOUNGBERG C.D.	28487 F		ARAPAHOE	S	4	S	64	W	11	NW	SE	2130	N	1980	W	541114.40	4396636.60	IRRIGATION	ARAPAHOE	16.9	6/3/1985	6/28/1986	0	0	0	110	312

Table 9 - Laramie Fox Hills Well Data

Counter	Full Name	Permit No.	Case No.	County	pm	ts	tdir	rng	rdir	sec	q160	q40	coordsns	coordsns_d	coordsew	coordsew_d	UTM_x	UTM_y	Use	Aquifer	Annual Appr (AF)	Date Permit Issued	Date Well Const	Well Depth	tperf	bperf	Pump Rate	Static Wat
1	AURORA CITY OF	58584 F		ADAMS	S	3	S	65	W	32	SE	NE	1513	S	146	E	527519.70	4399425.40	ALL BENEFICIAL USES	LARAMIE FOX HILLS	55.0	11/1/2002	7/26/2002	1988	0	0	180	745
2	FOXRIDGE MOBILE HOME	15955 FR		ARAPAHOE	S	4	S	65	W	4	NW	NW	0		0		527766.10	4398763.90	MUNICIPAL	LARAMIE FOX HILLS	100.0	3/21/1986	4/27/1986	2007	0	0	143	793
3	HARVEST GROUP LTD	15956 F		ARAPAHOE	S	4	S	65	W	4	NW	NE	225	N	2530	W	528337.10	4398896.90	MUNICIPAL	LARAMIE-FOX HILLS	200.0			1950	0	0	160	0
4	HARVEST GROUP LTD	15955 F		ARAPAHOE	S	4	S	65	W	4	NW	NW	225	N	140	W	527608.60	4398895.90	MUNICIPAL	LARAMIE-FOX HILLS	200.0			2102	0	0	160	0

FIGURES



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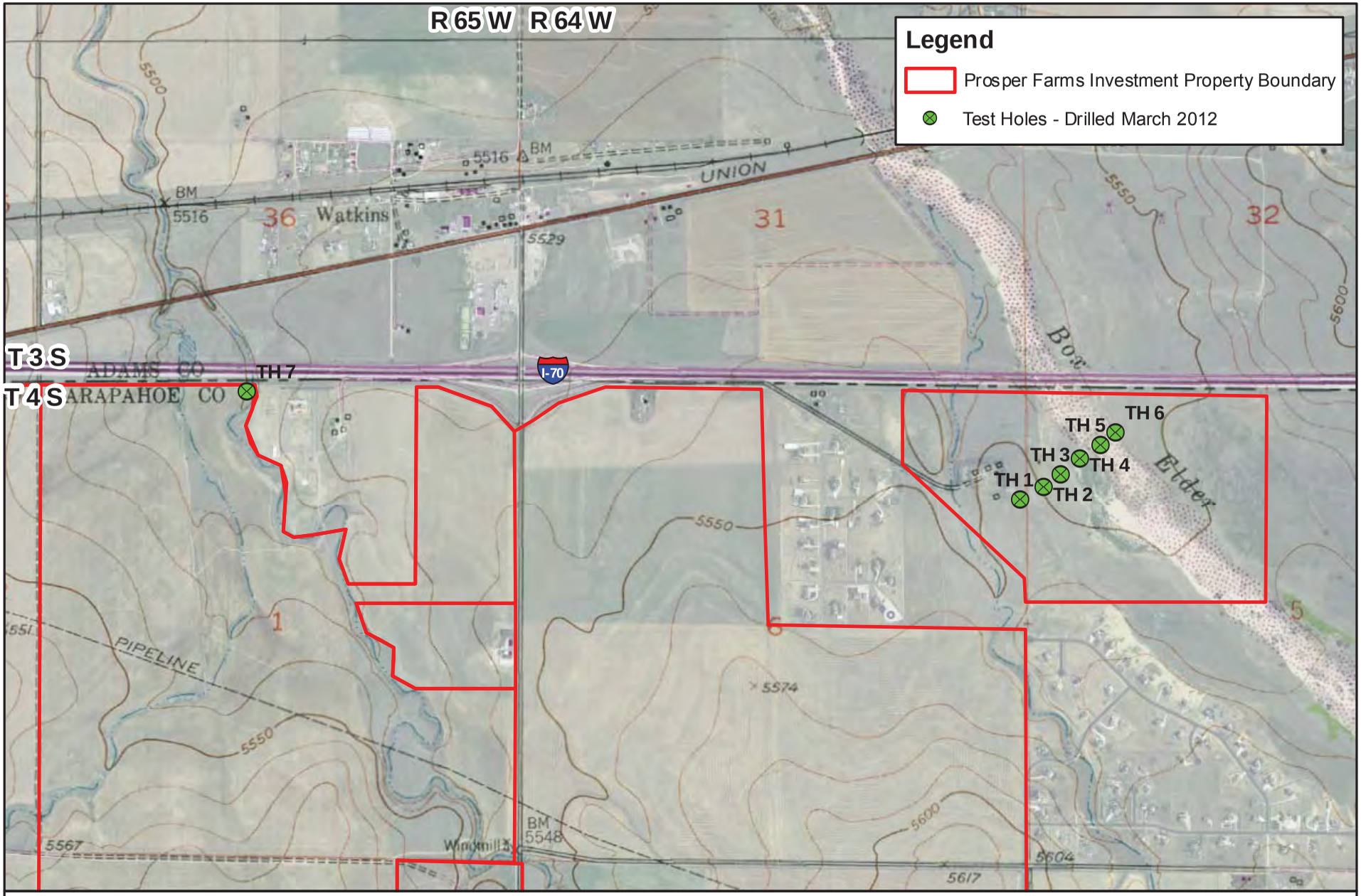
Prosper Farms Investments, LLC

Figure 1
Prosper Farms Investments, LLC - Watkins Area Land

HRS WATER CONSULTANTS, INC.

June 2013	Job No. 04-02	FurnitureRow1.mxd



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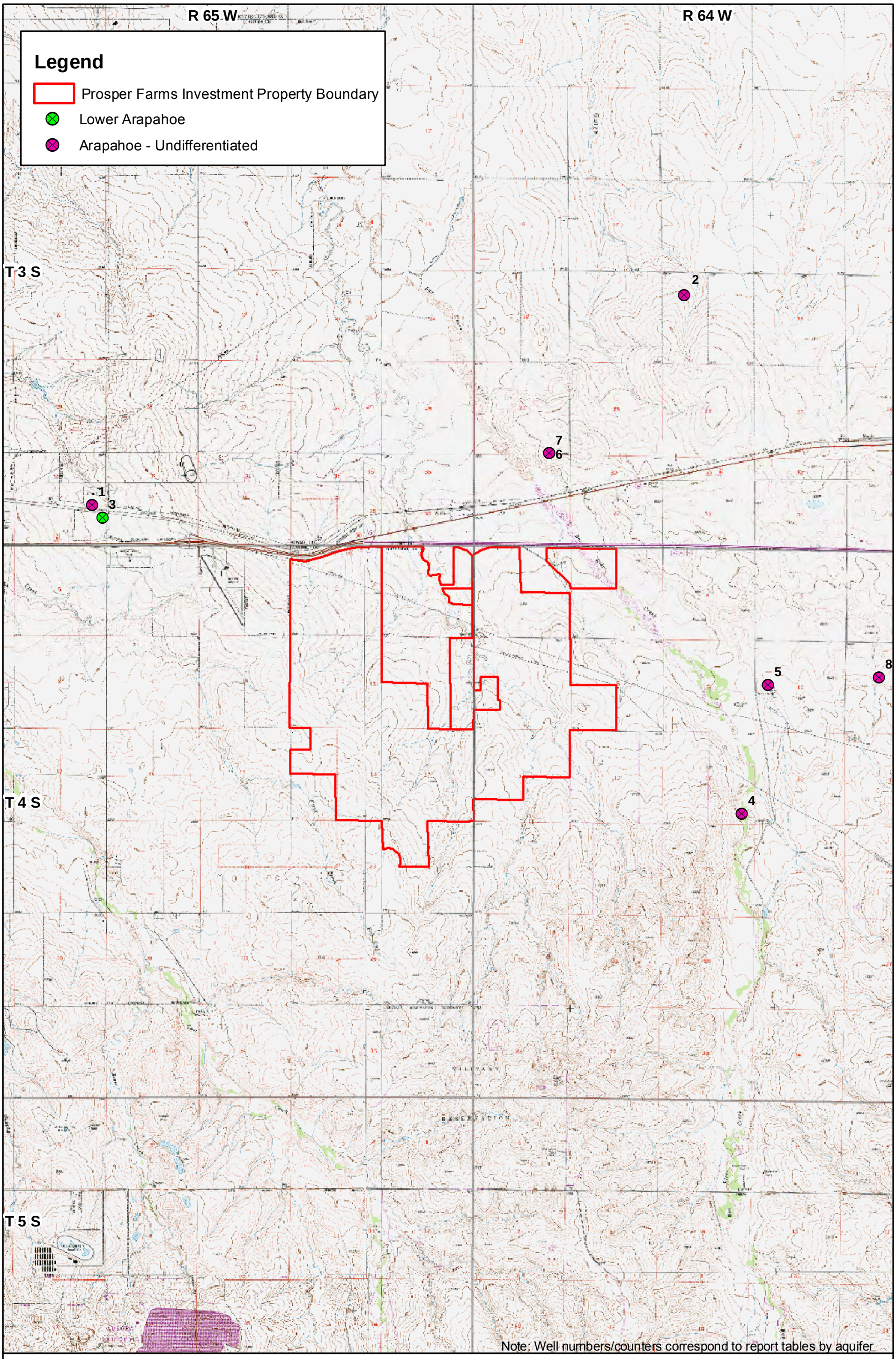
Prosper Farms Investments, LLC

Figure 2 - Prosper Farms Box Elder Creek Investigation

HRS WATER CONSULTANTS, INC.

September 2012	Job No. 04-02.1	FurnitureRow_THs.mxd



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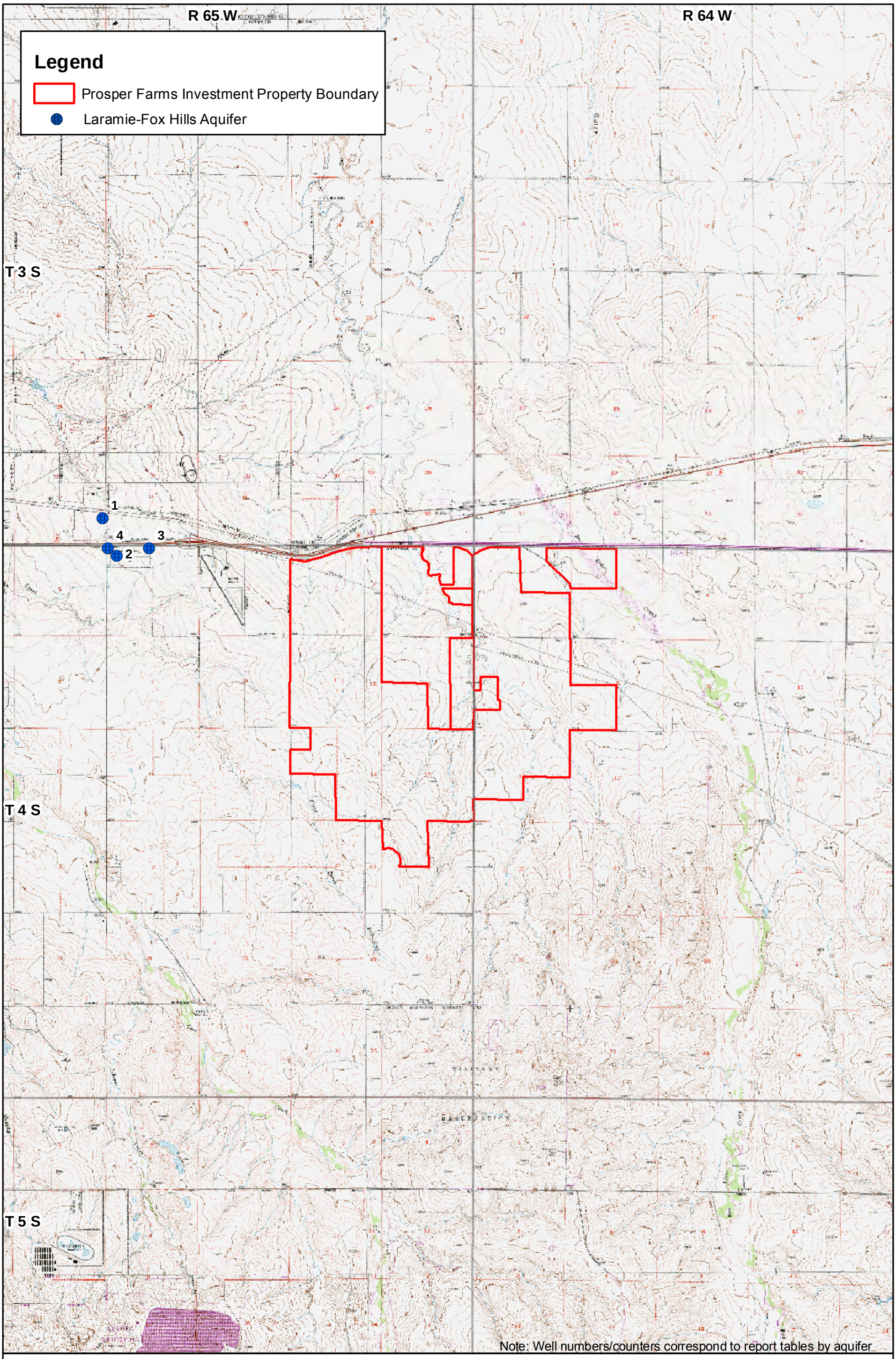
Prosper Farms Investments, LLC

Figure 3 - Arapahoe Aquifer Wells

HRS WATER CONSULTANTS, INC.

Sept 2012	Job No. 04-02	FurnitureRow_Arap2.mxd



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Prosper Farms Investments, LLC

Figure 4 - Laramie-Fox Hills Aquifer Wells

HRS WATER CONSULTANTS, INC.

September 2012	Job No. 04-02	FurnitureRow_LFH.mxd

APPENDICES

APPENDIX A

Prosper Development's Compliance with S.B. 1141, as Codified in C.R.S. 29-20-101, et. seq., and as Construed by Douglas County District Court in Case No. 11CV1437

APPENDIX A

PROSPER DEVELOPMENT'S COMPLIANCE WITH SB 1141
AS CODIFIED IN CRS 29-20-101, *et seq*.
AND AS CONSTRUED BY DOUGLAS COUNTY DISTRICT COURT
IN CASE NO. 11CV1437

REQUIREMENTS

- **29-20-103(1) and 303(1)**: Local governments must not grant preliminary or final approval of an application for rezoning or other similar application which involves new water use for more than 50 SFEs, ***unless***:
    - The local government determines, in its sole discretion, that
        - The applicant has proposed a water supply; and
        - The proposed water supply is "adequate."

- **29-20-303(2):** An applicant is not, in any event, required to own or have acquired the proposed water supply or infrastructure.

- **29-20-302(1)**: An "adequate" water supply is one that will be sufficient for build-out in terms of
    - Quantity
    - Quality
    - Dependability
    - Availability

- **29-20-304(1):** An applicant must submit a water supply report authored by a water supply expert, in which the applicant proposes the water supply for the development and demonstrates that the proposed supply is adequate.
    - The water supply report must include:
        - An estimate of the water supply requirements through build-out.
        - A description of the physical sources of water supply.
        - An estimate of the amount of water yield projected from the proposed water supply under various hydrologic conditions.
        - Water conservation measures, if any, that may be implemented.
        - Water demand management measures, if any, that may be implemented; and
        - Such other information as may be required by the local government.

COMPLIANCE

- In connection with its zoning application, Prosper Farms Investments, LLC is submitting a Water Supply Report for the Prosper Development, authored by water supply experts. The Water Supply Report:

    - Estimates the water demand through build-out to be 5,220 af/yr.

    - Describes the following proposed physical sources of water supply:

        - 1,305 af/yr of decreed nontributary water owned by Prosper. This represents 25% of the total supply and only 40% of Prosper's decreed nontributary water.

        - 1,662 af/yr of renewable water to be delivered by ACWWA via the ECCV pipeline; and from the ECCV pipeline, via a 3.5 mile pipeline to the Prosper development, representing 32% of the total supply. Requires a court-approved augmentation plan. The report also identifies proposed sources of senior augmentation water.

        - 1,837 af/yr of reclaimed wastewater arising from indoor water usage, which equals 35% of the total supply. 808 af/yr of the reclaimed wastewater is derived from indoor use of Prosper's nontributary water. Thus, Prosper currently owns 2,113 af/yr of the water that will be used to meet its projected 5,220 af/yr build-out demand (1,305 + 808 = 2,113).

        - 416 af/yr of reclaimed lawn irrigation return flows; 8% of the total supply.

    - Includes a Conditional Will-Serve Letter issued by ACWWA to Prosper.

    - Estimates the amount of water yield projected from the proposed water supply under various hydrologic conditions.

    - Describes the water conservation measures that may be implemented.

    - Describes the water demand management measures that may be implemented.

    - Demonstrates that each of the above four physical sources of supply are adequate in terms of

        - Quantity
        - Quality
        - Dependability
        - Availability

APPENDIX B

C.R.S. § 29-20-103
and
29-20-301 through 29-20-305

C.R.S. 29-20-103

COLORADO REVISED STATUTES

*** This document reflects changes passed at the Second Regular Session and First Extraordinary Session
of the Sixty-Eighth General Assembly of the State of Colorado (2012) ***

TITLE 29. GOVERNMENT - LOCAL
LAND USE CONTROL AND CONSERVATION
ARTICLE 20.LOCAL GOVERNMENT REGULATIONOF LAND USE
PART 1. LOCAL GOVERNMENT LAND USE CONTROL ENABLING ACT

C.R.S. 29-20-103 (2012)

29-20-103. Definitions

As used in this article, unless the context otherwise requires:

(1) "Development permit" means any preliminary or final approval of an application for rezoning, planned unit development, conditional or special use permit, subdivision, development or site plan, or similar application for new construction; except that, for purposes of part 3 of this article, "development permit" is limited to an application regarding a specific project that includes new water use in an amount more than that used by fifty single-family equivalents, or fewer as determined by the local government.

(1.5) "Local government" means a county, home rule or statutory city, town, territorial charter city, or city and county.

(2) "Power authority" means an authority created pursuant to section 29-1-204.

HISTORY: Source:. L. 74: Entire article added, p. 353, § 1, effective May 17.L. 2001: (2) added, p. 597, § 3, effective May 30.L. 2001, 2nd Ex. Sess.: (1) amended and (1.5) added, p. 27, § 2, effective November 6.L. 2008: (1) amended, p. 1559, § 1, effective May 29.

C.R.S. 29-20-301

COLORADO REVISED STATUTES

*** This document reflects changes passed at the Second Regular Session and First Extraordinary Session
of the Sixty-Eighth General Assembly of the State of Colorado (2012) ***

TITLE 29. GOVERNMENT - LOCAL
LAND USE CONTROL AND CONSERVATION
ARTICLE 20.LOCAL GOVERNMENT REGULATIONOF LAND USE
PART 3. ADEQUATE WATER SUPPLY

C.R.S. 29-20-301 (2012)

29-20-301. Legislative declaration

(1) The general assembly:

(a) Finds that, due to the broad regional impact that securing an adequate supply of water to serve proposed land development can have both within and between river basins, it is imperative that local governments be provided with reliable information concerning the adequacy of proposed developments' water supply to inform local governments in the exercise of their discretion in the issuance of development permits; and

(b) To that end, declares that while land use and development approval decisions are matters of local concern, the enactment of this part 3, to help ensure the adequacy of water for new developments, is a matter of statewide concern and necessary for the preservation of public health, safety, and welfare and the environment of Colorado.

HISTORY: Source: L. 2008: Entire part added, p. 1559, § 2, effective May 29.

Law reviews. For article, "Vested Property Rights in Colorado: The Legislature Rushes in Where ....", see Den. U. L. Rev. 31 (1988); for article, "Cooperative Management of Urban Growth Areas Through IGAs", see 29 Colo. Law. 85 (November 2000); for article, "Transferable Development Rights and Their Application in Colorado: An Overview", see 34 Colo. Law. 75 (March 2005).

C.R.S. 29-20-302

COLORADO REVISED STATUTES

*** This document reflects changes passed at the Second Regular Session and First Extraordinary Session
of the Sixty-Eighth General Assembly of the State of Colorado (2012) ***

TITLE 29. GOVERNMENT - LOCAL
LAND USE CONTROL AND CONSERVATION
ARTICLE 20.LOCAL GOVERNMENT REGULATIONOF LAND USE
PART 3. ADEQUATE WATER SUPPLY

C.R.S. 29-20-302 (2012)

29-20-302. Definitions

As used in this part 3, unless the context otherwise requires:

(1) "Adequate" means a water supply that will be sufficient for build-out of the proposed development in terms of quality, quantity, dependability, and availability to provide a supply of water for the type of development proposed, and may include reasonable conservation measures and water demand management measures to account for hydrologic variability.

(2) "Water supply entity" means a municipality, county, special district, water conservancy district, water conservation district, water authority, or other public or private water supply company that supplies, distributes, or otherwise provides water at retail.

HISTORY: Source: L. 2008: Entire part added, p. 1560, § 2, effective May 29.

C.R.S. 29-20-303

COLORADO REVISED STATUTES

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TITLE 29. GOVERNMENT - LOCAL
LAND USE CONTROL AND CONSERVATION
ARTICLE 20.LOCAL GOVERNMENT REGULATIONOF LAND USE
PART 3. ADEQUATE WATER SUPPLY

C.R.S. 29-20-303 (2012)

29-20-303. Adequate water supply for development

(1) A local government shall not approve an application for a development permit unless it determines in its sole discretion, after considering the application and all of the information provided, that the applicant has satisfactorily demonstrated that the proposed water supply will be adequate. A local government shall make such determination only once during the development permit approval process unless the water demands or supply of the specific project for which the development permit is sought are materially changed. A local government shall have the discretion to determine the stage in the development permit approval process at which such determination is made.

(2) Nothing in this part 3 shall be construed to require that the applicant own or have acquired the proposed water supply or constructed the related infrastructure at the time of the application.

HISTORY: Source: L. 2008: Entire part added, p. 1560, § 2, effective May 29.

C.R.S. 29-20-304

COLORADO REVISED STATUTES

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TITLE 29. GOVERNMENT - LOCAL
LAND USE CONTROL AND CONSERVATION
ARTICLE 20.LOCAL GOVERNMENT REGULATIONOF LAND USE
PART 3. ADEQUATE WATER SUPPLY

C.R.S. 29-20-304 (2012)

29-20-304. Water supply requirements

(1) Except as specified in subsections (2) and (3) of this section, an applicant for a development permit shall submit estimated water supply requirements for the proposed development in a report prepared by a registered professional engineer or water supply expert acceptable to the local government. The report shall include:

(a) An estimate of the water supply requirements for the proposed development through build-out conditions;

(b) A description of the physical source of water supply that will be used to serve the proposed development;

(c) An estimate of the amount of water yield projected from the proposed water supply under various hydrologic conditions;

(d) Water conservation measures, if any, that may be implemented within the development;

(e) Water demand management measures, if any, that may be implemented within the development to account for hydrologic variability; and

(f) Such other information as may be required by the local government.

(2) If the development is to be served by a water supply entity, the local government may allow the applicant to submit, in lieu of the report required by subsection (1) of this section, a letter prepared by a registered professional engineer or by a water supply expert from the water supply entity stating whether the water supply entity is willing to commit and its ability to provide an adequate water supply for the proposed development. The water supply entity's engineer or expert shall prepare the letter if so requested by the applicant. At a minimum, the letter shall include:

(a) An estimate of the water supply requirements for the proposed development through build-out conditions;

(b) A description of the physical source of water supply that will be used to serve the proposed development;

(c) An estimate of the amount of water yield projected from the proposed water supply under various hydrologic conditions;

(d) Water conservation measures, if any, that may be implemented within the proposed development;

(e) Water demand management measures, if any, that may be implemented to address hydrologic variations; and

(f) Such other information as may be required by the local government.

(3) In the alternative, an applicant shall not be required to provide a letter or report identified pursuant to subsections (1) and (2) of this section if the water for the proposed development is to be provided by a water supply entity that has a water supply plan that:

(a) Has been reviewed and updated, if appropriate, within the previous ten years by the governing board of the water supply entity;

(b) Has a minimum twenty-year planning horizon;

(c) Lists the water conservation measures, if any, that may be implemented within the service area;

(d) Lists the water demand management measures, if any, that may be implemented within the development;

(e) Includes a general description of the water supply entity's water obligations;

(f) Includes a general description of the water supply entity's water supplies; and

(g) Is on file with the local government.

HISTORY: Source: L. 2008: Entire part added, p. 1560, § 2, effective May 29.

C.R.S. 29-20-305

COLORADO REVISED STATUTES

*** This document reflects changes passed at the Second Regular Session and First Extraordinary Session
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TITLE 29. GOVERNMENT - LOCAL
LAND USE CONTROL AND CONSERVATION
ARTICLE 20.LOCAL GOVERNMENT REGULATIONOF LAND USE
PART 3. ADEQUATE WATER SUPPLY

C.R.S. 29-20-305 (2012)

29-20-305. Determination of adequate water supply

(1) The local government's sole determination as to whether an applicant has a water supply that is adequate to meet the water supply requirements of a proposed development shall be based on consideration of the following information:

(a) The documentation required by section 29-20-304;

(b) If requested by the local government, a letter from the state engineer commenting on the documentation required pursuant to section 29-20-304;

(c) Whether the applicant has paid to a water supply entity a fee or charge for the purpose of acquiring water for or expanding or constructing the infrastructure to serve the proposed development; and

(d) Any other information deemed relevant by the local government to determine, in its sole discretion, whether the water supply for the proposed development is adequate, including, without limitation, any information required to be submitted by the applicant pursuant to applicable local government land use regulations or state statutes.

HISTORY: Source: L. 2008: Entire part added, p. 1562, § 2, effective May 29.

APPENDIX C

C.R.S. 30-28-136

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C.R.S. 30-28-136 (Copy w/ Cite) Pages:4

C.R.S. 30-28-136

COLORADO REVISED STATUTES

*** This document reflects changes passed at the Second Regular Session and First Extraordinary Session
of the Sixty-Eighth General Assembly of the State of Colorado (2012) ***

TITLE 30. GOVERNMENT - COUNTY
COUNTY PLANNING AND BUILDING CODES
ARTICLE 28.COUNTY PLANNING AND BUILDING CODES
PART 1. COUNTY PLANNING

C.R.S. 30-28-136 (2012)

30-28-136. Referral and review requirements

(1) Upon receipt of a complete preliminary plan submission, the board of county commissioners or its authorized representative shall distribute copies of prints of the plan as follows:

(a) To the appropriate school districts;

(b) To each county or municipality within a two-mile radius of any portion of the proposed subdivision;

(c) To any utility, local improvement and service district, or ditch company, when applicable;

(d) To the Colorado state forest service, when applicable;

(e) To the appropriate planning commission;

(f) To the local conservation district board within the county for explicit review and recommendations regarding soil suitability, floodwater problems, and watershed protection. Such referral shall be made even though all or part of a proposed subdivision is not located within the boundaries of a conservation district.

(g) When applicable, to the county or district public health agency or the state department of public health and environment for its review of the on-lot sewage disposal reports, for review of the adequacy of existing or proposed sewage treatment works to handle the estimated effluent, and for a report on the water quality of the proposed water supply to serve the subdivision. The department of public health and environment or county or district public health agency to which the plan is referred may require the subdivider to submit additional engineering or geological reports or data and to conduct a study of the economic feasibility of a sewage treatment works prior to making its recommendations. No plan shall receive the approval of the board of county commissioners unless the department of public health and environment or county or district public health agency to which the plan is referred has made a favorable recommendation regarding the proposed method of sewage disposal.

(h) (I) To the state engineer for an opinion regarding material injury likely to occur to decreed

water rights by virtue of diversion of water necessary or proposed to be used to supply the proposed subdivision and adequacy of proposed water supply to meet requirements of the proposed subdivision. If the state engineer finds such injury or finds inadequacy, he shall express such finding in an opinion in writing to the board of county commissioners, stating the reason for his finding, including, but not limited to, the amount of additional or exchange water that may be required to prevent such injury. In the event the subdivision is approved notwithstanding the state engineer's opinion, the subdivider shall furnish to all potential purchasers a copy of the state engineer's opinion prior to the sale or a synopsis of the opinion; except that the subdivider need not supply the potential purchaser with a copy of such opinion or synopsis if, in the opinion of the board of county commissioners, the subdivider has corrected the injury or inadequacy set forth in the state engineer's finding.

(II) A municipality or quasi-municipality, upon receiving the preliminary plan designating said municipality or quasi-municipality as the source of water for a proposed subdivision, shall file, with the board of county commissioners and the state engineer, a statement documenting the amount of water which can be supplied by said municipality or quasi-municipality to proposed subdivisions without causing injury to existing water rights. The state engineer shall file, with said board of county commissioners, written comments on the report. If, in the judgment of the state engineer, the report is insufficient to issue an opinion, the state engineer shall notify the board of county commissioners to this effect, indicating the deficiencies.

(i) To the Colorado geological survey for an evaluation of those geologic factors that would have a significant impact on the proposed use of the land; except that, upon written request from the board of county commissioners or the board's authorized representative, the Colorado geological survey may exempt any preliminary plan from this referral and review requirement.

(2) The agencies named in this section shall make recommendations within twenty-one days after the mailing by the county or its authorized representative of such plans unless a necessary extension of not more than thirty days has been consented to by the subdivider and the board of county commissioners of the county in which the subdivision area is located. The failure of any agency to respond within twenty-one days or within the period of an extension shall, for the purpose of the hearing on the plan, be deemed an approval of such plan; except that, where such plan involves twenty or more dwelling units, a school district shall be required to submit within said time limit specific recommendations with respect to the adequacy of school sites and the adequacy of school structures.

(3) The provisions of this part 1 shall not modify the duties or enlarge the authority of the state engineer or the division engineers nor divest the water courts of jurisdiction over actions concerning water right determinations and administration; neither shall any opinion of the state engineer submitted under subsection (1) (h) of this section nor any finding by a board of county commissioners concerning subdivision water supply matters create any presumption concerning injury or noninjury to water rights; and neither the state engineer's opinion nor the finding of the board of county commissioners may be used as evidence in any administrative proceeding or in any judicial proceeding concerning water right determinations or administration.

(4) Repealed.

HISTORY: Source: L. 72: p. 504, § 8. C.R.S. 1963: § 106-2-37.L. 73: pp. 781, 1087, 1088, § § 2, 1, 1.L. 75: (1)(h) R&RE, p. 1002, § 1, effective July 18.L. 77: (2) amended, p. 1453, § 3, effective May 24.L. 92: (2) amended, p. 966, § 7, effective June 1.L. 94: (1)(g) amended, p. 2801, § 561, effective July 1.L. 2002: (1)(f) amended, p. 518, § 14, effective July 1.L. 2005: (4) repealed, p. 667, § 1, effective June 1.L. 2010: (1)(g) amended, (HB 10-1422), ch. 419, p. 2119, § 167, effective August 11.L. 2012: (1)(i) amended, (HB 12-1282), ch. 178, p. 641, § 1, effective August 8.

Cross references: For duties of the state geologist upon receipt of copies of prints of the plans, see § 34-1-103 (4).

ANNOTATION

Law reviews. For article, "1974 Land Use Legislation in Colorado", see 51 Den. L.J. 467 (1974). For article, "Property Tax Incentives for Implementing Soil Conservation Programs Under Constitutional Taxing Limitations", see 59 Den. L.J. 485 (1982).

Zoning and subdivision regulations are separate and distinct legislation and serve different purposes. Shoptaugh v. Bd. of County Comm'rs, 37 Colo. App. 39, 543 P.2d 524 (1975).

A subdivider must first meet zoning regulations and then additionally must comply with state and county subdivision regulations. Shoptaugh v. Bd. of County Comm'rs, 37 Colo. App. 39, 543 P.2d 524 (1975).

This section is designed to allow a planning commission to make a decision on a preliminary plat without waiting indefinitely for agencies' reports. Shoptaugh v. Bd. of County Comm'rs, 37 Colo. App. 39, 543 P.2d 524 (1975).

Authority to act on reports implicit. If a planning department or a board of county commissioners has no authority to consider and act on reports required by this section, particularly where they indicate a hazard to the public, then the general purpose to be served by enacting the regulations would be vitiated. Shoptaugh v. Bd. of County Comm'rs, 37 Colo. App. 39, 543 P.2d 524 (1975).

There was no error or violation of petitioner's due process right in a board's consideration of late agency reports. Shoptaugh v. Bd. of County Comm'rs, 37 Colo. App. 39, 543 P.2d 524 (1975).

A subdivision proposal may be denied based upon a finding of a lack of available schools to serve the residents of the proposed new development. County Comm'rs of Douglas County v. Bainbridge, 929 P.2d 691 (Colo. 1996).

Board of county commissioners did not abuse its discretion when it did not resubmit plans for a subdivision to certain agencies for additional comment and review before granting final approval. Once the board has satisfied the requirements of the statute by submitting the proposed plans for comment, a decision whether or not to require additional comments is within the sound discretion of that board. Save Park County v. Bd. of County Comm'rs, 990 P.2d 35 (Colo. 1999).

Board of county commissioners acted within its discretion when, 11 years after a subdivision plan was proposed, it did not seek supplemental information from all agencies, but instead sought any supplemental information it found necessary to reach an informed decision. Save Park County v. Bd. of County Comm'rs, 990 P.2d 35 (Colo. 1999).

In

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APPENDIX D

Updated Memorandum Regarding Subdivisions dated March 16, 2005

March 16, 2005

MEMORANDUM

TO: ALL COUNTY LAND USE PLANNING DIRECTORS

FROM: DICK WOLFE, ASSISTANT STATE ENGINEER

SUBJECT: UPDATED MEMORANDUM REGARDING SUBDIVISIONS

Attached is a memorandum from Hal Simpson, State Engineer, that provides important information regarding actions that will be taken by the State Engineer's Office ("SEO") when reviewing subdivision water supply plans. This memorandum replaces the one that was previously sent to County Planning Directors, dated August 7, 1995.

I ask you and your staff to read this memorandum and become familiar with the actions that will be taken by the SEO. The information in this memorandum is a valuable guide that will save time for your staff, SEO staff, and especially the developers that we all serve. For ease of reading, the memorandum is organized as follows:

- **Memorandum** from Hal Simpson regarding subdivision review performed by the SEO (2 pages)
- **Attachment A** – Information requirements of the SEO for the four different "types" of water sources (5 pages)
- **Attachment B** – Guidelines for the county to evaluate a water supply for a land use action that does not involve a subdivision (3 pages)
- **Attachment C** – *WATER SUPPLY INFORMATION SUMMARY FORM* (1 page)
- **Attachment D** – State map showing the Denver Basin and the Designated Ground Water Basins

We recommend that a copy of the memorandum and the Attachments A, C and D be provided to all parties that plan to subdivide property in your county. This letter will be placed on our website. If you have further questions, please call the SEO in Denver and ask to talk to me or the Team Leader for your water division.

March 4, 2005

MEMORANDUM

TO: ALL COUNTY LAND USE PLANNING DIRECTORS

FROM: HAL SIMPSON, STATE ENGINEER

SUBJECT: STATE ENGINEER'S ACTIONS ON PROPOSED WATER SUPPLIES FOR LAND USE ACTIONS

On August 7, 1995, I sent a memorandum to the Land Use Planning Directors for each county in the state. The memorandum addressed the State Engineer's responsibilities in providing "an opinion regarding material injury likely to occur to decreed water rights by virtue of diversion of water necessary or proposed to be used to supply the proposed subdivision and adequacy of proposed water supply to meet requirements of the proposed subdivision" as required under Section 30-28-136(h)(I) C.R.S. The primary objective of that memo was to inform the Land Use Planning Directors and their staff ("County") that effective August 31, 1995, the State Engineer's Office ("SEO") would no longer respond to comments regarding county land use actions that do not involve the subdivision of land as defined in Section 30-28-101(10)(a) C.R.S. ("Subdivision"). The reason I adopted that approach in 1995 was to ensure that my staff would be able to satisfy the statutory requirement of responding to those land use actions that do meet the definition of a Subdivision.

In addition to explaining that approach, the memorandum provided a *Water Supply Information Summary* form and Guidelines for the County's use in determining exempt well permit availability in situations that did not involve a Subdivision.

I find it is appropriate to update the information provided in that memorandum. This memorandum supercedes the memorandum dated August 7, 1995. County land use planning directors and their staff should read this memorandum and become familiar with the content. **A copy of this memorandum should be provided to all developers that are submitting a water supply plan to the county. This memorandum provides valuable information that will guide the developer when creating a water supply plan for a subdivision and reviewing this memorandum will save the developer valuable time and resources in many cases.**

SUBDIVISION WATER SUPPLY PLAN REVIEW

The SEO will continue to provide timely review and an opinion regarding material injury and adequacy for water supply plans for Subdivisions as those water supply plans are submitted to the SEO by referral from the County. The opinion will be completed within the statutory 21-day requirement. The SEO'S Water Supply Plan Review Requirements For Subdivisions are found in Attachment A on Page 3.

The SEO will not respond to water supply plans that are submitted by parties other than the County. This includes amended water supply plans that address concerns raised by the SEO in a previous response. Those amended plans must also be submitted through the County.

The SEO has no statutory responsibility to review land use actions that do not involve the subdivision of land as defined in Section 30-28-101(10)(a). These actions include, but are not limited to lot line adjustments, zone change requests, special use of land, division by exemption, and cluster developments. To assist the County in evaluating the water supply for these 'non-Subdivision' land use actions, this memorandum includes water supply evaluation guidelines in Attachment B, Page 8. If the County finds it is appropriate to submit a written request concerning a specific 'non-Subdivision' land use action, the SEO will perform a cursory review and provide only informal comments regarding the proposed water supply. Those comments will identify any concerns or issues that the SEO identifies through cursory review that may present themselves at such time that the developer of the subject land implements the water supply. The comments will not state an opinion on the adequacy of the water supply or the ability of the water supply plan to satisfy any County regulations or requirements. The comments cannot be used to guarantee a viable water supply plan or infrastructure, the issuance of a well permit, or physical availability of water. If the SEO does not identify concerns or issues related to the proposed water supply, the SEO will respond with no comment regarding the water supply. The response will also state that the SEO does not necessarily take the position that the water supply plan is valid.

Therefore, each referral submitted to the SEO must clearly identify whether the proposed action is a Subdivision or does not qualify as a Subdivision according to the definition in C.R.S. 30-28-101(10)(a).

WATER SUPPLY PLAN INFORMATION FOR SUBDIVISIONS

The water supply plan must be included in all Subdivision referrals from the County. That plan must identify the Subdivision's estimated water supply requirements and demonstrate the adequacy of the proposed water supply. The *WATER SUPPLY INFORMATION SUMMARY* form that is included with this memo as Attachment C on Page 11 may be used as a guide and in many cases will be sufficient. However, for many subdivisions the water supply plan must include a water supply report. The Water Supply Information Summary or the report should identify, at a minimum: the number of lots; the type of use and the demand, by lot; and the total water requirement. The SEO will review the Water Supply Information Summary or water supply report to ensure the water use values are reasonable for the described uses and are consistent with SEO accepted demand/consumptive use values unless specific information is supplied to support different use values or the values are indicated in a court approved augmentation plan or, for a subdivision located in a Designated Basin, a Ground Water Commission approved replacement plan. The SEO may consider, but is not obligated to follow County Land Development Codes or Rules.

The maps in Attachment D on Page 12 show the boundaries of the Designated Basins and the approximate locations of the Denver Basin bedrock aquifers.

ATTACHMENT A

The SEO will apply specific review criteria to water supply plans that rely on sources of water as listed below:

SEO'S WATER SUPPLY PLAN REVIEW REQUIREMENTS FOR SUBDIVISIONS

1. **Source is a Municipality or Quasi-Municipality**

   If the water supply is to be provided by a municipality or quasi-municipality (i.e. a Water District, a Water and Sanitation District, etc.), the SEO will review the submittal to ensure that it includes:

   a. A letter of commitment from the municipality or quasi-municipality referencing the subdivision name (as submitted to the county) and a level of commitment in terms of uses to be served.

   b. As required by C.R.S. 30-28-136(1)(h)(II), a report from the municipality or quasi-municipality documenting the amount of water that can be supplied to the subdivision, containing the following:

      i. A summary of the water rights owned and controlled by the municipality.
      ii. The anticipated yield of these rights in both an average and dry year.
      iii. The present demand on the municipality, and the anticipated demand due to commitments for service entered into by the municipality that are not yet supplied.
      iv. The amount of uncommitted firm supply the municipality has available for future commitment and development.
      v. A map of the municipality's service area.

      The above information should be provided in a manner that demonstrates that the municipality has sufficient water resources to meet its commitments in terms of an overall annual water supply and daily availability. Note that, for many of these providers, the SEO maintains files that document the firm water supplies and the amount of water that has been committed to subdivisions. If that information is on file, this statement may not be necessary.

      The SEO may request updated information from the municipality or quasi-municipality if it appears the information has not been updated within three calendar years, or when the commitments reach a total that is close to the firm yield (approximately 90 percent)

   c. Proposed uses that correspond to the uses of the municipality or quasi-municipality's water rights.

   d. For a Subdivision located in a Designated Basin, proposed place of use (the Subdivision) that corresponds with the place of use listed on Permit or Determination of Water Right.

2. **Source is Wells Withdrawing Tributary Ground Water or any Designated Ground Water from a Non-Denver Basin Aquifer**

If the water supply is to be provided by wells withdrawing tributary ground water or designated ground water from any non-Denver Basin aquifer:

a. The SEO will review the submittal to ensure that all uses are consistent with the uses in a court-decreed augmentation plan or, if in a designated basin, the uses in a commission approved replacement plan.

   (Note: For areas outside of the Designated Basins, a source of water that is approved through a substitute water supply plan is not an acceptable water supply for inside domestic uses; a court decreed augmentation plan is required. However, if the water supply plan includes lawn and garden irrigation from a source that is not yet subject of a court-decreed augmentation plan, the SEO will evaluate that component of the water supply plan for adequacy and potential injury independently, however, the source of water to be used for lawn and garden irrigation may be subject to curtailment until the developer acquires a court-approved augmentation plan for that source. The SEO will not comment unfavorably on the entire plan due to failure of that one aspect.)

b. If in a Designated Basin, the SEO will review the submittal to ensure that the proposed place of use (the subdivision) corresponds with the place of use listed on the well permit.

c. State statute requires that the SEO provide an opinion regarding the water supply's adequacy to meet the requirements of a proposed subdivision [C.R.S. 30-28-136(h)(I)]. Therefore, the SEO will review the submittal to ensure that there is evidence that a water supply is physically adequate. This evidence should be in the form of a hydrologist's or geologist's report that may include information from a test well or wells.

3. Source is Individual, On-lot, Exempt/Small Capacity Wells Withdrawing Denver Basin Ground Water Considered to be Nontributary, or Other Ground Water Determined to be Nontributary. The Water that has not been adjudicated or is not Subject of a Determination of Water Right**

If the water supply is to be provided by individual on-lot wells from a Denver Basin aquifer and is considered nontributary**, or a formation that is determined to be nontributary by statutory definition [C.R.S. 37-90-103(10.5)], and the ground water has not been adjudicated or is subject of a Determination of Water Right, the SEO will review the water supply plan to ensure that:

(** note: for a subdivision located in a Designated Basin, the subdivision may also use a source that is <u>not</u>-nontributary with a 4 percent replacement requirement, without the need for a replacement plan)

a. The developer has identified a specific source (for example, Dawson, Denver, Arapahoe, Laramie-Fox Hills),

b. The developer has properly quantified the amount of water using aquifer characteristics that are consistent with the Denver Basin Rules or site-specific information that has been validated by the SEO geotechnical staff.

c. The subdivision's proposed water supply has not been previously allocated through existing decrees, well permits, pre-Senate Bill 213 type wells, Determinations of Water Rights, or other claims to the water.

d. The amount of water available annually, on the basis of an aquifer life of 100 years, is greater than or equal to the amount of water required.

(Note: The amount of water available annually should be quantified as described in Rule 8 of the Statewide Nontributary Ground Water Rules. **The water supply plan must ensure that the smallest parcel in the subdivision has adequate land area such that the calculation of the water available underlying that land area is sufficient to satisfy its needs.** Small parcels may not 'borrow' land area from larger parcels to increase the amount of water available to the small parcel since the well permit will ultimately be issued pursuant to C.R.S. 37-92-602(3)(b)(I) or 37-90-105(3)(c), which requires a land area evaluation. If the developer cannot provide a water supply to the smaller parcels because of this, the developer may pursue a water court decree or Determination of Water Right that will "separate" the water from the land and allow it to be deeded to individual landowners in the amounts necessary to provide a water supply.

Additionally, to satisfy a county's "300-year water supply approach", the developer may state that each lot will use one aquifer for a portion of the 300-year period (the first 100 years), then, a deeper aquifer for subsequent portions of the 300-year period (the remaining 200 years). This approach is acceptable, <u>however,</u> it is entirely the developer's responsibility to identify, by lot number, the aquifer that will be used for each lot and for which period of time. In no case will the SEO approve a plan where the engineer makes that determination in the response to the County or where that determination is left to the well permit applicant or permit evaluator in the future. In this situation, the SEO response will state that the lot owners should be notified through plat notes or other means of the specific restrictions.)

e. The amount of water available considers any 300-year water supply approach or similar approach that is currently used by the referring county.

f. The proposal meets all applicable Ground Water Management District rules, if located within a Designated Basin.

4. Source is from a Denver Basin Aquifer that has been Decreed or, for the Designated Basins, is Subject of a Determination of Water Right

If the ground water is from a Denver Basin aquifer and is considered to be nontributary or not-nontributary and has been adjudicated by Water Court or has a Determination of Water Right/Permit issued by the Ground Water Commission, the SEO will review the water right to ensure that:

a. The developer has identified a specific source (for example, Dawson, Denver, Arapahoe, or Laramie-Fox Hills aquifer),

b. The amount of water available annually, according to the court-approved decree or Commission-approved Determination of Water Right/Permit, is

greater than or equal to the amount of water required for the entire subdivision.

(Note: The adjudication/quantification of nontributary or not nontributary ground water "separates" the ownership of the water from the land. Therefore, individual lot owners that apply for well permits will require a 'special warranty deed' or other document by which ownership of an amount of water is transferred to the lot owner from the original landowner. Such a deed will not be necessary if a Homeowner's Association ("HOA") will be created to take ownership of the water rights and the HOA will have the necessary mechanism to convey the water rights to members of the HOA. The water supply plan must identify whether water will be deeded to individual lot owners or owned by a HOA. In comments to the County, the SEO will add a note that indicates whether there will be a "HOA" that will take ownership of the water rights and to which each homeowner must belong. If so, well permit applicants will not require a "special warranty deed" granting them the rights to use the amount of water identified in the water supply plan. If water will be deeded to individual lot owners, well permit applicants will be required to provide to this office a copy of the 'special warranty deed' or other document conveying the water right to the lot owner.)

c. The proposed uses correspond to the uses of the vested water rights to be used.

d. If in a Designated Basin, the proposed place of use (the Subdivision) corresponds with the place of use listed on the well permit or Determination of Water Right.

e. The water supply plan is consistent with the specific terms and conditions of a court-approved augmentation plan or Ground Water Commission-approved replacement plan, if one was developed.

f. The amount of water available considers any 300-year water supply approach or similar approach that is currently used by the referring county.

(Note: To satisfy a county's "300-year water supply approach", the developer may state that each lot will use one aquifer for a portion of the 300-year period (the first 100 years), then, a deeper aquifer for subsequent portions of the 300-year period (the remaining 200 years). Or, a developer may state that a predetermined number of lots will use a shallower aquifer while other lots will use a deeper aquifer. These approaches are acceptable, <u>however,</u> it is entirely the developer's responsibility to identify, by lot number, the aquifer that will be used for each lot and for which period of time. In no case will the SEO approve a plan where the engineer makes that determination in the response to the County or where that determination is left to the well permit applicant or permit evaluator in the future. In these situations, the SEO response will state that the lot owners should be notified through plat notes or other means of the specific restrictions.)

Additionally, the following comments apply to the four SOURCE OF WATER SUPPLY categories listed above.

1. If the water supply plan relies on an adjudicated water right, and the decree for that water right is not yet final, the SEO will not include consideration of the water that is subject of that water right. Similarly, if the water supply plan relies on water rights, changes to water rights, or replacement plans that are pending review by the Ground Water Commission but have not been approved, the SEO will not include consideration of the water that is subject of that water right.
2. The SEO's determination that a water supply is "adequate" requires evidence that volume and flow rate required is physically and legally available, but does not necessarily include infrastructure beyond the wellhead, storage vessel, diversion or release point. For example, the SEO does not comment on the design of the piping and pump stations needed to deliver water throughout the system at required pressures.
3. The adequacy of a water supply plan in the Denver Basin aquifers is evaluated using estimates of legally available water based on information available at the SEO and may not necessarily reflect the physical availability of water. Water in the Denver Basin aquifers is allocated based on a 100-year aquifer life under the provisions of C.R.S. 37-90-137(4)(b)(I). For planning purposes the county should be aware that the economic life of a water supply based on wells in a given Denver Basin aquifer may be less than the 100 years indicated due to anticipated water level declines. Furthermore, the water supply plan should not rely solely upon non-renewable aquifers. Alternative renewable water resources should be acquired and incorporated in a permanent water supply plan that provides future generations with a water supply.

ATTACHMENT B

WATER SUPPLY EVALUATION GUIDELINES FOR LAND USE ACTIONS THAT DO NOT INVOLVE A SUBDIVISION

The SEO will not provide a comprehensive opinion for land use actions that do not involve a Subdivision. In these cases the developer must rely on an engineering consultant or use the guidelines included below. In any case, the decision to issue a well permit will not be evaluated until a well permit application has been submitted to the SEO. In situations where the land use action will be creating a parcel of land (for example, recorded exemption), the SEO cannot accept well permit applications until the land use action is final.

These guidelines may be used by your staff or the developer to make a preliminary determination of the availability of a well permit for parcels addressed in land use actions that do not involve a subdivision of land and which rely on a well as a water supply. The SEO will evaluate well permits according to the criteria described below using rules and statutes in place at the time of application. Well permits of the types described below can often be approved under the 2004 statutes when the land involved meets the respective parcel definition and the proposed well will meet the water use and return flow conditions stated below. Note the SEO's evaluation process may find that there is a well on the subject parcel or on a neighboring parcel that may 'encumber' the land on the parcel and prevent the SEO from issuing a well permit.

Below are the possible categories of land use actions that do not involve a subdivision and the types of well permit for which the SEO may evaluate an application:

1. **a) 'Pre June 1, 1972' Parcels; b) Parcels created after June 1, 1972 to which the statutory definition of a subdivision does not apply; or c) Parcels that the County has "Exempted" from the subdivision process**

   Description

   a. A parcel that was created prior to June 1, 1972 (the date on which SB72-35 was enacted). A well permit applicant will need to submit proof that the parcel existed prior to June 1, 1972. This may be in the form a plat or deed of transfer dated before June 1, 1972. The documentation must include a legal description of the parcel. Or,

   b. A parcel that was created after June 1, 1972 and satisfies the criteria in C.R.S. 30-28-101(10)(c). Or,

   c. A parcel that was created after June 1, 1972 and has been exempted from the "subdivision process" by the County as described in C.R.S. 30-28-101(10)(d). A well permit applicant will need to submit proof that the parcel has been exempted from the "subdivision process" in the form a county resolution or plat with the proper documentation.

   Well Permit Evaluation for Areas Outside a Designated Basin

   a. The SEO will evaluate this type of parcel for a Household Use Only well permit.

   b. If the applicant requests, the SEO will evaluate this type of parcel for a 'Commercial Exempt' well permit (Drinking and Sanitary uses only in a single business, not to exceed 0.33 acre-feet annually and not to be used for any outside purposes.)

c. If the parcel overlies a nontributary Denver Basin aquifer or a not nontributary Denver Basin aquifer with a "four-percent replacement" requirement, the landowner has the potential to get a well permit for additional dwellings and outside domestic uses.

d. If the parcel overlies a nontributary Denver Basin aquifer, the landowner has the potential to get a well permit for commercial uses beyond Drinking and Sanitary uses and 0.33 acre-feet annually.

Well Permit Evaluation for Areas Inside a Designated Basin

a. The SEO will evaluate this type of parcel for a residential well permit for no more than three single-family dwellings, including the normal operations associated with such dwellings including the irrigation of not more than one acre of land; subject to all applicable Ground Water Management District Rules if the parcel is located within such a district.

b. If the applicant requests, the parcel may be evaluated for small-capacity commercial use subject to all applicable Ground Water Management District rules.

2. "35-acre" Parcels

Description

A parcel that is 35 acres or larger and not composed of multiple subdivided parcels. A well permit applicant must submit a legal description of the parcel.

Well Permit Evaluation for Areas Outside a Designated Basin

a. For most areas of the state, the SEO will evaluate this type of parcel for household use and outside uses. Unless the applicant specifically requests livestock uses only, the SEO will evaluate the well permit for use in up to three single-family dwellings, one acre of home lawn and garden irrigation, domestic animal watering and livestock watering.

b. If the applicant requests, the SEO will evaluate this type of parcel for a 'Commercial Exempt' well permit (Drinking and Sanitary uses only in a Single business, not to exceed 0.33 acre-feet annually)

c. If the parcel overlies a nontributary Denver Basin aquifer or another aquifer determined to bee nontributary, the landowner has the potential to get a well permit for commercial uses beyond Drinking and Sanitary uses and 0.33 acre-feet annually.

Well Permit Evaluation for Areas Inside a Designated Basin

a. The SEO will evaluate this type of parcel for a residential well permit for no more than three single-family dwellings, including the normal operations associated with such dwellings including the irrigation of not more than one acre of land; subject to all applicable Ground Water Management District Rules if the parcel is located within such a district.

b. If the applicant requests, the parcel may be evaluated for small-capacity commercial use subject to all applicable Ground Water Management District rules.

3. 'Cluster Development' Parcels

Description:

A parcel that satisfies the statutory provisions of C.R.S. 30-28-401, 30-28-402, 30-28-403, and 30-28-404, as amended in 2001. The County may approve cluster developments in accordance with a rural land use planning process enacted and adopted by the County. At least two-thirds of the total tract area must be reserved for preservation of open space. The number of residential lots may not exceed one lot for each seventeen and one-half acres of total tract area.

No later than ten days after County approval of a cluster development, the County shall notify the SEO of such approval and shall provide a copy of the approved rural land use plan that includes the cluster development. For administrative purposes, the plan must include a copy of a survey plat that describes the entire land area associated with the plan, identifies the set aside open space area, and describes the residential lots within the land area..

Well Permit Evaluation for Areas Outside a Designated Basin

The SEO will evaluate this type of parcel for household use and outside uses. The uses of the well will be limited by a permitted maximum annual amount. One well permit may be obtained for each residential lot. The total amount of water available to all lots in the cluster development is equal to one acre-foot for each full 35-acre-parcel, with no consideration for any additional fraction of a 35-acre parcel. The total amount available will be divided equally between each of the lots.

For example, a Cluster Development with seven lots on150 acres has four full 35-acre parcels. Therefore four acre-feet of water is available to the lots in the development. Split evenly among the seven lots, the four acre-feet allows for 0.57 acre-feet annually per lot.

Parcels that are approved as a part of a cluster development are not eligible for consideration for uses greater than those described above. For example, a 35-acre lot that is part of a cluster development, will not be eligible for use beyond those allowed by the parcel's allotment of the one acre-foot per full 35-acre parcel.

Well Permit Evaluation for Areas Inside a Designated Basin

The SEO will evaluate applications for a residential well permit for no more than one single-family dwelling, including the normal operations associated with such dwelling including the irrigation of not more than one acre of land; subject to all applicable Ground Water Management District Rules if the parcel is located within such a district.

Attachment C

FORM NO. GWS-76 02/2005

WATER SUPPLY INFORMATION SUMMARY

STATE OF COLORADO, OFFICE OF THE STATE ENGINEER
1313 Sherman St., Room 818, Denver, CO 80203
Phone – Info (303) 866-3587 Main (303) 866-3581 Fax (303) 866-3589 http://www.water.state.co.us

Section 30-28-133,(d), C.R.S. requires that the applicant submit to the County, "Adequate evidence that a water supply that is sufficient in terms of quantity, quality, and dependability will be available to ensure an adequate supply of water."

1. NAME OF DEVELOPMENT AS PROPOSED:

2. LAND USE ACTION:

3. NAME OF EXISTING PARCEL AS RECORDED:
SUBDIVISION: , FILING (UNIT) , BLOCK , LOT

4. TOTAL ACREAGE: 5. NUMBER OF LOTS PROPOSED PLAT MAP ENCLOSED? ☐ YES or ☐ NO

6. PARCEL HISTORY – Please attach copies of deeds, plats, or other evidence or documentation.
A. Was parcel recorded with county prior to June 1, 1972? ☐ YES or ☐ NO
B. Has the parcel ever been part of a division of land action since June 1, 1972? ☐ YES or ☐ NO
If yes, describe the previous action:

7. LOCATION OF PARCEL – Include a map delineating the project area and tie to a section corner.
_____1/4 of the _____1/4, Section _____, Township _____ ☐ N or ☐ S, Range _____ ☐ E or ☐ W
Principal Meridian: ☐Sixth ☐New Mexico ☐Ute ☐Costilla
Optional GPS Location: GPS Unit must use the following settings: Format must be **UTM**, Units must be **meters**, Datum must be **NAD83**, Unit must be set to **true** N, ☐ Zone 12 or ☐ Zone 13
Easting: _____
Northing: _____

8. PLAT – Location of all wells on property must be plotted and permit numbers provided.
Surveyor's Plat: ☐ YES or ☐ NO If not, scaled hand drawn sketch: ☐ YES or ☐ NO

9. ESTIMATED WATER REQUIREMENTS

USE	WATER REQUIREMENTS Gallons per Day	Acre-Feet per Year
HOUSEHOLD USE # _____ of units	_____	_____
COMMERCIAL USE # _____ of S. F	_____	_____
IRRIGATION # _____ of acres	_____	_____
STOCK WATERING # _____ of head	_____	_____
OTHER: _____	_____	_____
TOTAL	_____	_____

10. WATER SUPPLY SOURCE

☐ EXISTING WELL ☐ DEVELOPED SPRING
WELL PERMIT NUMBERS
_____
_____
_____

☐ MUNICPAL
☐ ASSOCIATION
☐ COMPANY
☐ DISTRICT
NAME _____
LETTER OF COMMITMENT FOR SERVICE ☐ YES or ☐ NO

☐NEW WELLS -
PROPOSED AQUIFERS – (CHECK ONE)
☐ ALLUVIAL ☐ UPPER ARAPAHOE
☐ UPPER DAWSON ☐ LOWER ARAPAHOE
☐ LOWER DAWSON ☐ LARAMIE FOX HILLS
☐ DENVER ☐ DAKOTA
☐ OTHER: _____

WATER COURT DECREE CASE NUMBERS:
_____
_____
_____

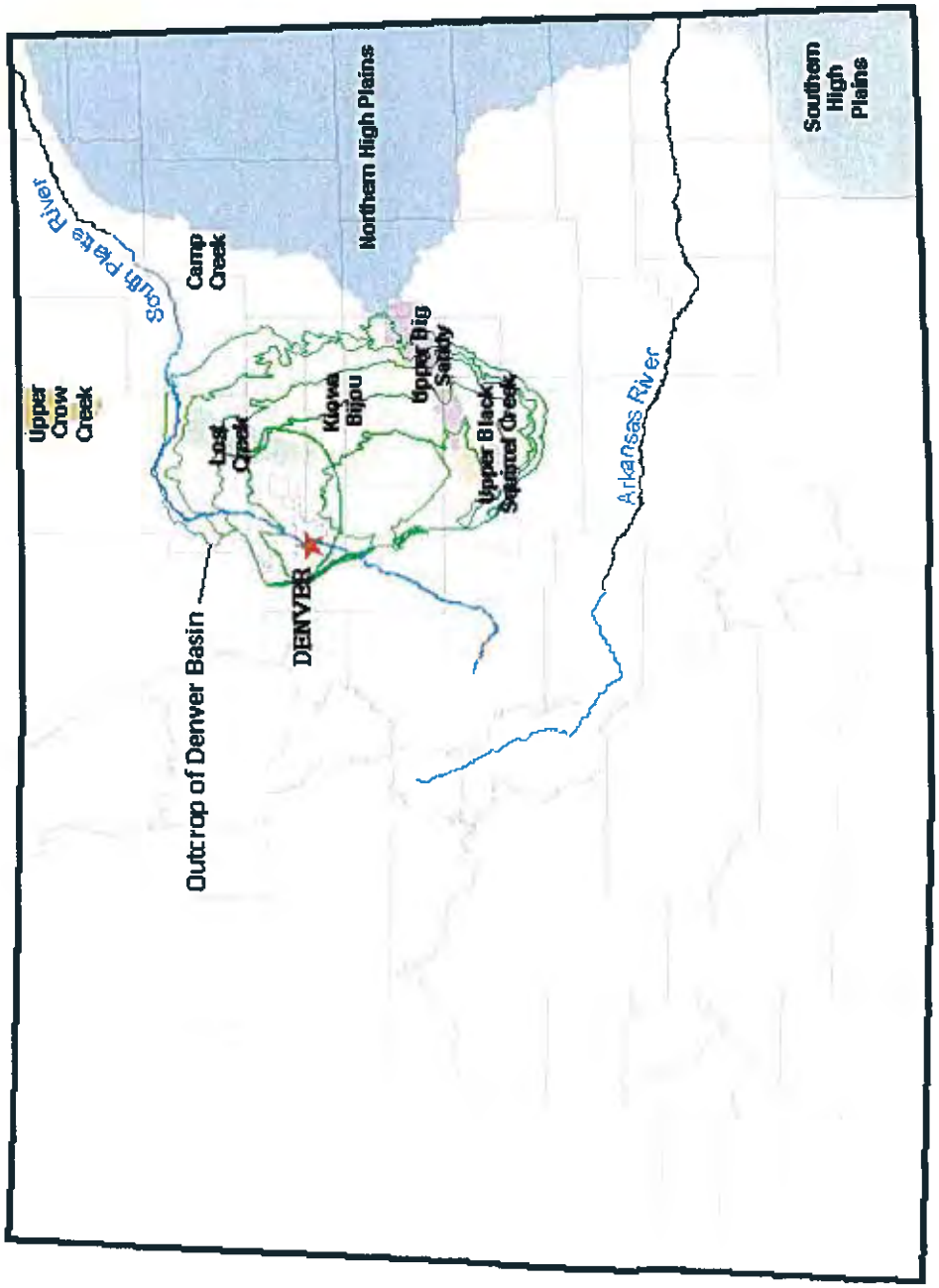
11. WAS AN ENGINEER'S WATER SUPPLY REPORTDEVELOPED? ☐ YES or ☐ NO IF YES, PLEASE FORWARD WITH THIS FORM.
(This may be required before our review is completed.)

12. TYPE OF SEWAGE DISPOSAL SYSTEM
☐ SEPTIC TANK/LEACH FIELD
☐ LAGOON
☐ ENGINEERED SYSTEM (Attach a copy of engineering design.)
☐ CENTRAL SYSTEM
DISTRICT NAME: _____
☐ VAULT
LOCATION SEWAGE HAULED TO: _____
☐ OTHER:

ATTACHMENT D

COLORADO STATE MAP SHOWING

THE DENVER BASIN AND THE DESIGNATED BASINS



APPENDIX E

Ultimate Projection Calculations

Prosper - Ultimate Projection Calculations

HRS Water Consultants, Inc.

		Units	Notes	
Max. Day Wastewater Flow	270	gal/day/SFE	(includes I&I)	
Average Annual Water Demand - Commercial & Multifamily	0.2	ac-ft/yr/SFE	(not including Irrigation)	
Average Annual Water Demand - Single Family - In House	0.2	ac-ft/yr/SFE	(not including Irrigation)	
Average Annual Water Demand - Single Family - Irrigation	0.2	ac-ft/yr/SFE		
Max. Day Water Demand - Commercial & Multifamily	321.12	gal/day/SFE	1.8 peaking factor	
Max. Day Water Demand - Single Family - In House	267.6	gal/day/SFE	1.5 peaking factor	
Max. Day Water Demand - Single Family - Irrigation	934.93	gal/day/SFE	3,000 sf lawn - 0.5 inches in one day	
Commercial/Retail equivalents	0.30	SFE/1,000 SF		
Offices/Medical/Civic	0.5	SFE/1,000 SF		
Rural Residential	1.00	SFE/DU	0.2	ac-ft/yr/SFE
Medium Density Residential	0.90	SFE/DU	0.18	ac-ft/yr/SFE
High Density Residential	0.75	SFE/DU	0.15	ac-ft/yr/SFE
Schools	3.00	SFE/50 stud		

Prosper - Ultimate Wastewater Flow and Potable Water Demand Projections

						* Irrigation with reuse or raw water		
Land Use	Building (sf)	# of Units or # students	SFE	WW - Flow Max. Day	Annual Demand In-Side (ac-ft)	Annual Demand Irrig. (ac-ft)	Max. Day Dem. In-side (gal/day)	Max. Day Dem. Irrig. (gal/day)
Commercial/Retail	2,000,000		600	162,000	120	*	192,672	*
Mixed Use (1)	1,500,000	400	1,050	283,500	210	*	337,176	*
Mixed Use (2)	500,000	900	925	249,750	185	*	247,530	*
Mixed Use Medical/Educational	500,000		250	67,500	50	*	80,280	*
Employment Light Industrial/Flex/Office	3,500,000		1,750	472,500	350	*	561,960	*
High School (1)	220,000	**1,700**	102	27,540	20	*	32,754	*
Elementary School (5)	380,000	**4,250**	255	68,850	51	*	81,886	*
Low Density Residential		1,500	1,500	405,000	300	300	401,400	1,402,393
Medium Density Residential		5,100	4,590	1,239,300	918	918	1,228,284	4,291,324
High Density Residential		1,100	825	222,750	165	*	220,770	*
Total Potable Demand	8,600,000	9,000	11,847	3,198,690	2,369	1,218	3,384,712	5,693,717

Total Projected Max. Day Wastewater Flow (MGD)	3.20
Total Projected Annual Wastewater Eff./Reuse (MG)	1,168
Total Projected Potable Water Annual Demand (ac-ft)	**3,587**
Total Projected Potable Max. Day Demand (MGD)	9.08
Total Projected Potable Max. Day Demand (GPM)	6,304

APPENDIX F

Ultimate Irrigation Projection Calculations

Prosper - Ultimate Irrigation Projection Calculations
HRS Water Consultants, Inc.
January, 2014

		Units	Notes
Annual Irrigation Rate	27	inches/yr	
Annual Irrigation Rate per Acre (calculated)	2.25	ac-ft/acre	
Irrigation Peak Day Demand - Fescue Turf	0.25	inches/day	
Irrigation Peak Hour Demand - Fescue Turf (calc gpm)	14.14	gpm/acre	8 hours per day
Irrigation Peak Day Demand - Native grasses	0.167	inches/day	
Irrigation Peak Hour Demand - Native Grass (calc gpm)	9.45	gpm/acre	8 hours per day
Percent (%) of Comm./Multifamily/Office Land Irrigated	30.00	%	
Percent (%) of Parks and Schools Land Irrigated	50.00	%	
Percent (%) of Open Space Land Irrigated	90.00	%	

Prosper - Ultimate Irrigation Demand Projections

Land Use	Total Land (Acres)	Irrigated Area (Acres)	Annual Irrigation (ac-ft/year)	Annual Irrigation (MG/year)	Max. Hour Irrigation Demand (gpm)	Max. Day Irrigation Demand (MGD)
Comm/Retail	173	52	117	38	734	0.35
Mixed Use -1	124	37	84	27	526	0.25
Mixed Use - 2	105	32	71	23	445	0.21
Mixed Use Medical/Educational	35	11	24	8	148	0.07
Employment Industrial/Flex/Office	216	65	146	48	916	0.44
School/Parks	**130**	**65**	146	48	919	**0.44**
Parks	**108**	**54**	122	40	764	**0.37**
High Densit Resid.	100	30	68	22	424	0.20
Waste Water Treatment Plant	9	3	6	2	38	0.02
Agriculture *	767	150	338	110	1,417	0.68
Open Space & ROW *	478	200	450	147	1,889	0.91
Totals	**2,245**	**698**	**1,570**	**511**	**8,221**	**3.95**

Total Projected Max. Day Irrigation Demand (MGD)	3.95
Total Projected Irrigation Annual Demand (ac-ft)	**1,570**
Total Projected Irrigation Annual Demand (MG)	511

APPENDIX G

11CW22 Water Court Decree

Water Division 1, State of Colorado District Court, Weld County 901 9th Avenue, Greeley, Colorado 80631 CONCERNING THE APPLICATION FOR WATER RIGHTS OF PROSPER FARMS INVESTMENTS, LLC IN ARAPAHOE COUNTY, COLORADO	EFILED Document – District Court 2011CW22 CO Weld County District Court 19th JD Filing Date: Dec 14 2011 4:43PM MST Filing ID: 41404143 ▲ COURT USE ONLY ▲ Case Number: 11CW22 Water Division 1

FINDINGS OF FACT, CONCLUSIONS OF LAW, RULING OF THE REFEREE AND DECREE OF THE WATER COURT

The above-captioned application was referred to the Water Referee for Water Division 1, State of Colorado, by the Water Judge of said Court in accordance with Article 92 of Title 37 of the Colorado Revised Statutes, known as the Water Right Determination and Administration Act of 1969. The undersigned Referee, having made such investigations as are necessary to determine whether or not the statements in the application are true, and having become fully advised with respect to the subject matter of the application, does hereby make the following Findings of Fact, Conclusions of Law, and Ruling in this matter:

I. FINDINGS OF FACT

1. **Application.** The Application for Determination of Underground Water Rights from the Not Nontributary and Nontributary Denver Basin Aquifers was filed on February 24, 2011, by Furniture Row COLO, LLC, a Colorado limited liability company, c/o Gregory A. Ruegsegger, General Counsel, 5641 North Broadway, Denver, Colorado 80216. In November 2011, Prosper Farms Investments, LLC, a Colorado limited liability company ("Prosper Farms"), substituted in as the Applicant in this matter after the conveyance to Prosper Farms of all the land and water rights that are the subject of the application. Applicant is represented in this matter by Stephen C. Larson and David F. Bower of the firm Johnson & Repucci LLP, 2521 Broadway, Suite A, Boulder, Colorado 80304. The Court hereby finds that the application is complete, covering all matters required by law. Applicant's claims are set forth in paragraphs 5 and 6 below.

2. **Notice and Jurisdiction.** All notices required by law have been duly given and the Court has jurisdiction over the subject matter of the application and over all persons affected thereby, whether or not they have chosen to appear. The Water Clerk has caused the publication of said application as provided by statute, and the publication costs have been paid. The land and water rights that are the subject of the application are not included within the boundaries of a designated groundwater basin.

3. **Objectors.** A statement of opposition was filed by the City of Aurora, a municipal corporation of the counties of Adams, Arapahoe and Douglas, acting by and through its Utility Enterprise ("Aurora"). Applicant and Aurora entered into a stipulation in this matter on October 31, 2011. No other statements of opposition were filed and the time for filing such statements has expired.

4. **Reports of the State and Division Engineers.** Determinations of Facts for the Denver Basin aquifers were issued by the State Engineer's Office on May 5, 2011 and a Summary of Consultation was issued by the Division Engineer for Water Division 1 on May 31, 2011. Applicant filed a response to the Summary of Consultation on July 14, 2011. As reflected in paragraphs 5 and 6 below, Applicant has revised its claims as necessary to appropriately incorporate the comments of the State and Division Engineer. The Referee has given due consideration to the Determinations of Facts, the Summary of Consultation, and Applicant's response to the Summary of Consultation in making these findings.

5. **Determination of Underground Water Rights from the Not Nontributary and Nontributary Denver Basin Aquifers Underlying the Subject Property.** Applicant is the owner of approximately 841.37 acres of land located in Arapahoe County, as more specifically described in paragraph 5(a) below (the "Subject Property"). By this claim, Applicant seeks an adjudication of all of the underground water in the Denver, Upper Arapahoe, Lower Arapahoe and Laramie-Fox Hills Aquifers underlying the Subject Property.

(a) Legal Description of the Subject Property. The Subject Property is located in Sections 1 and 12, Township 4 South, Range 65 West of the 6th P.M., Arapahoe County, Colorado, as shown on the map attached hereto as **Exhibit A** and as legally described in **Exhibit B**. The Subject Property is not located within a designated ground water basin.

(b) Wells and Well Permit Information. Any well permits necessary for withdrawing the not nontributary and nontributary ground water adjudicated in this case will be obtained prior to drilling any wells into the Denver Basin aquifers.

(c) Source of Water.

(i) *Not Nontributary Water*. The ground water from the Denver Aquifer underlying the Subject Property is not nontributary ground water as defined by C.R.S. § 37-90-103(10.7). As further explained in the Determination of Facts for the Denver Aquifer, the northern portion of the Subject Property is located within one mile of a point of contact between a natural stream and the Denver Aquifer, and the southern portion of the Subject Property is located greater than one mile of a point of contact between a natural stream and the Denver Aquifer. Applicant shall not withdraw any not nontributary ground water from the Denver Aquifer until a plan for augmentation is approved allowing such withdrawal, subject to the applicable replacement requirements of C.R.S. § 37-90-137(9).

(ii) *Nontributary Water*. The ground water from the Upper Arapahoe, Lower Arapahoe and Laramie-Fox Hills Aquifers underlying the Subject Property is nontributary ground water as defined by C.R.S. § 37-90-103(10.5). Applicant shall relinquish to the stream

system two percent (2%) of all nontributary ground water withdrawn on an annual basis, or otherwise demonstrate to the State Engineer that not more than ninety-eight percent (98%) of such nontributary ground water withdrawn shall be consumed by Applicant, pursuant to Rule 8 of the Denver Basin Rules, 2 CCR 402-6 (the "Denver Basin Rules").

(d) Estimated Amounts Claimed. Applicant requests the right to withdraw all of the legally available Denver Basin ground water from the not nontributary and nontributary sources underlying the Subject Property at rates of flow necessary to withdraw the entire amount permitted. Applicant will withdraw the ground water in all of the Denver Basin aquifers through wells to be located anywhere on the Subject Property and/or from the well field described in paragraph 6 below. Said amounts may be withdrawn (i) over the 100-year life of the aquifers as set forth in C.R.S. § 37-90-137(4); (ii) over a longer time based upon actual withdrawal or local government regulations; or (iii) subject to the banking provisions of Rule 8.A of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7 (the "Statewide Rules").

The Subject Property is divided into three parcels, as legally described in **Exhibit B**. The average annual amount of water to be withdrawn from each of the parcels and from each of the Denver Basin aquifers underlying the Subject Property, based upon the Determinations of Facts issued by the State Engineer's Office, is as follows:

Parcel I					
Aquifer	*Overlying Land (acres)*	*Saturated Sand Thickness (feet)*	*Specific Yield (percentage)*	*Type*	*Annual Withdrawal (af/yr)*
Denver	465.55	260	0.17	NNT – actual	205.8
Upper Arapahoe	465.55	145	0.17	NT	114.8
Lower Arapahoe	465.55	65	0.17	NT	51.4
Laramie-Fox Hills	465.55	160	0.15	NT	111.7
				Total Not Nontributary (NNT):	205.8
				Total Nontributary (NT):	277.9
				Total:	483.7
Parcel II					
Aquifer	*Overlying Land (acres)*	*Saturated Sand Thickness (feet)*	*Specific Yield (percentage)*	*Type*	*Annual Withdrawal (af/yr)*
Denver	59.99	260	0.17	NNT – actual	26.5
Upper Arapahoe	59.99	150	0.17	NT	15.3
Lower Arapahoe	59.99	65	0.17	NT	6.6
Laramie-Fox Hills	59.99	160	0.15	NT	14.4
				Total Not Nontributary (NNT):	26.5
				Total Nontributary (NT):	36.3
				Total:	62.8
Parcel III					
Aquifer	*Overlying Land (acres)*	*Saturated Sand Thickness (feet)*	*Specific Yield (percentage)*	*Type*	*Annual Withdrawal (af/yr)*
Denver	215.17	255	0.17	NNT – actual	93.3

Denver	100.66	255	0.17	NNT – 4%	43.6
Upper Arapahoe	315.83	150	0.17	NT	80.5
Lower Arapahoe	315.83	65	0.17	NT	34.9
Laramie-Fox Hills	315.83	170	0.15	NT	80.5
				Total Not Nontributary (NNT):	136.9
				Total Nontributary (NT):	195.9
				Total:	332.8

The total estimated average annual amount of withdrawal from each of the Denver Basin aquifers underlying the 841.37 acres of the Subject Property is as follows:

Aquifer	*Type*	*Annual Withdrawal (af/yr)*
Denver	NNT – actual *	325.6
Denver	NNT – 4% **	43.6
Upper Arapahoe	NT	210.6
Lower Arapahoe	NT	92.9
Laramie-Fox Hills	NT	206.6
TOTAL		**879.3**

* 740.71 acres of the Subject Property (*i.e.* Parcel I, Parcel II and 215.17 acres of Parcel III) is located within one mile of a point of contact between a natural stream and the Denver Aquifer. Accordingly, withdrawals from these lands are subject to replacement of actual stream depletions pursuant to C.R.S. § 37-90-137(9).

** 100.66 acres of the Subject Property (*i.e.* 100.66 acres of Parcel III) is located greater than one mile from a point of contact between a natural stream and the Denver Aquifer. Accordingly, withdrawals from these lands are subject to replacement of 4% of the amount of water withdrawn to replace stream depletions pursuant to C.R.S. § 37-90-137(9).

(e) Uses or Proposed Uses. The ground water withdrawn from the Subject Property may be used, reused, and successively used to extinction, both on and off the Subject Property, for the following beneficial purposes: domestic, municipal, industrial, commercial, irrigation, livestock watering, recreational, fish and wildlife, fire protection, augmentation, replacement, and exchange. The ground water may be immediately used or stored for subsequent use, used for exchange purposes, for direct replacement of depletions, and for other augmentation purposes. Applicant claims the right to recapture, directly or by exchange, the return flows arising from use of this water and to reuse the same directly, by credit or after storage or reinjection, all in accordance with Colorado law. Such ground water may be leased, sold, or otherwise disposed of for all of these uses.

(f) Well Permits. Applicant shall be entitled to the issuance of well permits for withdrawing water from the Subject Property pursuant to C.R.S. § 37-90-137(10). Any well permits necessary for withdrawing the not nontributary and nontributary ground water must be obtained from the State Engineer's Office in accordance with C.R.S. § 37-90-137(4) and/or (10). Each well used to withdraw the not nontributary and nontributary ground water must be equipped with a properly installed and maintained totalizing flow meter. The Division Engineer may require Applicant to submit diversion records to the Division Engineer or his representative on an annual basis, or as otherwise requested by the Division Engineer.

(g) Well Field. Pursuant to Statewide Rules 11 and 14, Applicant claims a well field for production of the ground water that is the subject of this paragraph 5 along with lands

identified in the decrees entered in Case Nos. 89CW047, 97CW396, 99CW066, 01CW181, 02CW211, 02CW395, 04CW12, 04CW212, 04CW213 and 05CW35, Water Division 1, which are generally depicted on the map attached hereto as **Exhibit C**, as further explained below.

(h) Spacing Rules. Applicant waives any six hundred foot spacing rules as described in C.R.S. § 37-90-137(2), as between all wells located on the Subject Property and between all wells within the well field, to the extent that additional wells are drilled in the future.

(i) Limit on Consumption. Pursuant to Denver Basin Rule 8, Applicant shall limit the consumption of the water withdrawn from the nontributary Denver Basin aquifers underlying the Subject Property to no more than 98% of the water withdrawn on an annual basis and shall relinquish the remaining 2% to the stream system.

(j) Not Nontributary Requirements. Applicant shall not withdraw any not nontributary ground water from the Subject Property until a plan for augmentation is approved allowing such withdrawal, subject to the applicable replacement requirements of C.R.S. § 37-90-137(9).

(k) Banking. Applicant shall be allowed to withdraw more than the allowed annual average amount of ground water available set forth in paragraph 5(d) above pursuant to the banking provisions of Statewide Rule 8.A.

(l) Abandonment of Existing Wells. There are currently two wells permitted to be located on the Subject Property. Both existing wells are drilled into the Denver Aquifer formation and permitted under exempt Permit Nos. 1400 and 44443. Applicant shall abandon these existing permits before being issued any new permits for withdrawing the Denver Basin water adjudicated herein.

6. **Change of Previously Adjudicated Denver Basin Ground Water to be Withdrawn from the Well Field.** Applicant is the successor to and owner of certain contiguous lands and previously adjudicated Denver Basin ground water rights underlying such lands located in Arapahoe County. By this claim, and pursuant to the Statewide Rules, Applicant seeks to change certain of the previously adjudicated Denver Basin ground water rights conveyed to Applicant with such contiguous lands so that the previously decreed Denver Basin aquifer ground water rights may be withdrawn from a well field comprised of Applicant's contiguous lands (the "Well Field").[1] Applicant's Well Field will also include previously adjudicated Denver Basin ground water rights that are already decreed to be withdrawn from any contiguous or non-contiguous lands. Applicant also seeks to adjudicate, and include within the Well Field, Denver Aquifer water that was reserved for exempt wells (that were never developed) in prior decrees. A map showing the parcels included within the Well Field is attached hereto as **Exhibit C**.

[1] One parcel of land, identified below, is slightly non-contiguous but is applied for as part of the Well Field pursuant to Statewide Rule 11(b).

(a) Original Decrees to be Changed. The original decrees for the Denver Basin underground water rights sought to be changed for the purposes of withdrawing ground water from the Well Field are as follows:

(i) Case No. 89CW047, entered February 8, 1991.

(ii) Case No. 97CW396, entered November 25, 1998.

(iii) Case No. 99CW066, entered February 29, 2000.

(iv) Case No. 01CW181, entered October 21, 2003.

(v) Case No. 02CW211, entered November 3, 2003 and amended *nunc pro tunc* on March 3, 2004.

(vi) Case No. 02CW395, entered February 24, 2004.

(vii) Case No. 04CW212, entered February 7, 2006.

(viii) Case No. 05CW35, entered March 16, 2006.

(b) Proposed Change. Applicant requests that the Denver Basin underground water rights for the cases referenced in paragraph 6(a) above be changed to allow Applicant to withdraw the total annual amount of ground water adjudicated therein from a well or wells located anywhere on the Well Field depicted on **Exhibit C**.

(c) Additional Decrees to be Included within Well Field. The original decrees for the Denver Basin underground water rights that are not changed in order to include the decreed water within the Well Field, due to existing well field provisions of such decrees, are as follows:

(i) Case No. 04CW12, entered February 7, 2006.

(ii) Case No. 04CW213, entered February 7, 2006.

(iii) Case No. 11CW22, entered herein.

(d) Legal Descriptions of the Well Field Properties. Applicant owns the Denver Basin aquifer ground water underlying the properties that are the subject of the cases cited in paragraphs 6(a) and 6(c) above, which are located in Sections 5, 6, 7, 8 and 18, Township 4 South, Range 64 West of the 6th P.M., and in Sections 1, 2, 11, 12, 13, 14 and 24, Township 4 South, Range 65 West of the 6th P.M. None of the properties are located within a designated ground water basin.

(e) Decreed Sources. The decreed sources of ground water for all of the cases cited in paragraphs 6(a) and 6(c) above are not nontributary ground water from the Denver Aquifer

and nontributary ground water from the Upper Arapahoe, Lower Arapahoe, and the Laramie-Fox Hills Aquifers.

(f) Amounts to be Changed. The annual withdrawals decreed in the individual cases cited in paragraph 6(a) above and which, pursuant to this claim, shall be changed so as to allow withdrawal of the water from the Well Field adjudicated herein, are set forth below.

Case No. 89CW047 *

Aquifer	*Overlying Land (acres)*	*Saturated Sand Thickness (feet)*	*Specific Yield (percentage)*	*Type*	*Annual Withdrawal (af/yr)*
Denver	911.2	240	0.17	NNT – 4%	371.8
Upper Arapahoe	934.2	150	0.17	NT	238.2
Lower Arapahoe	934.2	75	0.17	NT	119.1
Laramie-Fox Hills	934.2	175	0.15	NT	245.2
				Total Not Nontributary (NNT):	371.8
				Total Nontributary (NT):	602.5
				Total:	974.3

* Case No. 89CW047 decreed the Denver Basin water underlying 956 acres of land. Applicant currently owns approximately 934.2 acres of land overlying the subject parcel. The amount of water adjudicated in 89CW047 that will be withdrawn from the subject Well Field has been adjusted accordingly.

Case No. 97CW396

Aquifer	*Overlying Land (acres)*	*Saturated Sand Thickness (feet)*	*Specific Yield (percentage)*	*Type*	*Annual Withdrawal (af/yr)*
Denver **	460	250	0.17	NNT – actual	189
Upper Arapahoe	460	150	0.17	NT	117
Lower Arapahoe	460	60	0.17	NT	47
Laramie-Fox Hills	460	155	0.15	NT	107
				Total Not Nontributary (NNT):	189
				Total Nontributary (NT):	271
				Total:	460

** The decree entered in Case No. 97CW396 reserved 39 acre-feet/year from the Denver Aquifer for future exempt wells. To date, only 3 acre-feet/year underlying the 97CW396 property has been developed, under Well Permit No. 51341. In this case, Applicant seeks to adjudicate the undeveloped 36 acre-feet/year of this reserved water and withdraw it from the Well Field.

Case No. 99CW066

Aquifer	*Overlying Land (acres)*	*Saturated Sand Thickness (feet)*	*Specific Yield (percentage)*	*Type*	*Annual Withdrawal (af/yr)*
Denver +	576	255	0.17	NNT – 4%	247.7
Upper Arapahoe	576	139	0.17	NT	136.1
Lower Arapahoe	576	71	0.17	NT	69.5
Laramie-Fox Hills	576	157	0.15	NT	135.6
				Total Not Nontributary (NNT):	247.7
				Total Nontributary (NT):	341.2
				Total:	588.9

+ The decree entered in Case No. 99CW066 reserved 48 acre-feet/year from the Denver Aquifer for future exempt wells. To date, none of this water has been developed. In this case, Applicant seeks to adjudicate the

undeveloped 48 acre-feet/year of this reserved water and withdraw it from the Well Field.

Case No. 01CW181 ++

Aquifer	*Overlying Land (acres)*	*Saturated Sand Thickness (feet)*	*Specific Yield (percentage)*	*Type*	*Annual Withdrawal (af/yr)*
Denver	182	240	0.17	NNT – actual	73.3
Upper Arapahoe	182	145	0.17	NT	44.9
Lower Arapahoe	182	60	0.17	NT	18.6
Laramie-Fox Hills	182	150	0.15	NT	41.0
				Total Not Nontributary (NNT):	73.3
				Total Nontributary (NT):	104.5
				Total:	177.8

++ As shown on **Exhibit C**, the parcel associated with this case is slightly non-contiguous to the rest of the contiguous lands. This parcel is claimed as part of the Well Field in accordance with Statewide Rule 11(b).

Case No. 02CW211 ▲

Aquifer	*Overlying Land (acres)*	*Saturated Sand Thickness (feet)*	*Specific Yield (percentage)*	*Type*	*Annual Withdrawal (af/yr)*
Denver ▲▲	157.639	225	0.17	NNT – actual	60.3
Upper Arapahoe	157.639	135	0.17	NT	36.2
Lower Arapahoe	157.639	70	0.17	NT	18.8
Laramie-Fox Hills	157.639	160	0.15	NT	37.8
				Total Not Nontributary (NNT):	60.3
				Total Nontributary (NT):	92.8
				Total:	153.1

▲ The decree in Case No. 02CW211 adjudicated the water underlying a total of approximately 774 acres associated with three distinct parcels of land located in Adams, Arapahoe and Weld Counties (identified therein as Parcels 1, 2 and 3, respectively). Of those decreed lands, 640 acres are located in Arapahoe County. Applicant owns 157.639 acres of the 640 acres located in Arapahoe County (the SW1/4 of Parcel 2), along with the Denver Basin water underlying the 157.639 acres. The Well Field adjudicated herein only includes the Denver Basin water decreed in Case No. 02CW211 which underlies the 157.639 acres that are owned by Applicant.

▲▲ The decree entered in Case No. 02CW211 reserved 72 acre-feet/year from the Denver Aquifer for future domestic exempt wells to be located on all 640 acres of Parcel 2. In this case, Applicant seeks to adjudicate and withdraw the portion of the reserved water underlying its 157.639 acres, 17.7 acre-feet/year, from the Well Field.

Case No. 02CW395

Aquifer	*Overlying Land (acres)*	*Saturated Sand Thickness (feet)*	*Specific Yield (percentage)*	*Type*	*Annual Withdrawal (af/yr)*
Denver	127	250	0.17	NNT – 4%	53.9
Upper Arapahoe	127	145	0.17	NT	31.3
Lower Arapahoe	127	80	0.17	NT	17.2
Laramie-Fox Hills	127	175	0.15	NT	33.3
				Total Not Nontributary (NNT):	53.9
				Total Nontributary (NT):	81.8
				Total:	135.7

Case No. 04CW212 ×

Aquifer	*Overlying Land (acres)*	*Saturated Sand Thickness (feet)*	*Specific Yield (percentage)*	*Type*	*Annual Withdrawal (af/yr)*

Denver	544	235	0.17	NNT – actual	217.3
Denver	365	235	0.17	NNT – 4%	145.8
Upper Arapahoe	933	150	0.17	NT	237.9
Lower Arapahoe	933	70	0.17	NT	111.0
Laramie-Fox Hills	933	170	0.15	NT	237.9
				Total Not Nontributary (NNT):	363.1
				Total Nontributary (NT):	586.8
				Total:	949.9

[x] Case No. 04CW212 decreed the Denver Basin water underlying 968 acres of land. Applicant currently owns 933 acres of these decreed lands. The amount of water adjudicated in Case No. 04CW212 that will be withdrawn from the subject Well Field has been adjusted accordingly.

Case No. 05CW35

Aquifer	*Overlying Land (acres)*	*Saturated Sand Thickness (feet)*	*Specific Yield (percentage)*	*Type*	*Annual Withdrawal (af/yr)*
Denver	85.633	210	0.17	NNT – 4%	30.6
Upper Arapahoe	85.633	145	0.17	NT	21.1
Lower Arapahoe	85.633	80	0.17	NT	11.6
Laramie-Fox Hills	85.633	175	0.15	NT	22.5
				Total Not Nontributary (NNT):	30.6
				Total Nontributary (NT):	55.2
				Total:	85.8

(g) Additional Previously Adjudicated Denver Basin Ground Water to be Withdrawn from the Well Field. Applicant seeks to include within the Well Field lands owned by Applicant that overlie the Denver Basin ground water decreed in Case Nos. 04CW12 and 04CW213. The decrees in Case Nos. 04CW12 and 04CW213 already provide that the ground water decreed therein may be withdrawn from any contiguous lands or from any non-contiguous lands, if it is determined that a well cylinder for a well to be located in such well field overlaps any portion of such non-contiguous parcels, that are owned by Applicant. Therefore, no change is needed in reference to those decrees in order to include them within the Well Field decreed herein. The annual withdrawals quantified and decreed in these cases are set forth below.

Case No. 04CW12

Aquifer	*Overlying Land (acres)*	*Saturated Sand Thickness (feet)*	*Specific Yield (percentage)*	*Type*	*Annual Withdrawal (af/yr)*
Denver	24.18	255	0.17	NNT – actual	10.5
Denver	617.97	255	0.17	NNT – 4%	267.9
Upper Arapahoe	642.15	145	0.17	NT	158.3
Lower Arapahoe	642.15	70	0.17	NT	76.4
Laramie-Fox Hills	642.15	165	0.15	NT	158.9
				Total Not Nontributary (NNT):	278.4
				Total Nontributary (NT):	393.6
				Total:	672.0

Case No. 04CW213

Aquifer	*Overlying Land*	*Saturated Sand Thickness*	*Specific Yield*	*Type*	*Annual Withdrawal*

	(acres)	*(feet)*	*(percentage)*		*(af/yr)*
Denver	323.3	250	0.17	NNT – 4%	137.3
Upper Arapahoe	323.3	150	0.17	NT	82.4
Lower Arapahoe	323.3	80	0.17	NT	43.9
Laramie-Fox Hills	323.3	175	0.15	NT	84.8
				Total Not Nontributary (NNT):	137.3
				Total Nontributary (NT):	211.1
				Total:	348.4
Case No. 11CW22					
Aquifer	*Overlying Land (acres)*	*Saturated Sand Thickness (feet)*	*Specific Yield (percentage)*	*Type*	*Annual Withdrawal (af/yr)*
Denver	740.71	255-260 *	0.17	NNT – actual **	325.6
Denver	100.66	255	0.17	NNT – 4% +	43.6
Upper Arapahoe	841.37	145-150 *	0.17	NT	210.6
Lower Arapahoe	841.37	65	0.17	NT	92.9
Laramie-Fox Hills	841.37	160-170 *	0.15	NT	206.6
				Total Not Nontributary (NNT):	369.2
				Total Nontributary (NT):	510.1
				Total:	879.3

* See paragraph 5(d) above for delineation of specific saturated thicknesses for the three parcels comprising the Subject Property.

** 740.71 acres of the Subject Property is located within one mile of a point of contact between a natural stream and the Denver Aquifer. Withdrawals from these lands are subject to replacement of actual stream depletions pursuant to C.R.S. § 37-90-137(9). See paragraph 5(d) above.

+ 100.66 acres of the Subject Property is located greater than one mile from a point of contact between a natural stream and the Denver Aquifer. Withdrawals from these lands are subject to replacement of 4% of the amount of water withdrawn pursuant to C.R.S. § 37-90-137(9). See paragraph 5(d) above.

(h) Total Amount of Water to be Withdrawn from the Well Field. The total estimated average annual amount of withdrawal from each of the Denver Basin aquifers underlying the Well Field, as set forth above in paragraphs 6(f) (water rights changed to the Well Field) and 6(g) (water rights included within the Well Field without such a change) above, is as follows:

Prosper Farms Contiguous Lands – Summary of Denver Basin Water Underlying Approximately 5,262.3 Acres		
Aquifer	*Type*	*Annual Withdrawal (af/yr)*
Denver	NNT – actual	876.0
Denver	NNT – 4%	1,298.6
Upper Arapahoe	NT	1,314.0
Lower Arapahoe	NT	626.0
Laramie-Fox Hills	NT	1,310.6
TOTAL		**5,425.2**

(i) Uses or Proposed Uses of Water Withdrawn from Well Field. All ground water withdrawn from the Well Field may be used, reused, and successively used to extinction, both on and off the parcels included within the Well Field, for the following beneficial purposes:

domestic, municipal, industrial, commercial, irrigation, livestock watering, recreational, fish and wildlife, fire protection, augmentation, replacement, and exchange. The ground water may be immediately used or stored for subsequent use, used for exchange purposes, for direct replacement of depletions, and for other augmentation purposes. Applicant claims the right to recapture, directly or by exchange, the return flows arising from use of this ground water and to reuse the same, directly, by credit or after storage or reinjection. The ground water may be leased, sold, or otherwise disposed of for all of these uses.

(j) Well Permits. Applicant shall be entitled to the issuance of well permits for additional wells for the Well Field pursuant to C.R.S. § 37-90-137(10). Any well permits necessary for withdrawing the not nontributary and nontributary ground water must be obtained from the State Engineer's Office in accordance with C.R.S. § 37-90-137(4) and/or (10). Each well used to withdraw the not nontributary and nontributary ground water must be equipped with a properly installed and maintained totalizing flow meter. The Division Engineer may require Applicant to submit diversion records to the Division Engineer or his representative on an annual basis, or as otherwise requested by the Division Engineer.

(k) Spacing Rules. Applicant waives any six hundred foot spacing rules as described in C.R.S. § 37-90-137(2), as between all wells within the Well Field, to the extent that additional wells are drilled in the future.

(l) Limit on Consumption. Pursuant to Denver Basin Rule 8, Applicant shall limit the consumption of the water withdrawn from the nontributary Denver Basin aquifers within the Well Field to no more than 98% of the water withdrawn on an annual basis and shall relinquish the remaining 2% to the stream system.

(m) Not Nontributary Requirements. Applicant shall not withdraw any not nontributary water from the Well Field until a plan for augmentation is approved allowing such withdrawal, subject to the applicable replacement requirements of C.R.S. § 37-90-137(9).

(n) Banking. Applicant shall be allowed to withdraw more than the allowed annual average amount of water available from the Well Field pursuant to the banking provisions of Statewide Rule 8.A.

II. CONCLUSIONS OF LAW

7. The Findings of Fact as set forth in Section I above are fully incorporated herein and the following Conclusions of Law are made therefrom.

8. All notices of the application have been properly made as required by law, including as required under C.R.S. § 37-92-302(3), and the Court has jurisdiction over the subject matter of this action and over all entities or persons who had standing to appear, even if they did not.

9. The application is complete, covering all matters required by C.R.S. §§ 37-92-101 *et seq.*

10. Applicant has satisfied all legal requirements for a determination of underground water rights from the not nontributary and nontributary Denver Basin aquifers underlying the Subject Property pursuant to C.R.S. §§ 37-92-301 through 305 and 37-90-137(4).

11. Applicant has satisfied all legal requirements in order to withdraw the underground water rights from the not nontributary and nontributary Denver Basin aquifers from the subject Well Field pursuant to C.R.S. §§ 37-92-301 through 305 and 37-90-137(4).

III. RULING OF THE REFEREE AND DECREE OF THE WATER COURT

12. The Findings of Fact and Conclusions of Law as set forth in Sections I and II above are fully incorporated herein and made a part hereof.

13. The Court hereby grants and decrees Applicant's claim set forth in paragraph 5 above for a determination of underground water rights from the not nontributary and nontributary Denver Basin aquifers underlying the Subject Property depicted on **Exhibit A** and legally described in **Exhibit B**. The total average annual amount of water to be withdrawn from each of the Denver Basin aquifers underlying the Subject Property, subject to the terms and conditions set forth in paragraph 5 above, is as follows:

*Prosper Farms Subject Property – Summary of Denver Basin Water Underlying 841.37 Acres depicted on **Exhibit A** and legally described in **Exhibit B***		
Aquifer	*Type*	*Annual Withdrawal (af/yr)*
Denver	NNT – actual	325.6
Denver	NNT – 4%	43.6
Upper Arapahoe	NT	210.6
Lower Arapahoe	NT	92.9
Laramie-Fox Hills	NT	206.6
TOTAL		**879.3**

14. The Court hereby grants and decrees Applicant's claim set forth in paragraph 6 above for a well field to withdraw water from the not nontributary and nontributary Denver Basin aquifers underlying its Well Field in Arapahoe County as depicted on **Exhibit C**, which *includes* the Subject Property summarized above. The total average annual amount of ground water to be withdrawn from each of the Denver Basin aquifers underlying the Well Field, subject to the terms and conditions set forth in paragraph 6 above, is as follows:

*Prosper Farms Contiguous Lands – Summary of Denver Basin Water Underlying Approximately 5,262.3 Acres Depicted on **Exhibit C***		
Aquifer	*Type*	*Annual Withdrawal (af/yr)*
Denver	NNT – actual	876.0
Denver	NNT – 4%	1,298.6

Upper Arapahoe	NT	1,314.0
Lower Arapahoe	NT	626.0
Laramie-Fox Hills	NT	1,310.6
TOTAL		**5,425.2**

All ground water withdrawn from the Well Field may be used, reused, and successively used to extinction, both on and off the parcels included within the Well Field, for the following beneficial purposes: domestic, municipal, industrial, commercial, irrigation, livestock watering, recreational, fish and wildlife, fire protection, augmentation, replacement, and exchange. The ground water may be immediately used or stored for subsequent use, used for exchange purposes, for direct replacement of depletions, and for other augmentation purposes. Applicant claims the right to recapture, directly or by exchange, the return flows arising from use of this water and to reuse the same, directly, by credit or after storage or reinjection. The water may be leased, sold, or otherwise disposed of for all of these uses.

15. A copy of these Findings of Fact, Conclusions of Law, Ruling of the Referee and Decree of the Water Court shall be filed with the Division Engineer for Water Division 1 and the State Engineer.

Dated: November 22, 2011

John S. Cowan
Water Referee
Water Division 1

This document was e-filed pursuant to C.R.C.P. 121 §1-16. A printable version of the electronically signed document is available in the court's electronic file.

No protest was filed in this matter. The foregoing ruling is confirmed and approved, and is made the Judgment and Decree of this Court.

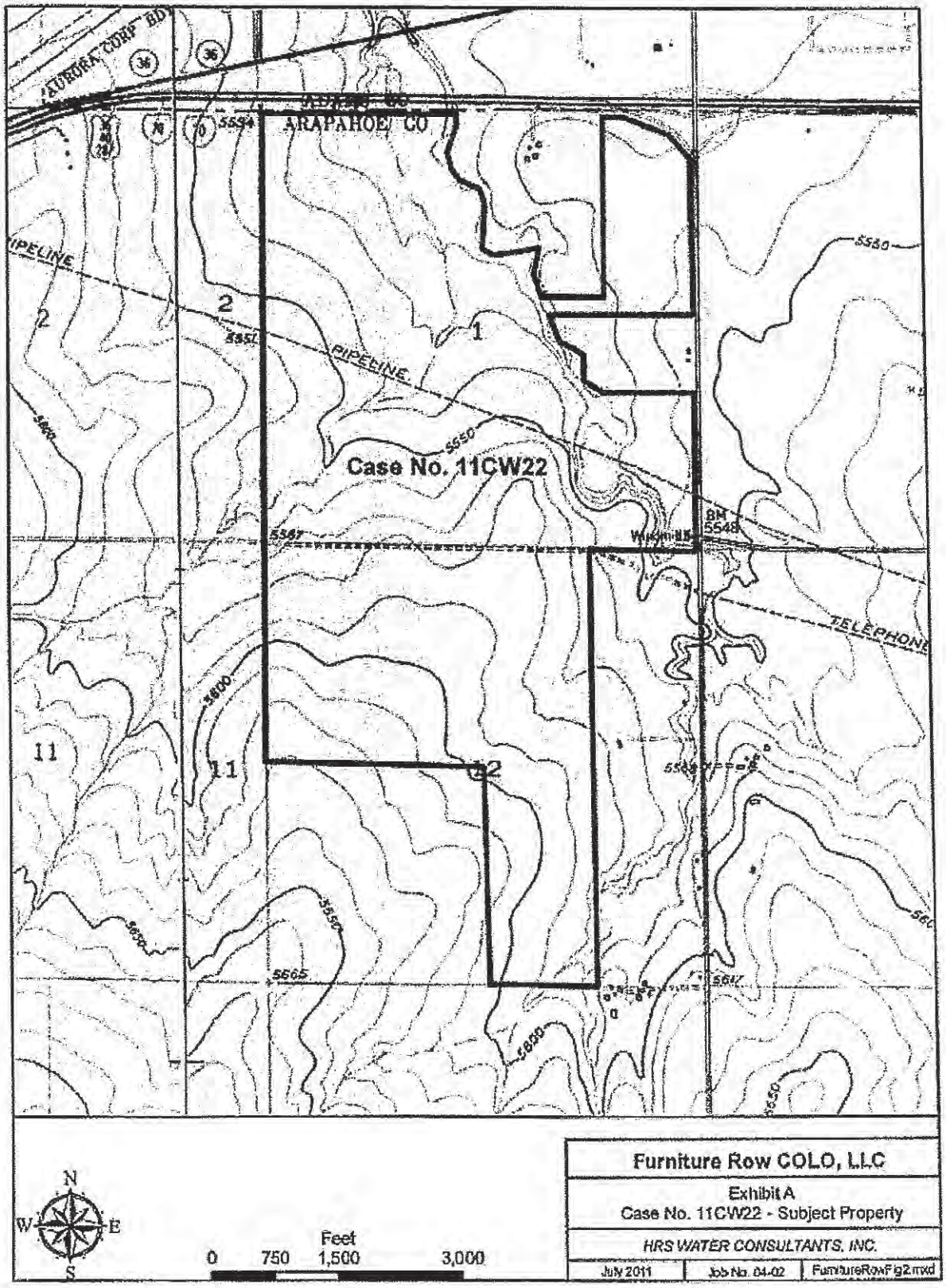
Dated: 14 December 2011

BY THE COURT:

Dinsmore Tuttle
Alternate Water Judge
Water Division 1

TABLE OF DECREE EXHIBITS

Exhibit A	General Location Map
Exhibit B	Property Legal Description
Exhibit C	Map of Well Field Parcels



Prosper Farms Investments, LLC
11CW22

EXHIBIT A

LEGAL DESCRIPTION

PARCEL I:

SECTION 1, TOWNSHIP 4 SOUTH, RANGE 65 WEST OF THE 6TH P.M., EXCEPT THE EASTERLY 25 FEET THEREOF, AND EXCEPT THOSE PORTIONS DESCRIBED IN DEEDS RECORDED AUGUST 19, 1958 IN BOOK 1078 AT PAGE 398; OCTOBER 11, 1965 IN BOOK 1626 AT PAGE 53; AND JUNE 23, 1982 IN BOOK 3647 AT PAGE 387, COUNTY OF ARAPAHOE, STATE OF COLORADO.

PARCEL II:

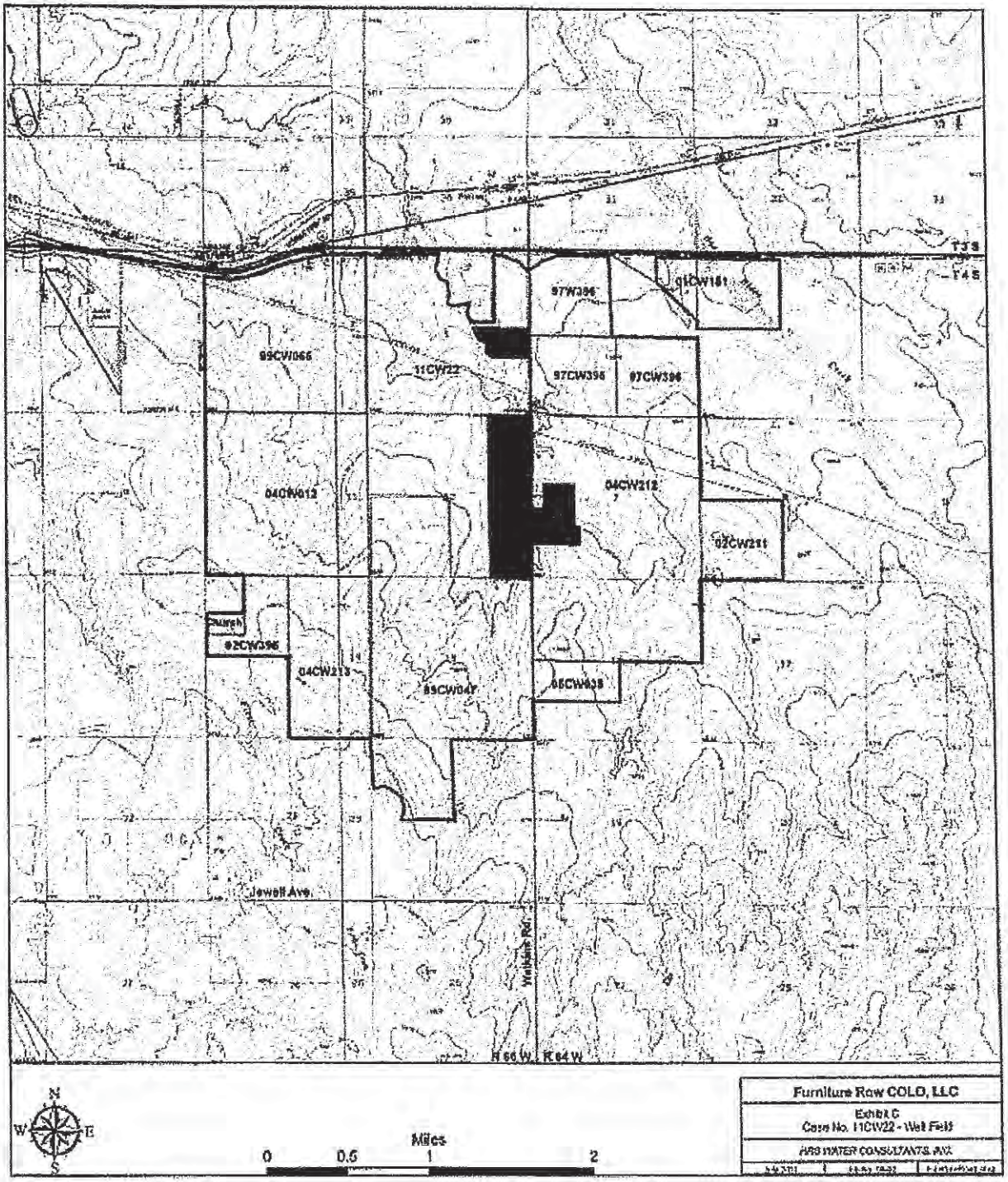
A PARCEL OF LAND SITUATED IN THE NE 1/4 OF SECTION 1, T.4S., R.65W., OF THE 6TH P.M., COUNTY OF ARAPAHOE, STATE OF COLORADO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SECTION 1, T.4S., R.65W., OF THE 6TH P.M.; THENCE S00°32'30"W ALONG THE EAST LINE OF SAID NE 1/4 OF SECTION 1, T.4S., R.65W., OF THE 6TH P.M., A DISTANCE OF 1619.90 FEET; THENCE N89°27'30"W A DISTANCE OF 25.00 FEET TO A POINT ON THE WEST R.O.W. LINE OF WATKINS ROAD AND THE POINT OF BEGINNING; THENCE S00°32'30"W ALONG SAID WEST R.O.W. LINE A DISTANCE OF 809.07 FEET; THENCE N89°27'36"W A DISTANCE OF 1771.67 FEET; THENCE N19°11'35"W A DISTANCE OF 227.88 FEET; THENCE S89°27'36"E A DISTANCE OF 743.91 FEET; THENCE N00°25'36"W A DISTANCE OF 2179.29 FEET TO A POINT ON THE SOUTHERLY R.O.W. LINE INTERSTATE HIGHWAY 70; THENCE THE FOLLOWING FIVE (5) COURSES ALONG SAID SOUTHERLY R.O.W. LINE OF INTERSTATE HIGHWAY 70; THENCE S89°21'23"E A DISTANCE O 191.23 FEET; THENCE S89°42'02"E A DISTANCE OF 683.06 FEET; THENCE S42°32'30"E A DISTANCE OF 366.00 FEET; THENCE S00°32'30"W A DISTANCE OF 300.00 FEET; THENCE S13°29'30"E A DISTANCE OF 103.10 FEET TO A POINT ON SAID WESTERLY R.O.W. LINE OF WATKINS ROAD; THENCE S00°32'30"W ALONG SAID WESTERLY R.O.W. LINE A DISTANCE OF 686.10 FEET TO THE POINT OF BEGINNING.

PARCEL CONTAINS (2,613,574 SQUARE FEET) 59.9999 ACRES.

PARCEL III:

THE WEST 1/2 OF THE EAST 1/2 AND THE NORTHWEST 1/4 OF SECTION 12, TOWNSHIP 4 SOUTH, RANGE 65 WEST OF THE 6TH P.M., EXCEPT ANY PORTION LYING WITHIN ANY EXISTING ROAD, COUNTY OF ARAPAHOE, STATE OF COLORADO.



Prosper Farms Investments, LLC
11CW22

EXHIBIT C

APPENDIX H

Arapahoe County Water & Wastewater Authority
Conditional Will-Serve Letter

ACWWA

Arapahoe County Water and Wastewater Authority
13031 East Caley Avenue, Centennial, CO 80111, (303) 790-4830, FAX (303) 790-9364
www.arapahoewater.org

October 5, 2012

Arapahoe County Planning
5334 South Prince Street
Littleton, CO 80120

Re: Conditional Will Serve Letter—Prosper Development, 1041 Permit / Preliminary Development Plan Application

Dear Sir or Madam:

Arapahoe County Water and Wastewater Authority ("ACWWA") provides this conditional "will serve" letter for the Arapahoe County development known as "Prosper," which is the subject of the above-referenced land use application (the "Application"). Prosper is a proposed 5,100-acre mixed use master planned development east of Aurora, with a phased thirty-year build-out. The property is owned by Prosper Farms Investments, LLC, a local Colorado company.

As a part of the Application materials, the applicant submitted an "Average Annual Water Demands, Water Supplies, and Water Balance" for the Prosper development, dated August 13, 2012, prepared by HRS Water Consultants Inc. (the "Demand and Supply Table"). The Demand and Supply Table projects annual water demands for Prosper and the mix of water supplies proposed to satisfy those demands. Total annual demands at full build-out are projected to be 5,220 acre-feet. Of this amount, 1,305 acre-feet (25%) annually is projected to be supplied by the Developer's decreed on-site nontributary water from the Lower Arapahoe and Laramie-Fox Hills aquifers; 1,662 acre-feet (32%) annually is projected to come from renewable supplies; and the 2,253 acre-foot balance (43%) is projected to be derived from reuse of the above sources. The owner and ACWWA have been in discussions in regard to the conditions by which ACWWA may provide water service to the development or to a water district that would serve the development, in order to satisfy the projected 1,662 acre-feet renewable water supply, utilizing fully reusable sources.

This letter contemplates primarily that ACWWA would expand one of its current projects, The ACWWA Flow Project to meet the increased water supply demands requested by the Prosper Development, however ACWWA may consider other projects to meet this demand as well.

Pursuant to an intergovernmental agreement ("IGA") between ACWWA, East Cherry Creek Valley Water & Sanitation District ("ECCV") and United Water & Sanitation District, the ACWWA Flow Project has secured the water rights and the infrastructure necessary to bring renewable water supplies to Arapahoe County. The renewable supplies are derived from the South Platte River basin and are brought to Arapahoe County via the ECCV Northern Pipeline (the "Pipeline"). The renewable water is pumped from high capacity alluvial wells on the north end of the system, in Beebe Draw at Barr Lake, treated, and delivered into the Pipeline for delivery to the south end of the system, which is in and near the ECCV service area. The alluvial

wells providing the renewable supply are augmented via senior South Platte River water rights. A number of river exchanges and storage facilities are also involved in the operations that deliver renewable supplies from the South Platte River basin via the Pipeline. The north-south axis of the Pipeline is located approximately 3.5 miles due west of Prosper's eastern boundary and is therefore in an ideal location to deliver renewable water to the Prosper development.

The capacity of the Pipeline is approximately 47 million gallons per day (mgd). Less than half of that capacity is presently committed to current stakeholder participants (ACWWA, ECCV, South Metro Water Supply Authority). ACWWA's current entitlement to capacity in the Pipeline is 5.25 mgd and that capacity is committed to ACWWA's current service area. However, as one of the original stakeholder participants in the Pipeline project, ACWWA is positioned to request and potentially acquire, from the uncommitted Pipeline capacity, the additional capacity required to serve Prosper's renewable water demand at full build-out, which is approximately 1.48 mgd, in accordance with the projections set forth in the Demand and Supply Table. Currently all the water being delivered to the pipeline as part of the ACWWA Flow project, is fully reusable water, this would be the same concept to be developed at Prosper's expense to meet demands, which would also enable the reusable component of the water supply plan for the Prosper development to be satisfied.

The general legal framework for delivering renewable water supplies south from the Barr Lake well field to ECCV and ACWWA water users has already been approved by the Water Court, and a number of South Platte River senior water rights have also, received temporary approval by the Water Court as augmentation sources for the Pipeline operation. These Water Court approvals contemplate that additional amounts of renewable water may be added to the Pipeline project as augmented by additional South Platte basin senior water rights. ACWWA currently has several water court cases pending in order to add additional amounts approved for delivery in the Pipeline, for the purpose of its ACWWA Flow Project.

ACWWA is currently developing its ACWWA Flow Project to serve its current service area, at an initial review; the components of the project currently have the ability to be expanded, at Prosper's expense to accommodate the additional demand requested by Prosper. This expansion of the project including additional water supply would require further evaluation and agreements with ACWWA's contractual parties to complete this expansion, but in initial discussions with them, it appears that it is feasible. Discussions could occur with other parties as well to analyze potential methods to meet this water demand.

Accordingly, as one of the original stakeholder participants in the Pipeline project, ACWWA is in a unique position to provide potable, renewable water supplies to the Prosper development. As a result, ACWWA is one of a limited select number of water service options identified to serve the renewable water supply needs of the Prosper development. The basis upon which ACWWA would provide such water service to Prosper would be set forth in a water supply agreement that would need to be negotiated and signed prior to the final plat application for the Prosper development.

ACWWA is pleased to provide the Prosper Development with a conditional will serve letter understanding that numerous conditions and approvals need to be met before it commits to serving the development. Examples of these conditions are:

- Successful negotiation between parties and execution of a water supply agreement which will require approval by the ACWWA Board of Directors including pursuant to CRS Section 31-35-402(1)(b), ACWWA shall not provide water service or sewerage service or combination of them in any part of Prosper that is within a municipality or special district with the power to provide water service or sewerage service unless Prosper obtains the approval of such municipality or special district for ACWWA to provide service as to the territory in which the service is to be rendered.
- Service shall be subject to the requirements of ACWWA's Rules and Regulations as they are amended from time to time and uniformly enforced for similarly situated customers. Among other things, payment of tap fees for water and sewer service is required prior to connection of a tap.
- Prosper shall timely pay all required fees and charges.
- At such time as ACWWA and Prosper agree that water service will be provided by ACWWA, capacity to serve Prosper is or will be available in the ECCV pipeline and system or other acceptable systems.

If all approvals are obtained and all conditions are met, then ACWWA will provide potable water service to Prosper for 1,662 acre-feet of renewable supplies annually at Prosper's expense. ACWWA is willing to discuss phasing in the renewable supplies as required in conjunction with the overall phasing of the project development.

We hope the information presented is sufficient to allow approval of the Application. If you have questions or require further information, please do not hesitate to contact me.

Sincerely,

ARAPAHOE COUNTY WATER
AND WASTEWATER AUTHORITY

Gary Atkin

Gary Atkin
General Manager

APPENDIX I

13CW3143 Water Court Decree

DATE FILED: February 1, 2016 3:49 PM

DISTRICT COURT, WATER DIVISION 1 **STATE OF COLORADO** Weld County Courthouse 901 9th Avenue Greeley, Colorado 80631	DRAFT 11/13/15 ***(Offer of Settlement – Subject to CRE 408)***
CONCERNING THE APPLICATION FOR WATER RIGHTS OF PROSPER FARMS INVESTMENTS, LLC **IN ARAPAHOE COUNTY, COLORADO**	▲ COURT USE ONLY ▲ Case Number: 13CW3143

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND JUDGMENT AND DECREE OF THE WATER COURT

The above-captioned application was referred to the Water Referee for Water Division 1, State of Colorado, by the Water Judge of said Court in accordance with Article 92 of Title 37 of the Colorado Revised Statutes, known as the Water Right Determination and Administration Act of 1969. This matter was re-referred to the Water Judge by order of the Water Referee on May 11, 2015. The undersigned Water Judge, having made such investigations as are necessary to determine whether the statements in the application are true, and having become fully advised with respect to the subject matter of the application, does hereby make the following determinations and rulings in this matter:

I. FINDINGS OF FACT

1. **Application.** The application in this matter was filed on November 27, 2013, by Prosper Farms Investments, LLC, 5641 N. Broadway, Denver, Colorado 80216. The Court hereby finds that the application is complete, covering all matters required by law. The claims of the application are set forth in paragraphs 7 through 9 below.

2. **Notice and Jurisdiction.** All notices required by law have been duly given and the Court has jurisdiction over the subject matter of the application and all persons affected thereby, whether or not they have chosen to appear. The land and water rights involved herein are not included within the boundaries of any designated groundwater basin.

3. **Objectors.** Statements of opposition were timely filed by Boxelder Creek Properties, LLC; the Centennial Water and Sanitation District; the City of Aurora, acting by and through its Utility Enterprise; the City of Englewood; the Greatrock North Water & Sanitation District; and the Rangeview Metropolitan District. No other statements of opposition were filed and the time for filing such statements has expired.

4. **Report of the Division Engineer.** A Summary of Consultation was issued by the Division Engineer for Water Division 1 on February 28, 2014. Applicant filed a response to the Summary of Consultation on June 30, 2014. The Court has given due consideration to the Summary of Consultation and Applicant's response thereto in making these findings.

5. **Stipulations with Objectors.** Applicant entered into the following stipulations with objectors, or objectors withdrew their statements of opposition, as follows:

   (a) Stipulation with Boxelder Creek Properties, LLC, dated _____.

   (b) Stipulation with the Centennial Water and Sanitation District, dated _____.

   (c) Stipulation with the City of Aurora, acting by and through its Utility Enterprise, dated _____.

   (d) Stipulation with the City of Englewood, dated _____.

   (e) Stipulation with the Greatrock North Water & Sanitation District, dated _____.

   (f) Stipulation with the Rangeview Metropolitan District, dated _____.

6. **Overview.** Applicant owns property in Arapahoe County, Colorado, in Sections 5, 6, 7, 8, and 18, Township 4 South, Range 64 West of the 6th P.M., and in Sections 1, 2, 11, 12, 13, 14, and 24, Township 4 South, Range 65 West of the 6th P.M., which is being developed into a mixed use, master planned community (the "Property"). At full build-out, the wastewater treatment plant for the development will generate approximately 1,913 acre-feet/year of treated effluent which will be used directly and indirectly to satisfy non-potable irrigation, construction, and dust suppression demand. The application in this case is for the indirect reuse of up to 800 acre-feet/year of the effluent. The indirect reuse is accomplished by delivering up-gradient of four tributary ground water wells up to 800 acre-feet/year of effluent to Box Elder Creek (plus an amount to account for evaporation and evapotranspiration) and pumping the wells in the same amount as the effluent delivered (minus the losses for evaporation and evapotranspiration). The effluent, which is replacement water for the pumping of the wells, will be delivered to Box Elder Creek in advance of the pumping it is replacing. A map of the Property boundaries and depicting the location of the subject wells and effluent discharge is attached hereto as **Exhibit A**.

7. **Claim for Conditional Water Rights.** Applicant claims the following conditional underground water rights for Prosper Box Elder Well Nos. 1–4 (collectively, the "Prosper Box Elder Wells"). The approximate location of each of the Prosper Box Elder Wells is depicted on the map attached hereto as **Exhibit A**. The Prosper Box Elder Wells shall only divert to the extent depletions are replaced under the plan for augmentation below.

(a) Legal Description of Structures. The Prosper Box Elder Wells shall be located within 200 feet of the following locations.

(i) *Prosper Box Elder Well No. 1*. Prosper Box Elder Well No. 1 is located in the NW1/4 NW1/4 of Section 5, Township 4 South, Range 64 West, of the 6th P.M., at a point 230 feet from the north section line and 110 feet from the west section line of said Section 5 (Zone 13, NAD83, Northing 4398859m, Easting 535738m).

(ii) *Prosper Box Elder Well No. 2*. Prosper Box Elder Well No. 2 is located in the NW1/4 NW1/4 of Section 5, Township 4 South, Range 64 West, of the 6th P.M., at a point 920 feet from the north section line and 390 feet from the west section line of said Section 5 (Zone 13, NAD83, Northing 4398634m, Easting 535821m).

(iii) *Prosper Box Elder Well No. 3*. Prosper Box Elder Well No. 3 is located in the SW1/4 NW1/4 of Section 5, Township 4 South, Range 64 West, of the 6th P.M., at a point 1,580 feet from the north section line and 880 feet from the west section line of said Section 5 (Zone 13, NAD83, Northing 4398444m, Easting 535977m).

(iv) *Prosper Box Elder Well No. 4*. Prosper Box Elder Well No. 4 is located in the SE1/4 NW1/4 of Section 5, Township 4 South, Range 64 West, of the 6th P.M., at a point 2,290 feet from the north section line and 1,770 feet from the west section line of said Section 5 (Zone 13, NAD83, Northing 4398226m, Easting 536247m).

(b) Source of Water. Ground water from the Box Elder Creek alluvial aquifer, tributary to Box Elder Creek, tributary to the South Platte River.

(c) Depth of Wells. Approximately 60 feet.

(d) Date of Appropriation. March 5, 2012. Appropriation was initiated by the formation of requisite intent, coupled with actions manifesting such intent sufficient to put third parties on notice.

(e) Amount Claimed in gallons per minute (gpm). 1,200 gpm, conditional. The maximum cumulative rate of withdrawal for all four of the Prosper Box Elder Wells will not exceed 1,200 gpm, conditional.

(f) Amount Claimed in acre-feet/year. 800 acre-feet/year, conditional, as a maximum cumulative total for all four of the Prosper Box Elder Wells.

(g) Uses or Proposed Uses. Lawn irrigation, construction, and dust suppression. When used for irrigation, the water may be used, reused, and successively reused to extinction. Any reuse of the water after irrigation shall be only pursuant to a subsequent Water Court decree or substitute water supply plan in which the timing, location, and amount of the lawn irrigation return flows is adjudicated.

(h) Place of Use. Water withdrawn from the Prosper Box Elder Wells will be used on the Property.

8. **Description of Plan for Augmentation**. The plan for augmentation in this case allows for the indirect reuse of up to 800 acre-feet/year of effluent from the on-site wastewater treatment plant, or roughly one half of the plant's anticipated annual production at build out. Under the plan for augmentation, up to 800 acre-feet/year of effluent will be delivered to Box Elder Creek (plus an amount to account for evaporation and evapotranspiration) and the wells will be pumped in the same amount as the effluent delivered (minus the losses for evaporation and evapotranspiration). The effluent, which is replacement water for the pumping of the wells, will be delivered to Box Elder Creek in advance of the pumping it is replacing, regardless of whether a call exists. The reusable effluent will be delivered from the wastewater treatment plant (a) directly to Box Elder Creek; and/or (b) directly to a lined effluent holding pond located on the development Property, and from the holding pond delivered to Box Elder Creek. Applicant will replace depletions from the structures described in paragraph 9(b) below utilizing the augmentation sources described in paragraph 9(c) below.

9. **Location of Augmentation Deliveries**.

(a) All deliveries to Box Elder Creek shall be at a point that is up-gradient of Prosper Box Elder Well No. 4, which is the most up-gradient Prosper Box Elder Well, at a point in the SE1/4 NW1/4 of Section 3, Township 4 South, Range 64 West of the 6th P.M., approximately 2,352 feet from the north section line and 2,346 feet from the west section line of said Section 3, as depicted on the attached **Exhibit A**. An amendment to the plan shall be required if Applicant desires to change the location of augmentation deliveries.

(b) Name of Structures to be Augmented. The Prosper Box Elder Wells, as more particularly described in paragraph 7 above.

(c) Water Rights to be Used for Augmentation.

(i) *Reusable Effluent*. Up to 800 acre-feet/year of effluent from the on-site wastewater treatment plant to be constructed on the Property. The effluent must be legally approved for reuse and measured at the discharge to Box Elder Creek with a measuring device equipped with a continuous recording device. No credit shall be taken for wastewater effluent that is derived from infiltration and inflows to the sewer collection system. The total amount of reusable effluent will be the lesser of the daily metered effluent discharge from the wastewater treatment plant or 95 percent of indoor use. A daily indoor use value will be based on a daily average of total use in December, January, and February of each accounting year.

(ii) *Nontributary Groundwater*. Underground water rights from the nontributary Denver Basin aquifers underlying the Property, as decreed in Case No. 11CW22, Water Division 1. The nontributary groundwater shall be used as a redundant, emergency backup supply only, in the event reusable effluent is temporarily unavailable due to wastewater treatment plant maintenance, repairs, or other reasons. The Denver Basin augmentation supply shall be delivered to Box Elder Creek in the same locations and in the same manner as the fully reusable effluent is delivered, as described in paragraph 9(a). Any nontributary groundwater utilized in this plan shall only be used in accordance with the terms and conditions of the decree in Case No. 11CW22 and all applicable law.

The average annual amount of ground water available to be withdrawn from each of the nontributary Denver Basin aquifers underlying the Property is as follows:

Aquifer	*Annual Withdrawal (af/yr)*
Upper Arapahoe	1,314.0
Lower Arapahoe	626.0
Laramie-Fox Hills	1,310.6

(iii) *Additional or Alternative Sources*. Applicant may also use additional or alternative sources of legally approved replacement water pursuant to § 37-92-305(8)(c), provided that Applicant receive approval to use such other sources of augmentation water prior to doing so in accordance with the procedure set forth in paragraph 10(f) below. Any such additional supplies shall be delivered to Box Elder Creek up-gradient of Prosper Elder Well No. 4, at a point in the SE1/4 NW1/4 of Section 3, Township 4 South, Range 64 West of the 6th P.M., approximately 2,352 feet from the

north section line and 2,346 feet from the west section line of said Section 3, as depicted on the attached **Exhibit A**.

A) Presently, Prosper's only source of reusable water is Denver Basin groundwater decreed in Case No. 11CW22. No additional or alternative sources of augmentation water are approved by this decree. All additional sources of augmentation water, including sources of reusable effluent other than the effluent derived from the first use of Prosper's Denver Basin groundwater decreed in Case No. 11CW22, shall be added to this plan in accordance with Paragraph 10(f) below.

B) Applicant shall not use any not-nontributary supplies as augmentation sources under this plan without first filing a Water Court case for a plan for augmentation specific to use of the not-nontributary source(s).

(d) Total Projected Demands and Depletions. Applicant anticipates pumping a cumulative total of up to 800 acre-feet/year from the Prosper Box Elder Wells. Well pumping will be fully replaced without any offset for return flows. Construction and dust suppression uses are assumed to be 100% consumptive.

(e) Operation of Plan for Augmentation. Applicant will replace depletions from the Prosper Box Elder Wells with (A) reusable effluent, (B) nontributary groundwater, on a temporary emergency basis, and/or (C) additional or alternative sources approved in accordance with paragraph 10(f) below. All replacements shall be made in coordination with the Water Commissioner.

(i) The replacement water will be delivered to Box Elder Creek, in advance of the pumping it is replacing, regardless of whether a call exists, at a point above Prosper Box Elder Well No. 4, in the SE1/4 NW1/4 of Section 3, Township 4 South, Range 64 West of the 6th P.M., approximately 2,352 feet from the north section line and 2,346 feet from the west section line of said Section 3, as depicted on the attached **Exhibit A**.

(ii) Applicant may carry over excess replacement water for a period of up to seven (7) calendar days following the day the excess occurred. Given the ephemeral stream conditions of Box Elder Creek, delivery of replacement water to Box Elder Creek shall be assessed a loss of 1% per mile over the distance between the point of delivery and the furthest downstream well being augmented, to compensate for evaporation, evapotranspiration, and transit losses (collectively, the "System Loss").

(iii) Accordingly, the daily volume of water pumped from the Prosper Box Elder Wells shall be limited to the total cumulative volume of replacement water delivered to the creek during the previous seven (7) day period (*i.e.*, not inclusive of the day of pumping), minus System Loss, minus the amount of water that has already been pumped during that same seven (7) day period.

10. **Terms and Conditions.** The plan for augmentation set forth in paragraph 9 above will not result in injury to any owners of, or persons entitled to use water under, a vested water right or a decreed conditional water right if approved upon the following terms and conditions:

(a) No Pumping until Reusable Effluent is Available. The primary source of augmentation water for this plan is the reusable effluent delivered to Box Elder Creek as described in paragraph 9(c)(i) above. The nontributary water identified in paragraph 9(b)(ii) above is a redundant emergency supply to be used only if effluent from the wastewater treatment plant is unavailable due to maintenance, repairs, or other reasons. Accordingly, no pumping of the Prosper Box Elder Wells shall occur until Applicant demonstrates to the reasonable satisfaction of the Division Engineer or the Water Court that reusable effluent is available to replace the depletions from well pumping in accordance with this decree. Applicant shall give notice of its intent to commence pumping to the Division Engineer and all other parties in this case, and shall in the notice set forth the facts supporting the amount of reusable effluent available. Any party may provide comments to Applicant and the Division Engineer within sixty (60) days of receipt of the notice. The Division Engineer shall allow pumping to commence if it determines that reusable effluent is available in sufficient amounts to replace the depletions from well pumping in accordance with this decree. Any party may, pursuant to the Court's retained jurisdiction and procedures described in paragraph 20 below, file an objection with the Water Court within sixty (60) days of receipt of the Division Engineer's decision regarding the availability of reusable effluent in sufficient amounts to permit pumping as provided herein. Pumping of the Prosper Box Elder Wells shall cease for the year once a cumulative total of 800 acre-feet has been pumped from the four wells combined.

(b) Well Permits. Upon entry of the decree approving this plan for augmentation, the State Engineer shall issue well permits for the Prosper Box Elder Wells pursuant to C.R.S. § 37-90-137(2), subject to Applicant's submittal of a complete well permit application form, including statutory filing fee, as required by the State Engineer's Office. Applicant waives the six hundred foot spacing rule set forth in C.R.S. § 37-90-137(2) for each of the Prosper Box Elder Wells with respect to each of the other Prosper Box Elder Wells located on the Property.

(c) Curtailment. Pursuant to C.R.S. § 37-92-305(8), the Division Engineer shall curtail all out-of-priority diversions, the depletions from which are not so replaced as to prevent injury to vested water rights.

(d) Measuring Devices. In addition to the measuring and recording devices required by this decree, Applicant shall also install and maintain such meters, gauges, or other measuring and recording devices as may be reasonably required by the State or Division Engineer. Applicant shall use totalizing flow meter readings to determine the monthly volume of water pumped and the flow rate of the Prosper Box Elder Wells. All totalizing flow meters operation, maintenance, reporting, accuracy testing, and certification shall comply with the Rules Governing the Measurement of Tributary Ground Water Diversions by Wells Located in the South Platte River Basin within Water Division 1, entered March 15, 2013, as such rules may be amended or supplemented by subsequent rulemaking (the "Well Measurement Rules"). Any meter malfunctions shall be subject to and addressed under the Well Measurement Rules including but not limited to the requirement that any well whose meter is malfunctioning shall not be pumped until such time as the meter is replaced or repaired. Applicant shall provide to the Division Engineer any information required to enforce the Well Measurement Rules. Applicant shall maintain records of all water pumped, diverted, and stored in a manner acceptable to the Division Engineer, and shall report to the Division Engineer and Water Commissioner on a monthly basis the readings of such meters, gauges, or other measuring devices pursuant to C.R.S. § 37-92-502.

(e) Accounting. Applicant shall measure and account for all well pumping on a daily basis and report such information to the Division Engineer and Water Commissioner on a monthly basis, using an accounting year of November 1 to October 31. All operations shall be reported on accounting forms approved by the Division Engineer, which shall be no less detailed than the accounting forms attached hereto as **Exhibit B**. The accounting forms shall include, at a minimum, the following information: (i) meter readings and pumping volumes for each of the Prosper Box Elder Wells; (ii) amount and location of replacement deliveries and water available for pumping by water type and source including any carry-over augmentation credits; and (iii) a net water balance summarizing augmentation obligations and replacements. The accounting forms shall be submitted in a format acceptable to the Division Engineer and Water Commissioner within thirty (30) days of the end of the preceding month to ensure that well pumping is not exceeding replacement deliveries. The accounting forms are not decreed herein and may be modified from time to time as approved or required by the Division Engineer so long as the revised accounting forms include all of the information required by this decree. Applicant shall give notice of any modifications to the accounting methodology by providing to the Division Engineer and all other parties in this case copies of the revised accounting forms.

Any party may provide comments to Applicant and the Division Engineer regarding the modified accounting methodology and any recommended changes thereto within sixty (60) days of receipt of the revised accounting forms.

(f) Additional or Alternative Water Rights to be Used for Augmentation. Applicant may use additional or alternative sources of replacement water pursuant to § 37-92-305(8)(c), including temporary supplies of limited duration, if such sources are decreed or lawfully available for such use, or are part of an approved substitute water supply plan approved pursuant to C.R.S. § 37-92-308. Applicant shall give notice of its intent to use additional or alternative water rights for augmentation by providing to the Water Court, the Division Engineer, and all other parties in this case notice of its intent to use such sources, along with an engineering report summarizing (i) the water right, by name and decree, if any; (ii) the annual and monthly amount of water available to Applicant from the water right; and (iii) evidence that Applicant has the right to use the water right. The Division Engineer must approve the alternative or additional augmentation supply before Applicant is entitled to use it in this plan for augmentation. Any party may, pursuant to the Court's retained jurisdiction described in paragraph 20 below, file an objection with the Water Court objecting to the use of the additional or alternative sources of replacement water.

(g) Should Applicant utilize a lined effluent pond from which augmentation deliveries are made as described in ¶ 8(b) above, Applicant shall equip the pond with an operable outlet and shall release all out-of-priority inflows without making beneficial use of such releases.

(h) Notice of Future Proceedings. Applicant shall provide notice to Objectors of any cases filed to quantify the development's lawn irrigation return flows or to claim any other return flow credits that Applicant intends to incorporate into this plan for augmentation, including notice of any application to amend this plan. No such credits shall be allowed to be taken under this plan for augmentation in the absence of an amendment hereto, except as otherwise provided in paragraph 10(f) above.

II. CONCLUSIONS OF LAW

The foregoing Findings of Fact are incorporated by this reference and the following Conclusions of Law are made therefrom.

11. The application was filed with the Water Court in accordance with C.R.S. § 37-92-302(1)(a). All notices of the application have been properly made as required by law, including as required under C.R.S. § 37-92-302(3), and the Court has jurisdiction over the subject matter of this action and over all entities or persons who had standing to

appear, even if they did not. The application and the resume publication of the application placed all parties on notice of the relief requested by the application and granted by this decree.

12. The application is complete, covering all matters required by C.R.S. §§ 37-92-101 *et seq*.

13. Applicant has satisfied all legal requirements and met all standards and burdens of proof associated with obtaining conditional water rights pursuant to C.R.S. §§ 37-92-301 through 305, and is therefore entitled to a decree granting the conditional water rights for Prosper Box Elder Well Nos. 1–4 described in paragraph 7 above.

14. Applicant has satisfied all legal requirements and met all standards and burdens of proof associated with obtaining approval of a plan for augmentation pursuant to C.R.S. §§ 37-92-301 through 305, and is therefore entitled to a decree approving the plan for augmentation described in paragraph 8 above.

15. Applicant has demonstrated as a matter of law that the plan for augmentation described in paragraph 9 above, subject to the terms and conditions described in paragraph 10 above, will not cause injury to any owner of or person entitled to use water under a vested water right or a decreed conditional water right.

16. The stipulations entered in this case are described in paragraph 5 above. All stipulations are approved by the Court and are binding upon the parties thereto, their successors and assigns, and shall be deemed incorporated into and made a part of this decree of the Water Court. All terms and conditions required for the administration of this decree are set forth directly herein.

17. Provided Applicant furnishes the Division Engineer appropriate accounting and other records evidencing the operation of the plan for augmentation, the requested plan for augmentation is administrable.

III. JUDGMENT AND DECREE OF THE WATER COURT

The Findings of Fact and Conclusions of Law above are fully incorporated herein and made a part hereof.

18. The claim for the conditional water rights described in paragraph 7 above, claiming water rights for Prosper Box Elder Well Nos. 1–4, is hereby GRANTED subject to the terms and conditions contained herein.

19. The request for approval of the plan for augmentation described in paragraph 9 above, claiming a plan for augmentation to replace pumping from Prosper Box Elder Well Nos. 1–4, is hereby GRANTED subject to the terms and conditions contained herein.

20. Pursuant to C.R.S. § 37-92-304(6), the Court shall retain jurisdiction in this proceeding to reconsider the question of injury to the vested water rights of others from the operation of the plan for augmentation approved herein for a period commencing on the date the of the decree, and extending for five (5) years from the date that Applicant provides to the Court, the Division Engineer, and all other parties in this case notice that pumping from the Prosper Box Elder Wells has reached 800 acre-feet in any given year. If no petition for reconsideration is filed within the period of retained jurisdiction, the retention of jurisdiction shall automatically expire. In the event any person petitions the Court for reconsideration of the question of injury, the Court shall order that an appropriate notice be given to all parties. The petition for reconsideration shall be made in good faith, under oath, and shall set forth with particularity the factual basis upon which the requested reconsideration is premised, together with proposed decretal language to eliminate the injury. The party lodging the petition shall have the burden of going forward to establish a *prima facie* showing of the injury alleged in the petition. If such an objection is filed, Applicant shall have the burden of proof to show: (a) that any modification to the decree that is sought by the petitioner is not necessary to avoid injury to other water rights; or (b) that any modification to the decree proposed by Applicant will avoid injury to other water rights.

21. The Court shall retain perpetual jurisdiction in this proceeding to consider the use of additional or alternative sources of replacement water in this plan for augmentation as set forth in paragraph 10(f) above. Applicant shall file notices with the Water Court and Division Engineer and serve all parties in this case with the notices, along with an engineering report relative to the use of new augmentation supplies, which Objectors shall have a period of sixty (60) days after receipt of the notices and engineering report to file an objection with the Water Court objecting to the matters for which notice was given. If no objection is filed within the sixty (60) day period, the opportunity to object shall expire. In the event any person objects to the matters for which notice was given, the Court shall order that an appropriate notice be given to all parties. The objections shall be made in good faith, under oath, and shall set forth with particularity the factual basis upon which the objections are premised. Applicant shall thereupon bear the burden to prove in a *de novo* proceeding that the matters for which notice is given will not cause injury to other vested water rights.

22. There was no trial in this matter and no issues were litigated. The findings of fact, conclusions of law, and decree are entered as a result of substantial discussions, negotiations, and compromises by, between, and among Applicant and the several objectors pertaining to all parts of the findings, conclusions, judgment, and decree. It is specifically understood and agreed by the parties hereto, and found and concluded by the Court, that (a) the acquiescence by the parties to a stipulated decree under the specific factual and legal circumstances of this matter and upon the numerous and interrelated compromises reached by the parties shall never give rise to any argument, claim, defense,

or theory of acquiescence, waiver, bar, merger, *stare decisis*, *res judicata*, estoppel, or laches, nor to any administrative practice or precedent, by or against any of the parties hereto in any other matter, case, or dispute except subsequent proceedings involving the subject water rights, plan for augmentation, and structures; (b) testimony concerning such acquiescence of any party to a stipulated decree herein shall not be allowed in any other matter, case, or dispute; and (c) all parties stipulate and agree that they each reserve the right to propose or to challenge any legal or factual position in any other matter filed in this or any other court, without limitation by these findings, conclusions, judgment, and decree.

23. In accordance with the provisions of C.R.S. §§ 37-92-301(4)(a) and 37-92-305(7), should Applicant desire to maintain the conditional water rights decreed herein, an application for a finding of reasonable diligence shall be filed the same month six years from the date of the Court's order below, and thereafter as prescribed by such statutes, so long as Applicant or its successors and assigns desire to maintain the conditional water rights or until the rights are made absolute or otherwise disposed of. The conditional water rights decreed herein are component features of an integrated water supply system for the Property. Evidence that Applicant has exercised reasonable diligence toward completing and applying the subject conditional water rights to beneficial use for one portion of the water supply system may be considered evidence of diligence as to another portion of the water supply system in any future diligence proceedings.

24. Pursuant to Rule 9 of the Uniform Local Rules for all State Water Court Divisions, upon the sale or transfer of a conditional water right decreed herein, the transferee shall file with Division 1 Water Court, a notice of transfer which shall state the: (a) title and case number of this Case No. 13CW3143; (b) description of the conditional water right or rights to be transferred; (c) name of the transferor; and (d) name and mailing address of the transferee. The notice of transfer shall also include a copy of the recorded deed.

25. The owner of said conditional water rights shall also notify the clerk of the Water Court for Water Division 1 of any change of mailing address. The clerk shall place any notice of transfer or change of address in the case file of this Case No. 13CW3143 and in the case file (if any) in which the court first made a finding of reasonable diligence.

26. A copy of these Findings of Fact, Conclusions of Law, and Judgment and Decree of the Water Court shall be filed with the Division Engineer for Water Division 1 and the State Engineer.

Dated this _____ day of _____, 2015.

BY THE COURT:

_____
James F. Hartmann, Water Judge
Water Division 1

Attachment E

Proposer WWTP Environmental Impact Analysis

Prosper Project
Arapahoe County 1041 Application
Section 12. Environmental Impact Analysis
Waste Water Treatment Plant

(c) Surface Water Quality
(e) Wetland & Riparian Areas
(f) Terrestrial & Aquatic Animals and Habitats
(g) Terrestrial& Aquatic Plant Life
(h) Soils, Geologic Conditions & Natural Hazards

prepared for:

Vogel & Associates
475 W. 12th Ave, Suite E, Denver, CO 80204

prepared by:

Western Ecological Resource, Inc.
711 Walnut Street, Boulder, CO 80302

May 2016

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- 2.2 (e) Wetlands and Riparian Areas and (g) Terrestrial and Aquatic Plant Life 1
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1.0 Introduction

Prosper is a proposed 5,130-acre mixed-use development to be located near Watkins, Colorado (Figure 1). It is located just south of I-70 in Sections 1, 2, 11, 12, 13, 14, and 24 of Range 65 West and Township 4 South; and Sections 5, 6, 7, and 18 of Range 64 west and Township 4 South in unincorporated Arapahoe County (Figure 2). The project area is located on the Coal Creek and Watkins, Colorado U.S. Geological Survey topographic maps.

In accordance with the standards of Arapahoe County's 1041 development review process, an inventory of the (c) Surface Water Quality, (e) Wetland and Riparian Areas, (f) Terrestrial and Aquatic Animals and Habitats, (g) Terrestrial and Aquatic Plant Life, and (h) Soils, Geologic Conditions and Natural Hazards, was completed and the impact to these resources was evaluated.

This report summarizes the impacts of the proposed waste water treatment plant (WWTP), which would be located on the north end of the project site, south of I-70 and between Coyote Run Creek to the east and Rat Run to the west (Figure 3). At build out, the WWTP would process 3.30 million gallons per day (MGD). It is estimated that approximately 5% of the treated WWTP water would be used on site as reuse water. Therefore, it is estimated that 95% of the treated water would be released to Rat Run, which is tributary to Box Elder Creek.

2.0 Resources Evaluated

2.1 (c) Surface Water Quality

Rat Run is a stream segment in the South Platte Basin, Middle South Platte River Sub-basin and is classified as Aquatic Life Warm 2, Recreation Class E, Water Supply, and Agriculture by the Colorado Department of Public Health and Environment (CDPHE). The stream segment water quality standards, including standards for organics, radionuclides, salinity, nutrients, and temperature, are presented in the Prosper WWTP Preliminary Effluents Limits (PELs) prepared by CDPHE and provided in Appendix A. CDPHE conducted a low flow analysis including factors of dilution and ambient water quality to determine the Water Quality Based Effluent Limits (WQBELs) for the WWTP; details of this analysis are provided in the PELs. The receiving stream (Rat Run) is currently dry so it's calculated low flow is zero; therefore, the WWTP WQBELs would be equal to the water quality standards of Rat Run. The anticipated wastewater discharge limits (WQBELs) are provided in Table 1 of the PEL report. It is not anticipated that the WWTP will have an effect on the receiving stream surface water quality.

2.2 (e) Wetlands and Riparian Areas and (g) Terrestrial and Aquatic Plant Life

The proposed WWTP would impact nine (9) acres of a fallow wheat field, a terrestrial introduced habitat. It would not impact any wetland or riparian areas, or aquatic plant life. Furthermore, no wetlands or riparian areas occur along Rat Run and Coyote Run Creek in the area of the WWTP. However, the discharge of treated water to Rat Run and Box Elder Creek, both ephemeral streams, may result in their conversion to perennial streams, with riparian areas and wetlands with aquatic plant life, especially considering that these drainages would also receive increased water from stormwater runoff from the development.

2.3 (f) Terrestrial and Aquatic Animals and Habitats

The fallow wheat field to be impacted has a very limited potential to support terrestrial wildlife, as it lacks vegetation. The discharge of treated water to Rat Run and Box Elder Creek may create perennial streams with wetlands and riparian habitats, which would provide habitat for aquatic animals. The WWTP site does not provide habitat for any federally listed species or Species of State Concern. Furthermore, there would be no impact to prairie dogs, burrowing owls, raptors, or mule deer ranges.

2.4 (h) Soils, Geologic Conditions and Natural Hazards

2.4.1 Soils

The Adena-Colby silt loam soils at the proposed WWTP site are highly susceptible to wind and water erosion. Therefore, Best Management Practices (BMPs) as outlined in the Arapahoe County Grading, Erosion and Sediment Control Manual (Arapahoe County, 2010) should be considered during the design phase to minimize wind and water erosion.

2.4.2 Geologic and Other Natural Hazards

Slope Stability. There are no unstable slopes at the WWTP site.

Shrink-Swell Potential. There are no shrink-swell soils at the site of the proposed WWTP.

Seismic Effects. Seismic activity is considered to be low at the WWTP site.

Radioactivity. The WWTP site occurs within the Environmental Protection Agency's High Radon Zone; therefore, mitigation for radon should be considered in the design of structures at the WWTP, if on-site diagnostic radon tests confirm the presence of radon at levels requiring mitigation.

Subsidence. The WWTP site is composed of windblown sand and silt deposits that are susceptible to subsidence, primarily upon wetting. Site specific geotechnical studies should be conducted to determine the severity of subsidence. If subsidence is an issue, proper drainage plans should be incorporated into the design of structures at the WWTP to divert water from foundations and footings.

Flooding. The WWTP is outside the FEMA 100-year floodplain.

Wildfire. The risk for wildfire at the WWTP site (a fallow wheat field) is low, based on an evaluation using the National Fire Protection Association 1144 Standards (NFPA – Technical Committee on Forest and Rural Fire Protection, 2008).

2.4.3 Mineral Resources

The WWTP site, like the project site as a whole, has some potential for oil and gas production and for coal and coal-bed methane production. It also has some potential as a sand source, but has little or no potential for metallic minerals and industrial minerals other than sand.

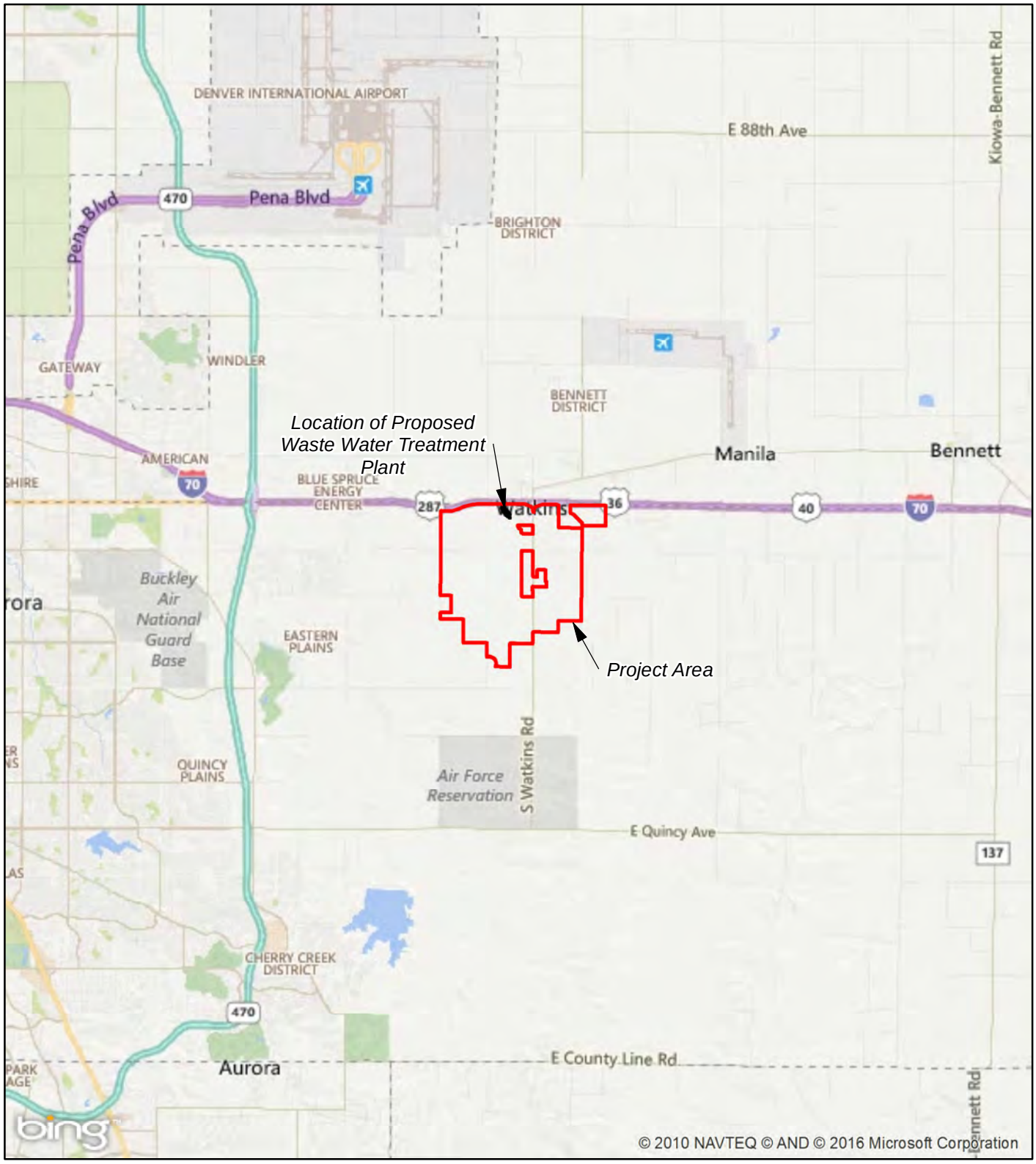
2.4.4 Effects on Soils, Streambed Meander Limits and Aquifer Recharge Areas

Prime Farmland. The soils of the WWTP site are not classified as prime farmland.

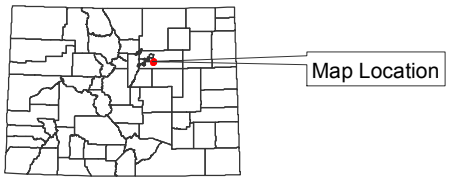
Streambed Meander Limits. The treated water released from the WWTP could potentially result in bank erosion, channel incision or aggradation of Rat Run and Box Elder Creek.

Aquifer Recharge Areas. The water discharged from the WWTP to Rat Run and Box Elder Creek would potentially recharge the alluvial aquifers of these streams.

3.0 Figures



BASE: Bing Maps Road



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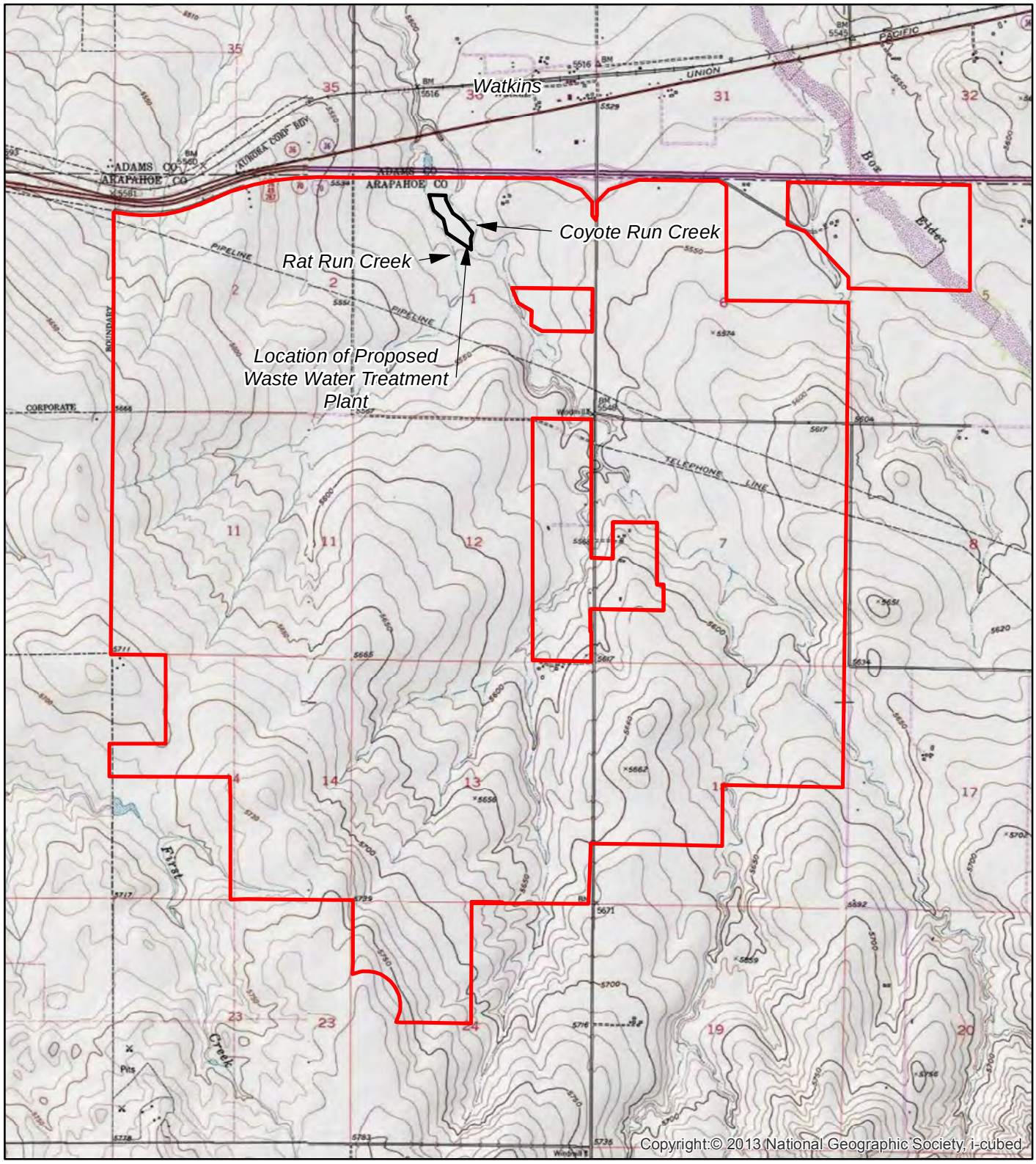
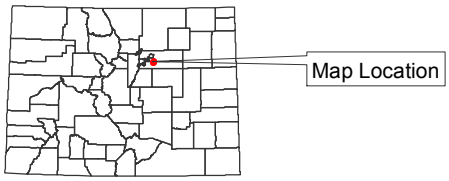
Scale: 1:250,000
1 inch = 20,833 feet
Date: May 2016

Figure 1. Vicinity Map
Prosper Project
Arapahoe County, Colorado

Western Ecological Resource Inc.
711 Walnut Street
Boulder, CO 80302
303-449-9009



BASE: USGS 7.5' Watkins and Coal Creek Quadrangles



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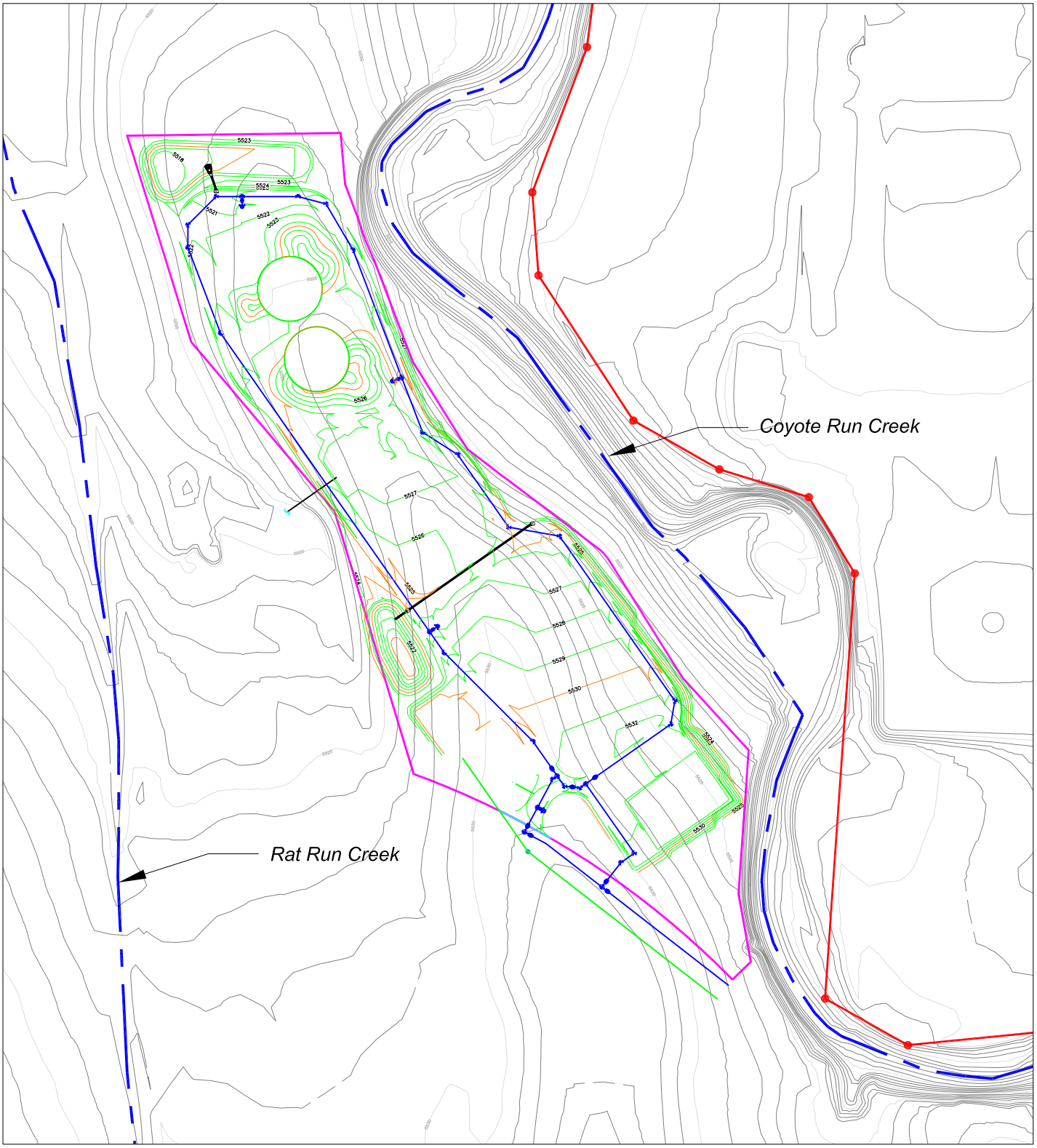
Scale: 1:48,000
1 inch = 4,000 feet
Date: May 2016

Figure 2. Project Location Map
Prosper Project
Arapahoe County, Colorado

Western Ecological Resource Inc.
711 Walnut Street
Boulder, CO 80302
303-449-9009



Legend

- *Project Boundary*
- *WWTP Boundary*
- *Proposed Water Lines*
- *Proposed Contours*
- *Existing Contours*

Date: May 2016
Scale: 1 in = 200 ft
Existing Contour Interval: 1 ft
Proposed Contour Interval: 1 ft

Figure 3. Proposed Waste Water Treatment Plant
Prosper Project
Arapahoe County, Colorado

prepared by:
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Appendix A. PEL Report

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TO: Stacy Roberts

FROM: WQCD Contact: Tristan Acob, 303-692-6398, tristanacob@state.co.us

DATE: 3/16/2016

RE: PEL200456, Prosper WWTF Preliminary Effluent Limit

The Water Quality Control Division (Division) of the Colorado Department of Public Health and Environment has prepared, per your request, the Preliminary Effluent Limits (PELs) for the proposed Prosper wastewater treatment facility (WWTF). These effluent limits were developed as detailed in the attached document, for use as one of the submittals in your application for Site Approval.

With a hydraulic design capacity of 0.2646 million gallons per day (MGD) and discharge into Rat Run a tributary to Box Elder Creek, which is identified as stream segment COSPMS03a, the Prosper WWTF may be covered by a general permit.

PELs developed for this facility are based on the water quality standards for the receiving stream identified in the PEL application, and/or on technology based limitations established in the *Regulations for Effluent Limitations* (Regulation No. 62). The water quality standard based limitations presented in this PEL may be incorporated into a CDPS permit contingent on analyses conducted during permit development. The technology based limitations will also be incorporated into the permit unless a more stringent limitation is applied.

As explained in the attached document, these limitations have been developed based on the water quality standards for the receiving stream, the ambient water quality of the receiving stream, the calculated low flows, the stated design flow of the facility, technology based limitations established in the *Regulations for Effluent Limitations* (Regulation No. 62), applicable federal Effluent Limitation Guidelines (ELGs), and where necessary the antidegradation regulations, mixing zone policies, and any designation of a receiving stream by the US Fish and Wildlife Service as habitat for federally listed threatened and endangered (T&E) fish. A determination of which PELs ultimately apply in a permit will be dependent on decisions made by the permittee regarding treatment facilities, discharge type, industrial contributions, receiving streams, design flows, or other information presented to the Division at the time of application.

Table 1 contains a summary of the limitations that have been developed in this PEL, for which the proposed treatment facility will be evaluated against, under the Site Approval Process. This evaluation will include a determination of whether the proposed treatment facility as designed, can meet these limitations. A new wastewater treatment facility will be expected to meet the limitations for these parameters upon commencement of discharge.

Table 1 Preliminary Effluent Limits for Evaluation under the Site Approval Process Discharge to Rat Run at a Design Flow of 0.2646 MGD	
BOD_5 (mg/l)	45 (7-day average), 30 (30-day average)
BOD_5 (% removal)	85 (30-day average)
TSS, mechanical plant (mg/l)	45 (7-day average), 30 (30-day average)
TSS, mechanical plant (% removal)	85 (30-day average)
Oil and Grease (mg/l)	10 (maximum)
pH (s.u.)	6.5-9.0 (minimum-maximum)
Other Pollutants	*Max. Limits or WQBELs*
E. coli (#/100 ml)	252 (7-day geomean), 126 (30-day geomean)
TRC (mg/l)	0.019 (daily maximum), 0.011 (30-day average)
Total Inorganic Nitrogen as N (mg/l)	10 (daily maximum), 7 (annual median), 14 (95th percentile)
Total Phosphorus (mg/l)	0.7 (annual median), 1.75 (95th percentile)
Total Ammonia	*WQBELs*
NH3 as N, Tot (mg/l) Jan	27 (daily maximum), 6.2 (30-day average)
NH3 as N, Tot (mg/l) Feb	26 (daily maximum), 6.0 (30-day average)
NH3 as N, Tot (mg/l) Mar	26 (daily maximum), 5.5 (30-day average)
NH3 as N, Tot (mg/l) Apr	26 (daily maximum), 5.0 (30-day average)
NH3 as N, Tot (mg/l) May	26 (daily maximum), 4.3 (30-day average)
NH3 as N, Tot (mg/l) Jun	26 (daily maximum), 3.8 (30-day average)
NH3 as N, Tot (mg/l) Jul	24 (daily maximum), 3.1 (30-day average)
NH3 as N, Tot (mg/l) Aug	26 (daily maximum), 3.2 (30-day average)
NH3 as N, Tot (mg/l) Sep	27 (daily maximum), 3.5 (30-day average)
NH3 as N, Tot (mg/l) Oct	26 (daily maximum), 4.1 (30-day average)
NH3 as N, Tot (mg/l) Nov	27 (daily maximum), 5.1 (30-day average)
NH3 as N, Tot (mg/l) Dec	27 (daily maximum), 6.1 (30-day average)

COLORADO
Department of Public Health & Environment

Preliminary Effluent Limitations
Box Elder Creek
Prosper Farms Investment LLC, Prosper WWTF
Tristan Acob
March 16, 2016

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I. Preliminary Effluent Limitations Summary

Table A-1 includes summary information related to this PEL. This summary table includes key regulatory starting points used in development of the PEL such as: receiving stream information; threatened and endangered species; 303(d) and Monitoring and Evaluation listings; low flow and facility flow summaries; and a list of parameters evaluated.

Table A-1
PEL Summary

Facility Information

Facility Name	Permit Number	Design Flow (max 30-day ave, MGD)	Design Flow (max 30-day ave, CFS)
Prosper WWTF	PEL200456	0.2646	0.41

Receiving Stream Information

Receiving Stream Name	Segment ID	Designation	Classification(s)
Rat Run	COSPMS03a	Use Protected	Aquatic Life Warm 2 Recreation Class E Agriculture Water Supply

Low Flows (cfs)

Receiving Stream Name	1E3 (1-day)	7E3 (7-day)	30E3 (30-day)	Ratio of 30E3 to the Design Flow (cfs)
Rat Run	0	0	0	0:1

Regulatory Information

T&E Species	303(d) (Reg 93)	Monitor and Eval (Reg 93)	Existing TMDL	Temporary Modification(s)	Control Regulation
No	None	None	None	As(ch)=hybrid; expiration date of 12/31/21	Regulation 85

Pollutants Evaluated

Ammonia, *E. coli*, TRC, Nutrients

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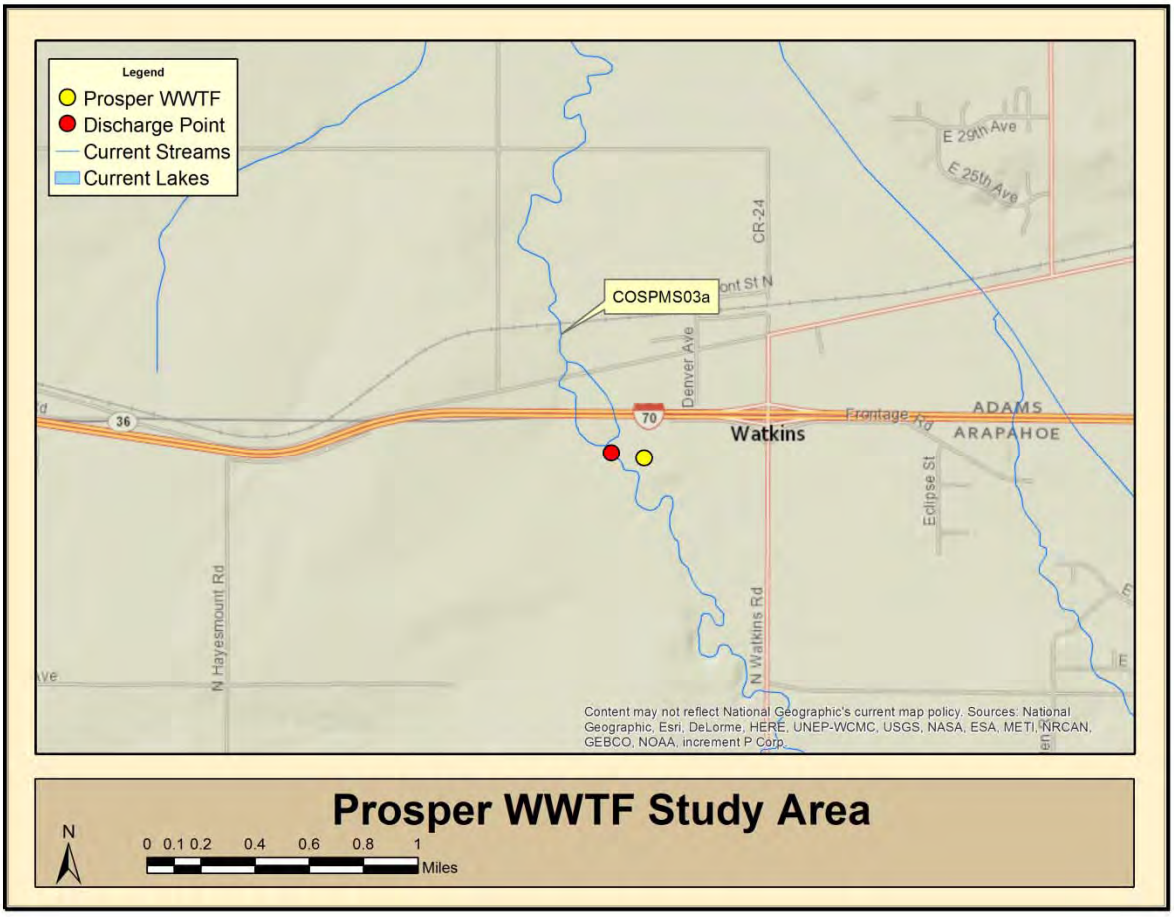
II. Introduction

The Preliminary Effluent Limitations (PEL) of Rat Run a tributary to the Box Elder Creek near the Prosper Wastewater Treatment Facility (WWTF), located in Arapahoe County, is intended to determine the assimilative capacities available for pollutants found to be of concern. This PEL describes how the water quality based effluent limits (WQBELs) are developed. These parameters may or may not appear in the permit with limitations or monitoring requirements, subject to other determinations such as reasonable potential analysis, evaluation of federal effluent limitation guidelines, implementation of state-based technology based limits, mixing zone analyses, 303(d) listings, threatened and endangered species listing, or other requirements as discussed in the permit rationale. Figure A-1 contains a map of the study area evaluated as part of this PEL.

FIGURE A-1



The Prosper WWTF is a new WWTF proposing to discharge to Rat Run, which is stream segment COSPMS03a. This means the South Platte Basin, Middle South Platte River Sub-basin, Stream Segment 03a. This segment is composed of the "All tributaries to the South Platte River, including all wetlands, from a point immediately below the confluence with Big Dry Creek to the Weld/Morgan County line, except for specific listings in the subbasins of the South Platte River, and in Segments 3b, 5a, 5b, 5c, and 6". Stream segment COSPMS03a is classified for Aquatic Life Warm 2, Recreation Class E, Water Supply, and Agriculture.

Information used in this assessment includes data gathered from the Prosper WWTF, the Division, and communications with the local water commissioner. The data used in the assessment consist of the best information available at the time of preparation of this PEL analysis.

III. Water Quality Standards

Narrative Standards

Narrative Statewide Basic Standards have been developed in Section 31.11(1) of the regulations, and apply to any pollutant of concern, even where there is no numeric standard for that pollutant. Waters of the state shall be free from substances attributable to human-caused point source or nonpoint source discharges in amounts, concentrations or combinations which:

for all surface waters except wetlands;

(i) can settle to form bottom deposits detrimental to the beneficial uses. Depositions are stream bottom buildup of materials which include but are not limited to anaerobic sludge, mine slurry or tailings, silt, or mud; or (ii) form floating debris, scum, or other surface materials sufficient to harm existing beneficial uses; or (iii) produce color, odor, or other conditions in such a degree as to create a nuisance or harm existing beneficial uses or impart any undesirable taste to significant edible aquatic species or to the water; or (iv) are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life; or (v) produce a predominance of undesirable aquatic life; or (vi) cause a film on the surface or produce a deposit on shorelines; and for surface waters in wetlands;

(i) produce color, odor, changes in pH, or other conditions in such a degree as to create a nuisance or harm water quality dependent functions or impart any undesirable taste to significant edible aquatic species of the wetland; or (ii) are toxic to humans, animals, plants, or aquatic life of the wetland.

In order to protect the Basic Standards in waters of the state, effluent limitations and/or monitoring requirements for any parameter of concern could be put in CDPS discharge permits.

Standards for Organic Parameters and Radionuclides

Radionuclides: Statewide Basic Standards have been developed in Section 31.11(2) and (3) of The Basic Standards and Methodologies for Surface Water to protect the waters of the state from radionuclides and organic chemicals.

In no case shall radioactive materials in surface waters be increased by any cause attributable to municipal, industrial, or agricultural practices or discharges to as to exceed the following levels, unless alternative site-specific standards have been adopted. Standards for radionuclides are shown in Table A-2.

Table A-2 Radionuclide Standards	
Parameter	**Picocuries per Liter**
Americium 241*	0.15
Cesium 134	80
Plutonium 239, and 240*	0.15
Radium 226 and 228*	5
Strontium 90*	8
Thorium 230 and 232*	60
Tritium	20,000

*Radionuclide samples for these materials should be analyzed using unfiltered (total) samples. These Human Health based standards are 30-day average values for both plutonium and americium.

Organics: The organic pollutant standards contained in the Basic Standards for Organic Chemicals Table are applicable to all surface waters of the state for the corresponding use classifications, unless alternative site-specific standards have been adopted. These standards have been adopted as "interim standards" and will remain in effect until alternative permanent standards are adopted by the Commission. These interim standards shall not be considered final or permanent standards subject to antibacksliding or downgrading restrictions. Although not reproduced in this PEL, the specific standards for organic chemicals can be found in Regulation 31.11(3).

In order to protect the Basic Standards in waters of the state, effluent limitations and/or monitoring requirements for radionuclides, organics, or any other parameter of concern could be put in CDPS discharge permits.

The aquatic life standards for organics apply to all stream segments that are classified for aquatic life. The water supply standards apply only to those segments that are classified for water supply. The water + fish standards apply to those segments that have a Class 1 aquatic life and a water supply classification. The fish ingestion standards apply to Class 1 aquatic life segments that do not have a water supply designation. The water + fish and the fish ingestion standards may also apply to Class 2 aquatic life segments, where the Water Quality Control Commission has made such determination.

Because Rat Run is classified for Aquatic Life Warm 2, with a water supply designation, the water + fish and aquatic life standards apply to this discharge.

Salinity

The Division's policy, Implementing Narrative Standards in Discharge Permits for the Protection of Irrigated Crops, may be applied to discharges where an agricultural water intake exists downstream of a discharge point. Limitations for electrical conductivity and sodium absorption ratio may be applied in accordance with this policy.

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Nutrients

Total Phosphorus and Total Inorganic Nitrogen: Regulation 85, the Nutrients Management Control Regulation has been adopted by the Water Quality Control Commission and became effective September 30, 2012. This regulation contains requirements for phosphorus and Total Inorganic Nitrogen (TIN) concentrations for some point source dischargers. Limitations for phosphorus and TIN may be applied in accordance with this regulation.

Temperature

Temperature shall maintain a normal pattern of diurnal and seasonal fluctuations with no abrupt changes and shall have no increase in temperature of a magnitude, rate, and duration deemed deleterious to the resident aquatic life. This standard shall not be interpreted or applied in a manner inconsistent with section 25-8-104, C.R.S.

Segment Specific Numeric Standards

Numeric standards are developed on a basin-specific basis and are adopted for particular stream segments by the Water Quality Control Commission. The standards in Table A-3 have been assigned to stream segment COSPMS03a in accordance with the *Classifications and Numeric Standards for South Platte River Basin, Laramie River Basin, Republican River Basin, Smoky Hill River Basin*.

Table A-3 In-stream Standards for Stream Segment COSPMS03a
Physical and Biological
Dissolved Oxygen (DO) = 5 mg/l, minimum
pH = 6.5 - 9 su
E. coli chronic = 126 colonies/100 ml
Temperature March-Nov = 24.2° C MWAT and 29° C DM
Temperature Dec-Feb = 12.1° C MWAT and 14.5° C DM
Chlorophyll *a** = 150 mg/m^2
Inorganic
Total Ammonia acute and chronic = TVS
Chlorine acute = 0.019 mg/l
Chlorine chronic = 0.011 mg/l
Free Cyanide acute = 0.005 mg/l
Sulfide chronic = 0.002 mg/l
Boron chronic = 0.75 mg/l
Nitrite acute = 0.5 mg/l
Nitrate acute = 10 mg/l
Chloride chronic = 250 mg/l
Sulfate chronic = For WS, the greater of ambient water quality as of January 1, 2000 or 250 mg/l
Phosphorus* = 0.17 mg/l
Metals
Dissolved Arsenic acute = 340 µg/l
Total Recoverable Arsenic chronic = 0.02 µg/l
Dissolved Cadmium acute and chronic = TVS
Total Recoverable Trivalent Chromium acute = 50 µg/l
Dissolved Hexavalent Chromium acute and chronic = TVS
Dissolved Copper acute and chronic = TVS

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Table A-3 In-stream Standards for Stream Segment COSPMS03a
Physical and Biological
Dissolved Iron chronic = For WS, the greater of ambient water quality as of January 1, 2000, or 300 µg/l
Total Recoverable Iron chronic = 1000 µg/l
Dissolved Lead acute and chronic = TVS
Dissolved Manganese chronic = For WS, the greater of ambient water quality as of January 1, 2000, or 50 µg/l
Dissolved Manganese acute and chronic = TVS
Total Recoverable Molybdenum chronic = 160 µg/l
Total Mercury chronic = 0.01 µg/l
Dissolved Nickel acute and chronic = TVS
Dissolved Selenium acute and chronic = TVS
Dissolved Silver acute and chronic = TVS
Dissolved Zinc acute and chronic = TVS

*Chlorophyll *a* and phosphorus only apply to facilities listed at 38.5(4). Note that this facility is not located upstream of any of the facilities listed in 38.5(4).

Table Value Standards and Hardness Calculations

As metals with standards specified as TVS are not included as parameters of concern for this facility at this time, the hardness value of the receiving water and the subsequent calculation of the TVS equations is inconsequential and is therefore omitted from this PEL.

Total Maximum Daily Loads and Regulation 93 – Colorado's Section 303(d) List of Impaired Waters and Monitoring and Evaluation List

This stream segment is not listed on the Division's 303(d) list of water quality impacted streams and is not on the monitoring and evaluation list.

IV. Receiving Stream Information

Low Flow Analysis

The Colorado Regulations specify the use of low flow conditions when establishing water quality based effluent limitations, specifically the acute and chronic low flows. The acute low flow, referred to as 1E3, represents the one-day low flow recurring in a three-year interval, and is used in developing limitations based on an acute standard. The 7-day average low flow, 7E3, represents the seven-day average low flow recurring in a 3 year interval, and is used in developing limitations based on a Maximum Weekly Average Temperature standard (MWAT). The chronic low flow, 30E3, represents the 30-day average low flow recurring in a three-year interval, and is used in developing limitations based on a chronic standard.

Although there is periodic flow in Rat Run upstream of the Prosper WWTF, the 1E3 and 30E3 monthly low flows are set at zero based on information provided by the local Water Commissioner. For this analysis, low flows are summarized in Table A-4.

Table A-4 Low Flows for Rat Run at the Prosper WWTF													
Low Flow (cfs)	*Annual*	*Jan*	*Feb*	*Mar*	*Apr*	*May*	*Jun*	*Jul*	*Aug*	*Sep*	*Oct*	*Nov*	*Dec*
1E3 Acute	0	0	0	0	0	0	0	0	0	0	0	0	0
7E3 Chronic	0	0	0	0	0	0	0	0	0	0	0	0	0
30E3 Chronic	0	0	0	0	0	0	0	0	0	0	0	0	0

The ratio of the low flow of Rat Run to the Prosper WWTF design flow is 0:1.

Note that since the low flow has been determined to be zero, the ambient water quality discussion is unnecessary and has therefore been deleted in this PEL. This is explained in more detail under the Technical Information discussion in Section VI.

Mixing Zones

The amount of the available assimilative capacity (dilution) that may be used by the permittee for the purposes of calculating the WQBELs may be limited in a permitting action based upon a mixing zone analysis or other factor. These other factors that may reduce the amount of assimilative capacity available in a permit are: presence of other dischargers in the vicinity; the presence of a water diversion downstream of the discharge (in the mixing zone); the need to provide a zone of passage for aquatic life; the likelihood of bioaccumulation of toxins in fish or wildlife; habitat considerations such as fish spawning or nursery areas; the presence of threatened and endangered species; potential for human exposure through drinking water or recreation; the possibility that aquatic life will be attracted to the effluent plume; the potential for adverse effects on groundwater; and the toxicity or persistence of the substance discharged.

Unless a facility has performed a mixing zone study during the course of the previous permit, and a decision has been made regarding the amount of the assimilative capacity that can be used by the facility, the Division assumes that the full assimilative capacity can be allocated. Note that the review of mixing study considerations, exemptions and perhaps performing a new mixing study (due to changes in low flow, change in facility design flow, channel geomorphology or other reason) is evaluated in every permit and permit renewal.

If a mixing zone study has been performed and a decision regarding the amount of available assimilative capacity has been made, the Division may calculate the water quality based effluent limitations (WQBELs) based on this available capacity. In addition, the amount of assimilative capacity may be reduced by T&E implications.

Since the receiving stream has a zero low flow as calculated above, the WQBELs would be equal to the WQS, and therefore consideration of full or reduced assimilative capacity is inconsequential.

Ambient Water Quality

The Division evaluates ambient water quality based on a variety of statistical methods as prescribed in Section 31.8(2)(a)(i) and 31.8(2)(b)(i)(B) of the *Colorado Department of Public Health and Environment Water Quality Control Commission Regulation No. 31*, and as outlined in

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the Division's Policy for Characterizing Ambient Water Quality for Use in Determining Water Quality Standards Based Effluent Limits (WQP-19). The ambient water quality was not assessed for Rat Run because the background in-stream low flow condition is zero, and because no ambient water quality data are available for Rat Run upstream of the Prosper WWTF discharge.

V. Facility Information and Pollutants Evaluated

Facility Information

The Prosper WWTF is a new WWTF proposed to be located in the NW ¼, NE ¼, Section 6, T4S, R65W; south of Interstate 70 and west of N Watkins Road in Arapahoe County. The current design capacity of the facility is 0.2646 MGD (0.41 cfs). Wastewater treatment is proposed to be accomplished using a mechanical wastewater treatment process. The technical analyses that follow include assessments of the assimilative capacity based on this design capacity.

An assessment of Division records indicate that there are 8 facilities discharging to the same stream segment or other stream segments immediately upstream or downstream from this facility. Several of these facilities are covered by general permits and have limitations set at the water quality standards. These facilities were not modeled in this PEL as they have a minimal impact on the ambient water quality. Some facilities, although on the same stream segment, actually discharge to a different receiving stream and therefore were not considered in this PEL. The nearest discharger was:

- Front Range Airport WWTF (CO0047741), which discharges to the Bear Gulch, which then flows to the Box Elder Creek.

Due to the in-stream low flow of zero, the assimilative capacities during times of low flow are not affected by nearby contributions. Therefore, modeling nearby facilities in conjunction with this facility was not necessary.

Pollutants of Concern

Pollutants of concern may be determined by one or more of the following: facility type; effluent characteristics and chemistry; effluent water quality data; receiving water quality; presence of federal effluent limitation guidelines; or other information. Parameters evaluated in this PEL may or may not appear in a permit with limitations or monitoring requirements, subject to other determinations such as a reasonable potential analysis, mixing zone analyses, 303(d) listings, threatened and endangered species listings or other requirement as discussed in a permit rationale.

There are no site-specific in-stream water quality standards for BOD_5 or $CBOD_5$, TSS, percent removal, and oil and grease for this receiving stream. Thus, assimilative capacities were not determined for these parameters. The applicable limitations for these pollutants can be found in Regulation No. 62 and will be applied in the permit for the WWTF.

The following parameters were identified by the Division as pollutants to be evaluated for this facility:

- Total Residual Chlorine
- *E. coli*
- Nitrate
- Ammonia
- Temperature

Based upon the size of the discharge, the lack of industrial contributors, dilution provided by the receiving stream and the fact that no unusually high metals concentrations are expected to be found in the wastewater effluent, metals are not evaluated further in this Preliminary Effluent Limitations.

According to the *Rationale for Classifications, Standards and Designations of the South Platte*, stream segment COSPMS03a is designated a water supply because there are two alluvial wells in close proximity to Owl Creek and could be additional water supply intakes or alluvial wells in the segment. Thus, the nitrate standard is further evaluated as part of this PEL.

During assessment of the facility, nearby facilities, and receiving stream water quality, no additional parameters were identified as pollutants of concern.

VI. Determination of Water Quality Based Effluent Limitations (WQBELs)

Technical Information

Note that the WQBELs developed in the following paragraphs, are calculations of what an effluent limitation may be in a permit. The WQBELs for any given parameter, will be compared to other potential limitations (federal Effluent Limitations Guidelines, State Effluent Limitations, or other applicable limitation) and typically the more stringent limit is incorporated into a permit. If the WQBEL is the more stringent limitation, incorporation into a permit is dependent upon a reasonable potential analysis.

In-stream background data and low flows evaluated in Sections II and III are used to determine the assimilative capacity of Rat Run near the Prosper WWTF for pollutants of concern, and to calculate the WQBELs. For all parameters except ammonia, it is the Division's approach to calculate the WQBELs using the lowest of the monthly low flows (referred to as the annual low flow) as determined in the low flow analysis. For ammonia, it is the standard procedure of the Division to determine monthly WQBELs using the monthly low flows, as the regulations allow the use of seasonal flows.

The Division's standard analysis consists of steady-state, mass-balance calculations for most pollutants and modeling for pollutants such as ammonia. The mass-balance equation is used by the Division to calculate the WQBELs, and accounts for the upstream concentration of a pollutant at the existing quality, critical low flow (minimal dilution), effluent flow and the water quality standard. The mass-balance equation is expressed as:

$$M_2 = \frac{M_3 Q_3 - M_1 Q_1}{Q_2}$$

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Where,

Q_1 = Upstream low flow (1E3 or 30E3)
Q_2 = Average daily effluent flow (design capacity)
Q_3 = Downstream flow (Q_1 + Q_2)
M_1 = In-stream background pollutant concentrations at the existing quality
M_2 = Calculated WQBEL
M_3 = Water Quality Standard, or other maximum allowable pollutant concentration

When Q_1 equals zero, Q_2 equals Q_3, and the following results:

$$M_2 = M_3$$

Because the low flow (Q_1) for Rat Run is zero, the WQBELs for Rat Run for the pollutants of concern are equal to the in-stream water quality standards.

A more detailed discussion of the technical analysis is provided in the pages that follow.

Calculation of WQBELs

Using the mass-balance equation provided in the beginning of Section VI, the acute and chronic low flows set out in Section IV, ambient water quality as discussed in Section IV, and the in-stream standards shown in Section III, the WQBELs for were calculated. The data used and the resulting WQBELs, M_2, are set forth in Table A-5a for the chronic WQBELs and A-5b for the acute WQBELs.

Where a WQBEL is calculated to be a negative number and interpreted to be zero, or when the ambient water quality exceeds the in-stream standard, the Division standard procedure is to allocate the water quality standard to prevent further degradation of the receiving waters.

Chlorine: There are no point sources discharging total residual chlorine within one mile of the Prosper WWTF. Because chlorine is rapidly oxidized, in-stream levels of residual chlorine are detected only for a short distance below a source. Ambient chlorine was therefore assumed to be zero.

***E. coli*:** There are no point sources discharging *E. coli* within one mile of the Prosper WWTF. Thus, WQBELs were evaluated separately. For *E. coli*, the Division establishes the 7-day geometric mean limit as two times the 30-day geometric mean limit and also includes maximum limits of 2,000 colonies per 100 ml (30-day geometric mean) and 4,000 colonies per 100 ml (7-day geometric mean). This 2000 colony limitation also applies to discharges to ditches.

Temperature: The 7E3 low flow is 0 in all twelve months, so the discharge is to an effluent dependent (ephemeral stream without the presence of wastewater) water, therefore in accordance with Regulation 31.14(14), no temperature limitations are required.

Nitrate / Total Inorganic Nitrogen (T.I.N.): An acute nitrate standard of 10 mg/l is assigned to this segment. Because nitrite and ammonia can also form nitrate, compliance with the nitrate

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standard is achieved through imposition of a Total Inorganic Nitrogen (T.I.N.) limit. T.I.N. effectively measures nitrate and its precursors including nitrite and ammonia.

Table A-5a Chronic WQBELs						
Parameter	*Q_1 (cfs)*	*Q_2 (cfs)*	*Q_3 (cfs)*	*M_1*	*M_3*	*M_2*
E. coli (#/100 ml)	0	0.41	0.41	1	126	*126*
TRC (mg/l)	0	0.41	0.41	0	0.011	*0.011*

Table A-5b Acute WQBELs						
Parameter	*Q_1 (cfs)*	*Q_2 (cfs)*	*Q_3 (cfs)*	*M_1*	*M_3*	*M_2*
E. coli (#/100 ml)*						*252*
TRC (mg/l)	0	0.41	0.41	0	0.019	*0.019*
Total Inorganic Nitrogen as N (mg/l)	0	0.41	0.41	0	10	*10*

*The acute WQBEL for *E. coli* is two times the chronic WQBEL.

Ammonia: The Ammonia Toxicity Model (AMMTOX) is a software program designed to project the downstream effects of ammonia and the ammonia assimilative capacities available to each discharger based on upstream water quality and effluent discharges. To develop data for the AMMTOX model, an in-stream water quality study should be conducted of the upstream receiving water conditions, particularly the pH and corresponding temperature, over a period of at least one year.

There were no pH or temperature data available for Rat Run or the Prosper WWTF that could be used as adequate input data for the AMMTOX model. Therefore, the Division standard procedure is to rely on statistically-based, regionalized data for pH and temperature compiled from similar facilities and receiving waters.

The AMMTOX may be calibrated for a number of variables in addition to the data discussed above. The values used for the other variables in the model are listed below:

- Stream velocity = $0.3Q^{0.4d}$
- Default ammonia loss rate = 6/day
- pH amplitude was assumed to be medium
- Default times for pH maximum, temperature maximum, and time of day of occurrence
- pH rebound was set at the default value of 0.2 su per mile
- Temperature rebound was set at the default value of 0.7 degrees C per mile.

The results of the ammonia analyses for the Prosper WWTF are presented in Table A-6.

Table A-6 AMMTOX Results for Rat Run at the Prosper WWTF		
Month	*Total Ammonia Chronic (mg/l)*	*Total Ammonia Acute (mg/l)*
January	6.2	27
February	6.0	26
March	5.5	26
April	5.0	26
May	4.3	26
June	3.8	26
July	3.1	24
August	3.2	26
September	3.5	27
October	4.1	26
November	5.1	27
December	6.1	27

VII. Antidegradation Evaluation

As set out in *The Basic Standards and Methodologies for Surface Water*, Section 31.8(2)(b), an antidegradation analysis is required except in cases where the receiving water is designated as "Use Protected." Note that "Use Protected" waters are waters "that the Commission has determined do not warrant the special protection provided by the outstanding waters designation or the antidegradation review process" as set out in Section 31.8(2)(b). The antidegradation section of the regulation became effective in December 2000, and therefore antidegradation considerations are applicable to this PEL analysis.

According to the *Classifications and Numeric Standards for South Platte River Basin, Laramie River Basin, Republican River Basin, Smoky Hill River Basin*, stream segment COSPMS03a is Use Protected. Because the receiving waters are designated as Use Protected, no antidegradation review is necessary in accordance with the regulations. Thus, for purposes of this WQA analysis, antidegradation review requirements have been met and no further antidegradation evaluation is necessary.

VIII. Technology Based Limitations

Federal Effluent Limitation Guidelines

The Federal Effluent Limitation Guidelines for domestic wastewater treatment facilities are the secondary treatment standards. These standards have been adopted into, and are applied out of, Regulation 62, the Regulations for Effluent Limitations.

Regulations for Effluent Limitations

Regulation No. 62, the Regulations for Effluent Limitations, includes effluent limitations that apply to all discharges of wastewater to State waters, with the exception of storm water and agricultural return flows. These regulations are applicable to the discharge from the proposed discharge.

Table A-7 contains a summary of the applicable limitations for pollutants of concern at this facility.

Table A-7 Regulation 62 Based Limitations			
Parameter	*30-Day Average*	*7-Day Average*	*Instantaneous Maximum*
BOD_5	30 mg/l	45 mg/l	NA
TSS, mechanical plant	30 mg/l	45 mg/l	NA
BOD_5 Percent Removal	85%	NA	NA
TSS Percent Removal	85%	NA	NA
Total Residual Chlorine	NA	NA	0.5 mg/l
pH	NA	NA	6.0-9.0 s.u.
Oil and Grease	NA	NA	10 mg/l

Nutrient Effluent Limitation Considerations

WQCC Regulation No. 85, the new *Nutrients Management Control Regulation*, includes technology based effluent limitations for total inorganic nitrogen and total phosphorus that currently, or will in the future, apply to many domestic wastewater discharges to State surface waters. These effluent limits for dischargers are to start being implemented in permitting actions as of July 1, 2013, and are shown in the two tables below:

Effluent Limitations Table at 85.5(1)(a)(iii)

For all Domestic Wastewater Treatment Works not identified in subsections (a)(i) or (ii) above(in Reg. 85) *and discharging prior to May 31, 2012 or for which a complete request for preliminary effluent limits has been submitted to the Division prior to May 31, 2012, the following numeric limits shall apply:*

Parameter	*Parameter Limitations*	
	Annual Median [1]	*95th Percentile* [2]
Total Phosphorus	*1.0 mg/l*	*2.5 mg/l*
Total Inorganic Nitrogen[3]	*15 mg/l*	*20 mg/l*

1 Running Annual Median: The median of all samples taken in the most recent 12 calendar months.
2 The 95th percentile of all samples taken in the most recent 12 calendar months.
3 Determined as the sum of nitrate as N, nitrite as N, and ammonia as N.

Effluent Limitations Table at 85.5(1)(b)

For New Domestic Wastewater Treatment Works which submit a complete request for preliminary effluent limits to the Division on or after May 31, 2012, the following numeric limits shall apply:

Parameter	*Parameter Limitations*	
	Annual Median [1]	*95th Percentile* [2]
Total Phosphorus	*0.7 mg/l*	*1.75 mg/l*
Total Inorganic Nitrogen[3]	*7 mg/l*	*14 mg/l*

1 Running Annual Median: The median of all samples taken in the most recent 12 calendar months.
2 The 95th percentile of all samples taken in the most recent 12 calendar months.
3 Determined as the sum of nitrate as N, nitrite as N, and ammonia as N.

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Requirements in Reg. 85 also apply to non-domestic wastewater for industries in the Standard Industrial Class 'Major Group 20,' and any other non-domestic wastewater where the facility is expected, without treatment, to discharge total inorganic nitrogen or total phosphorus concentrations in excess of the numeric limits listed in 85.5 (1)(a)(iii). The facility must investigate, with the Division's approval, whether different considerations should apply.

All permit actions based on this PEL will occur after the July 1, 2013 permit implementation date of Reg. 85. Therefore, total inorganic nitrogen and total phosphorus effluent limitations potentially imposed because of Reg. 85 must be considered. However, also based on Reg. 85, there are direct exemptions from these limitations for smaller domestic facilities that discharge less than or equal to 1 million gallons per day (MGD), or are a domestic facility owned by a disadvantaged community.

Delayed implementation (until 5/31/2022) is also specified in Reg. 85 to occur for domestic WWTFs that discharge more than 1 MGD, and less than or equal to 2.0 MGD, or have an existing watershed control regulations (such as WQCC Reg.'s 71-74), or where the discharge is to waters in a low-priority 8-digit HUC.

For all other larger domestic WWTFs, the nutrient effluent limitations from the two tables above will apply, unless other considerations allowed by Reg. 85 at 85.5(3) are utilized to show compliance with exceptions or variances to these limitations.

Even though the proposed design capacity of the proposed Prosper WWTF is <1.0 MGD (0.2646 MGD), the facility is required to address the new technology based effluent limits at 85.5(1)(b). This is because the proposed Prosper WWTF is a new facility and the Regulation 85 technology based limits applied as of 7/1/2013. Because there is such limited stream data for this segment, it is not currently known what if any assimilative capacity for TN of TP exists. It was not possible to calculate WQBELs for the proposed discharge at this time.

The Division wishes to encourage the proposed Prosper WWTF to start working on nutrient control with the other dischargers along Box Elder Creek. These dischargers along the Box Elder Creek have the potential to create future nutrient issues in the Middle South Platte River watershed. The Division encourages these entities to all work together to create the most efficient and cost effective solutions for nutrient control in the Middle South Platte River watershed.

<u>Supplemental Reg. 85 Nutrient Monitoring</u>
Reg. 85 also requires that some monitoring for nutrients in wastewater effluent and streams take place, independent of what nutrient effluent limits or monitoring requirements may be established in a discharge permit. The requirements for the type and frequency of this monitoring are set forth in Reg. 85 at 85.6. This nutrient monitoring is not currently required by a permitting action, but is still required to be done by the Reg. 85 nutrient control regulation. Nutrient monitoring for the Reg. 85 control regulation is currently required to be reported to the WQCD Environmental Data Unit.

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IX. References

Regulations:
The Basic Standards and Methodologies for Surface Water, Regulation 31, Colorado Department Public Health and Environment, Water Quality Control Commission, effective January 31, 2013.

Classifications and Numeric Standards for South Platte River Basin, Laramie River Basin, Republic River Basin, Smoky Hill River Basin, Regulation No. 31, Colorado Department Public Health and Environment, Water Quality Control Commission, effective March 1, 2016.

Regulations for Effluent Limitations, Regulation 62, CDPHE, WQCC, July 30, 2012.

Nutrients Management Control Regulation, Regulation 85, Colorado Department Public Health and Environment, Water Quality Control Commission, effective September 30, 2012.

Colorado's Section 303(d) List of Impaired Waters and Monitoring and Evaluation List, Regulation 93, Colorado Department Public Health and Environment, Water Quality Control Commission, effective March 30, 2012.

Policy and Guidance Documents:
Antidegradation Significance Determination for New or Increased Water Quality Impacts, Procedural Guidance, Colorado Department Public Health and Environment, Water Quality Control Division, December 2001.

Memorandum Re: First Update to (Antidegradation) Guidance Version 1.0, Colorado Department Public Health and Environment, Water Quality Control Division, April 23, 2002.

Rationale for Classifications, Standards and Designations of Segments of the Middle South Platte River, Colorado Department Public Health and Environment, Water Quality Control Division, effective October 29, 2002.

Policy Concerning Escherichia coli versus Fecal Coliform, CDPHE, WQCD, July 20, 2005.

Colorado Mixing Zone Implementation Guidance, Colorado Department Public Health and Environment, Water Quality Control Division, effective April 2002.

Policy for Conducting Assessments for Implementation of Temperature Standards in Discharge Permits, Colorado Department Public Health and Environment, Water Quality Control Division Policy Number WQP-23, effective July 3, 2008.

Implementing Narrative Standards in Discharge Permits for the Protection of Irrigated Crops, Colorado Department Public Health and Environment, Water Quality Control Division Policy Number WQP-24, effective March 10, 2008.

Policy for Characterizing Ambient Water Quality for Use in Determining Water Quality Standards Based Effluent Limits, Colorado Department Public Health and Environment, Water Quality Control Division Policy Number WQP-19, effective May 2002.

Attachment G

Sanitary Sewage Rates and Financial Statements

METRO WASTEWATER RECLAMATION DISTRICT

BASIC FINANCIAL STATEMENTS AND SUPPLEMENTARY INFORMATION

December 31, 2014 and 2013

(with Independent Auditors' Report)

METRO WASTEWATER
RECLAMATION DISTRICT

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INDEPENDENT AUDITORS' REPORT

Board of Directors
Metro Wastewater Reclamation District
Denver, Colorado

Report on the Financial Statements

We have audited the accompanying financial statements of the business-type activities and the remaining fund information of the Metro Wastewater Reclamation District (the District), as of and for the years ended December 31, 2014 and 2013, and the related notes to the financial statements, which collectively comprise the District's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express opinions on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the District's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the District's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Board of Directors
Metro Wastewater Reclamation District

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the business-type activities and the remaining fund information of the Metro Wastewater Reclamation District as of December 31, 2014 and 2013, and the respective changes in financial position and, where applicable, cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis and the Schedule of Funding Progress on pages 3 - 11 and 43 - 45 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audits were conducted for the purpose of forming opinions on the financial statements that collectively comprise the Metro Wastewater Reclamation District's basic financial statements. The Supplementary Information listed as Schedules 1 and 2 in the table of contents are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The Supplementary Information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the Supplementary Information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

CliftonLarsonAllen LLP

CliftonLarsonAllen LLP

Greenwood Village, Colorado
April 9, 2015

METRO WASTEWATER
RECLAMATION DISTRICT

Management's Discussion and Analysis

Years Ended December 31, 2014 and 2013

(Unaudited)

As management of the Metro Wastewater Reclamation District (the District), we offer readers of the District's financial statements this narrative overview and analysis of the financial activities of the District for the years ended December 31, 2014 and 2013. This discussion and analysis is presented for the District's primary operations.

Financial Highlights

- The District's net position of $694.6 million at December 31, 2014 increased over the course of 2014 by $62.0 million or approximately 9.8%.
- Sewer connection fees increased $.8 million in 2014 from $33.8 million to $34.6 million due primarily to the number of new sewer connections.
- Total operating revenue increased $4.9 million in 2014 due primarily to a 4.5% increase in annual charges for service rates to connectors.

Overview of the Financial Statements

This discussion and analysis is intended to serve as an introduction to the District's basic financial statements. The District's basic financial statements are comprised of three components: 1) management's discussion and analysis, 2) the financial statements, and 3) notes to the financial statements that explain in more detail some of the information in the financial statements.

Required Financial Statements

The financial statements of the District report information using accounting methods similar to those used by private-sector companies. These statements provide both long-term and short-term information about the District's overall financial status.

The statements of net position present information on all of the District's assets, deferred outflows, liabilities and deferred inflows, with the difference between the categories reported as net position. These statements provide information about the nature and the amounts of investments in resources and the obligations to the District's creditors. They provide one way to measure the financial health of the District by providing the basis for evaluating the capital structure of the District and assessing the liquidity and financial flexibility of the District. One will also need to consider other nonfinancial factors, such as changes in economic conditions, population, and industrial/commercial customer growth, and new or changed government legislation.

Each year's revenue and expenses are accounted for in the statements of revenue, expenses, and changes in net position. These statements measure operations over the year and can be used to determine whether the District has recovered all of its costs through its user fees and other charges.

The final required financial statements are the statements of cash flows. These statements report cash receipts, cash payments, and net changes in cash resulting from operating, investing, and capital financing activities. These statements provide answers to such questions as where did cash come from, what was cash used for, and what was the change in the cash balance during the reporting period.

Financial Analysis of the District's Operations

As previously noted, net position may serve over time as a useful indicator of an entity's financial position. In the case of the District, assets, including deferred outflows, exceeded liabilities by $694.6 million at December 31, 2014 and $632.6 million at December 31, 2013.

Unrestricted assets totaled approximately $291.9 million and $223.2 million at year-end 2014 and 2013, respectively. These balances primarily represent unrestricted cash, cash equivalents, investments, accounts receivables from connectors, and the net pension asset. Restricted assets totaled $163.6 million and $333.1 million at year-end 2014 and 2013, respectively. These restricted assets represent cash, cash equivalents, and investments restricted by bond covenants required to be used for future debt service payments. Capital assets totaled $935.4 million and $782.9 million at year-end 2014 and 2013, respectively. These assets include investments in wastewater plant, including pipelines and buildings, machinery, equipment, and vehicles.

Current liabilities totaled approximately $46.1 million and $43.2 million at year-end 2014 and 2013, respectively, and include trade payables, accrued payroll and related benefits to employees, accrued interest payable on outstanding bonded debt, and the current portion of long-term debt. Noncurrent liabilities totaled approximately $650.0 million and $663.4 million at year-end 2014 and 2013, respectively, and represent the noncurrent principal amounts of outstanding bond issues, the noncurrent portion of compensated absences and other postemployment healthcare benefits liability.

As can be seen in the following Table A-l, net investments in capital assets are the largest portion of the District's net position (59.9%) in 2014 and (62.6%) in 2013, and reflect its investment in capital assets (e.g., sewers, buildings, machinery, and equipment) less related debt. They totaled $415.8 million and $395.8 million at year-end 2014 and 2013, respectively. The net increase of $20.0 million over 2013 is primarily due to a $152.5 million net increase in capital assets offset by an increase of $132.5 million in debt spent on capital projects (debt decreased by $13.4 million, and unspent bond proceeds decreased by $145.9 million, arriving at a $132.5 increase in debt spent on capital projects). The net increase of $1.5 million over 2012 is primarily due to $154.4 million net increase in capital assets offset by an increase of $152.6 million in debt spent on capital projects (debt decreased by $13.1 million, and unspent bond proceeds decreased by $165.7 million, arriving at a $152.6 million increase in debt spent on capital projects). The District uses these assets to provide wholesale wastewater transmission and treatment for approximately 75% of the Denver metropolitan area and serves approximately 1.7 million people. As the District uses these capital assets in its operations, they are not available for future spending. Although the District's investment in its capital assets is reported net of related debt, it should be noted that the resources to repay this debt must be provided from other sources, since the capital assets themselves are not intended to be used to liquidate these liabilities.

Restricted net position is restricted for current debt service payments and debt service reserve as required by debt covenants and represent the excess of assets restricted for debt service payments over the liability for debt service payments. These totaled approximately $19.2 million and $42.8 million for the years ended December 31, 2014 and 2013, respectively. Unrestricted net position comprises the remainder of the balance. This net position may be used for any purposes. Unrestricted net position totaled approximately $259.6 million and $194.0 million at

year-end 2014 and 2013, respectively. Although these balances are not restricted by debt covenants or other external sources, portions of this net position are designated by the Board of Directors for specific purposes.

Table A-1

Condensed Summary of Net Position

(In thousands)

		December 31,		
		2014	**2013**	**2012 (restated)**
Unrestricted assets	$	291,855	223,178	186,963
Restricted assets		163,558	333,125	485,506
Capital assets, net		935,383	782,854	628,409
Total assets	$	1,390,796	1,339,157	1,300,878
Deferred outflows of resources	$	—	91	398
Total deferred outflows	$	—	91	398
Current liabilities	$	46,136	43,165	39,537
Noncurrent liabilities		650,012	663,445	676,501
Total liabilities	$	696,148	706,610	716,038
Net investment in capital assets	$	415,811	395,808	394,337
Restricted		19,240	42,785	29,392
Unrestricted		259,597	194,045	161,509
Total net position	$	694,648	632,638	585,238

The primary variances between 2014, 2013, and 2012 are related to restricted and capital assets and noncurrent liabilities. Restricted assets decreased by $169.6 million during 2014 and decreased by $152.4 million during 2013. The decrease in 2014 was primarily due to spending of restricted bond proceeds for additions to construction in progress. The decrease in 2013 was also primarily due to spending of restricted bond proceeds for additions to construction in progress. Capital assets increased by $152.5 million and $154.4 million during 2014 and 2013, respectively, due primarily to additions in construction in progress. Noncurrent liabilities decreased by $13.4 million during 2014 due primarily to the principal payments on outstanding bonds. Noncurrent liabilities decreased in 2013 primarily due to the principal payments on outstanding bonds. For further information, please see the capital assets and debt administration discussion on pages 9 – 10.

As can be seen in the following Table A-2, net position increased $62.0 million to $694.6 million in 2014 and $47.4 million to $632.6 million in 2013. The increase in net position in 2014 was primarily due to receiving $34.6 million in sewer connection fees plus income before sewer connection fees of $27.4 million. The increase in net position in 2013 was primarily due to receiving $33.8 million in sewer connection fees plus income before sewer connection fees of $13.6 million.

Table A-2

Summary of Revenue, Expenses, and Changes in Net Position

(In thousands)

	December 31,		
	2014	2013	2012 (restated)
Annual charges to connectors	$ 114,847	109,902	101,761
Septic charge revenue	580	563	655
Other operating revenue	296	345	714
Total operating revenue	115,723	110,810	103,130
Investment revenue (loss)	4,598	(34)	4,336
Intergovernmental revenue	3,350	3,388	3,611
Total revenue	123,671	114,164	111,077
Operations and maintenance expenses	30,076	28,385	27,895
Technical management and support	12,844	13,542	12,378
Administrative and general	16,254	15,427	15,444
Depreciation and amortization	27,372	26,960	43,980
Total operating expenses	86,546	84,314	99,697
Interest expense	11,885	16,372	20,695
Other	(2,130)	(147)	2,270
Total nonoperating expenses	9,755	16,225	22,965
Total expenses	96,301	100,539	122,662
Changes in net position before other revenues	27,370	13,625	(11,585)
Sewer connection fees	34,640	33,775	30,160
Denver International Airport	—	—	12,399
Changes in net position	62,010	47,400	30,974
Beginning net position	632,638	585,238	554,264
Ending net position	$ 694,648	632,638	585,238

While the summary of net position (Table A-1) shows the change in financial position, the summary of revenue, expenses, and changes in net position (Table A-2) provides answers as to the nature and source of these changes. As can be seen in Table A-2, total revenue for 2014 including sewer connection fees increased by approximately $10.4 million or 7.0%, and expenses decreased by approximately $4.2 million or 4.2% from 2013. The major factors that drove these results and other changes during 2014 include:

- Operating revenue increased by $4.9 million in 2014 primarily due to a 4.5% increase in annual charges for service rates to connectors.
- Sewer connection fees increased approximately $.8 million in 2014 primarily due to an increase in number of Single Family Residential Equivalents.
- Investment revenue increased by $4.6 million in 2014, primarily due to both realized and unrealized gains on investments.
- The $4.2 million decrease in total expenses included an increase of $1.8 million in operating costs, an increase of $.4 million in depreciation expense, offset by a decrease of $4.4 million in interest costs and a decrease of $2.0 million in other expense comprised primarily of $5.0 million of insurance proceeds and federal and state grant revenues offset by a $2.8 million loss on sale of assets primarily due to the removal of the high purity oxygen system as part of the South Secondary Improvement Project.

As can be seen in Table A-2, total revenue for 2013 including sewer connection fees decreased by approximately $5.7 million or 3.7%, and expenses decreased by approximately $22.1 million or 18.0% from 2012. The major factors that drove these results and other changes during 2013 include:

- Operating revenue increased by $7.7 million in 2013 primarily due to an 8.0% increase in annual charges for service rates to connectors.
- Sewer connection fees increased approximately $3.6 million in 2013 primarily due to an increase in the rate charged for new sewer connections.
- Capital contributions decreased $12.4 million due to a one time receipt from Denver International Airport in 2012 for the permanent purchase of additional Biological Oxygen Demand Capacity.
- The $22.1 million decrease in total expenses included an increase of $1.6 million in operating costs, a decrease of $17.0 million in depreciation expense, a decrease of $4.3 million in interest costs, a decrease of $1.2 million related to monitoring efforts perform by Suncor, as discussed in Note 14, and a decrease of $1.2 million in bond issuance costs due to the fact that there was not debt issued in 2013 while there was a large issuance in 2012, incurring issuance costs. Due to the implementation of GASB Statement No. 65, bond issuance costs are to be expensed in the period incurred. The decrease in depreciation expense of $17 million was due to a componentization project in 2012. During 2012, an analysis was performed to componentize larger, older capital assets and assign the appropriate useful lives to the newly assigned components of capital assets. These changes in estimates caused a significant increase in depreciation in fiscal year 2012. Similar charges (changes in estimates) were not incurred during fiscal year 2013.

Capital Assets and Debt Administration

Capital Assets

As of December 31, 2014 and 2013, the District's investment in capital assets amounted to $935.4 million and $782.9 million, respectively (net of accumulated depreciation), as shown in the following Table A-3. The $152.5 million increase in net capital assets in 2014 was primarily due to approximately $182.0 million in additions to construction in progress for various ongoing wastewater and improvement and rehabilitation projects, offset by $27.4 million of depreciation expense. The following projects incurred such costs for 2014: Northern Treatment Plant – $139.9 million, South Secondary Improvements – $26.5 million, Sand Creek Bank Erosion at the RWHTF – $4.3 million and Interceptor Rehabilitation 2014 – $1.7 million. The remaining increase of $9.6 million to construction in progress was a result of other additions to numerous smaller projects.

The $154.4 million increase in net capital assets in 2013 was primarily due to approximately $180.0 million in additions to construction in progress for various ongoing wastewater and improvement and rehabilitation projects, offset by $26.9 million of depreciation expense. The following projects incurred such costs for 2013: South Secondary Improvements – $61.7 million, Northern Treatment Plant – $100.7 million, and Interceptor Rehabilitation – $2.9 million. The remaining increase of $14.7 million to construction in progress was a result of other additions to numerous smaller projects.

Construction-in-progress decreased by $40.7 million in 2014. The $182.0 million in additions to construction in progress in 2014 discussed above was offset by $222.7 million in completed projects, such as the South Secondary Improvements Milestone I, Interceptor Rehabilitation – 2013, RWHTF Support Facilities Plan and South Platte River Improvements, which were transferred to plant and equipment. Construction-in-progress increased by $169.2 million in 2013. The $180.0 million in additions to construction in progress in 2013 was offset by $10.8 million in completed projects, such as the Interceptor Rehabilitation – 2012 and North Bar Screen and Grit Improvement, which were transferred to plant and equipment.

The increase in capital assets in 2014 and 2013 was offset by capital asset disposals of $32.0 million and $.8 million, respectively.

Table A-3

Capital Assets

(In thousands)

		2014	2013	2012
Land, land improvements and water rights	$	42,028	41,889	40,181
Plant in service		565,443	432,399	428,784
Vehicles and equipment		381,633	323,143	316,900
Construction in progress		321,021	361,708	192,537
		1,310,125	1,159,139	978,402
Less accumulated depreciation		(374,742)	(376,285)	(349,993)
Net capital assets	$	935,383	782,854	628,409

At December 31, 2014, the District had future construction commitments for capital projects totaling $160.3 million. The largest project representing 72.7% of this total is the Northern Treatment Plant, with remaining costs of $106.6 million.

Debt Administration

At December 31, 2014 and 2013, the District's long-term debt consisted of approximately $656.7 and $670.1 in bonds payable, respectively. The District's underlying bond ratings are as follows:

Moody's Investors Services	Standard & Poor's
Aa1	AAA

Additional information on the District's capital assets and long-term debt can be found in notes 4, 5, and 6 to the financial statements.

Next Year's Budgets and Rates

The District approved a $65.9 million 2015 Operation and Maintenance Budget, an increase of $2.1 million from 2014. The increase primarily reflects wage and benefit inflation, increased materials and supplies, and increased power usage, offset by reduced chemical usage. The District also approved Annual Charges for Service totaling $120.0 million, a 4.5% increase from 2013. Annual Charges for Services are the annual user fees that District Connectors pay for the treatment of their wastewater and are allocated to individual connectors based on the relative amount and strength of their wastewater. Annual rates are set each year to cover the annual requirements of operating expenses, debt service, capital project expenditures, and fund balances.

The District's Capital Projects Budget for 2015 totals $137.6 million, a decrease of $54.1 million from the 2014 Capital Projects Budget of $191.7 million. These projects range from rehabilitation, growth, and improvement projects in the District system.

Requests for Information

This financial report is designed to provide a general overview of the Metro Wastewater Reclamation District's finances for all those with an interest in the District's finances and to demonstrate the District's accountability for the money it receives. Questions concerning any of the information provided in this report or requests for additional financial information should be addressed to the attention of Patricia Leslie, Finance and Accounting Officer, Metro Wastewater Reclamation District, 6450 York Street, Denver, CO 80229 or www.metrowastewater.com.

METRO WASTEWATER RECLAMATION DISTRICT

Statements of Net Position

December 31, 2014 and 2013

	2014	2013
Current assets:		
Cash and cash equivalents	$ 38,710,764	$ 19,843,292
Investments	15,077,755	45,809,898
Accounts receivable	9,737,246	9,452,776
Due from other governments	836,785	837,688
Accrued interest receivable	947,859	1,110,079
Materials and supplies inventories, net of loss reserve of $250,000 and $250,000	4,956,072	4,682,621
Prepaid expenses and other	795,789	531,645
	71,062,270	82,267,999
Restricted:		
Cash and cash equivalents	51,936,165	9,909,776
Investments	3,392,601	45,041,241
Total current assets	126,391,036	137,219,016
Noncurrent assets:		
Investments	219,673,050	139,706,636
Nondepreciable capital assets:		
Land and water rights	42,028,342	41,889,522
Construction in progress	321,020,606	361,707,986
	363,048,948	403,597,508
Depreciable capital assets, net:		
Plant in service	345,374,416	213,167,240
Equipment and vehicles	226,959,158	166,089,659
Net capital assets	935,382,522	782,854,407
Restricted:		
Investments	108,229,770	278,173,698
Other assets	1,119,907	1,203,463
Total noncurrent assets	1,264,405,249	1,201,938,204
Total assets	1,390,796,285	1,339,157,220
Deferred outflows of resources:		
Accumulated loss on refunding of bonds	—	90,714
Total deferred outflows of resources	—	90,714

(Continued)

METRO WASTEWATER
RECLAMATION DISTRICT

Statements of Net Position

December 31, 2014 and 2013

	2014	2013
Current liabilities:		
Accounts payable	$ 26,368,577	$ 24,245,341
Accrued payroll	428,229	284,620
Compensated absences	128,353	150,429
	26,925,159	24,680,390
Payable from restricted assets:		
Accrued interest payable	7,205,387	7,324,487
Bonds payable	12,005,000	11,160,000
Total current liabilities	46,135,546	43,164,877
Noncurrent liabilities:		
Compensated absences	1,813,391	1,568,603
Bonds payable	644,679,541	658,901,979
Other accrued liabilities	3,519,664	2,974,363
Total noncurrent liabilities	650,012,596	663,444,945
Total liabilities	$ 696,148,142	$ 706,609,822
Net position:		
Net investment in capital assets	$ 415,810,616	$ 395,807,892
Restricted – bonds	19,240,514	42,784,764
Unrestricted	259,597,013	194,045,456
Total net position	$ 694,648,143	$ 632,638,112

See accompanying notes to basic financial statements.

(Continued)

METRO WASTEWATER
RECLAMATION DISTRICT

Statements of Revenue, Expenses, and Changes in Net Position

Years ended December 31, 2014 and 2013

	2014	2013
Operating revenue:		
Annual charges to connectors	$ 114,847,305	$ 109,901,727
Septic charge revenue	580,274	563,025
Other operating revenue	296,156	344,714
Total operating revenue	115,723,735	110,809,466
Operating expenses:		
Operations and maintenance:		
Wastewater transmission	1,789,630	1,796,093
Wastewater treatment	14,706,362	13,566,221
Solids processing	7,892,103	7,761,947
Solids recycling	5,687,988	5,260,754
	30,076,083	28,385,015
Technical management and support:		
Engineering services	2,273,902	2,377,180
Laboratory services	4,105,496	3,984,998
Support operation and maintenance	6,464,686	7,179,686
	12,844,084	13,541,864
Administrative and general	16,253,873	15,427,226
Depreciation expense	27,372,138	26,959,945
Total operating expenses	86,546,178	84,314,050
Operating income	29,177,557	26,495,416
Nonoperating revenues (expenses):		
Investment revenue (loss)	4,597,918	(34,201)
Interest expense	(11,885,426)	(16,372,226)
Intergovernmental revenue	3,349,848	3,388,663
Studies expense	(429,803)	(697,024)
Other revenue	379,373	908,021
Grant revenue - Federal and State	723,347	—
Insurance proceeds	4,269,901	—
Other expense	(2,812,489)	(63,152)
Net nonoperating revenue	(1,807,331)	(12,869,919)
Income before capital contributions	27,370,226	13,625,497
Capital contributions – sewer connection fees	34,639,805	33,774,958
Increase in net position	62,010,031	47,400,455
Net position, beginning of year	632,638,112	585,237,657
Net position, end of year	$ 694,648,143	$ 632,638,112

See accompanying notes to basic financial statements.

(Continued)

METRO WASTEWATER
RECLAMATION DISTRICT

Statements of Cash Flows

Years ended December 31, 2014 and 2013

	2014	2013
Cash flows from operating activities:		
Cash received from customers	$ 115,730,975	$ 110,838,221
Cash payments to employees	(36,168,162)	(37,821,278)
Cash payments to suppliers for goods and services	(26,635,078)	(24,734,158)
Other receipts	902,083	1,859,753
Net cash provided by operating activities	53,829,818	50,142,538
Cash flows from capital and related financing activities:		
Sewer connection fees	34,385,956	38,052,607
Acquisition and construction of capital assets	(162,859,780)	(163,354,669)
Principal paid on capital debt	(11,160,000)	(10,710,000)
Interest paid on capital debt	(29,059,750)	(29,519,962)
Intergovernmental revenue received	3,350,751	3,453,656
Federal and State grant revenue received	723,347	—
Proceeds received from insurance reimbursements	4,269,901	—
Proceeds from sale of capital assets	305,229	206,331
Net cash provided by (used in) capital and related financing activities	(160,044,346)	(161,872,037)
Cash flows from investing activities:		
Proceeds from sales and maturities of investments	2,665,980,395	1,340,006,127
Purchase of investments	(2,501,621,864)	(1,331,065,677)
Interest and dividends received	2,749,858	5,213,891
Net cash provided by (used in) investing activities	167,108,389	14,154,341
Net increase (decrease) in cash and cash equivalents	60,893,861	(97,575,158)
Cash and cash equivalents, beginning of year	29,753,068	127,328,226
Cash and cash equivalents, end of year	$ 90,646,929	$ 29,753,068
Reconciliation of operating income to net cash provided by operating activities:		
Operating income	$ 29,177,557	$ 26,495,416
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation expense	27,372,138	26,959,945
Decrease (increase) in accounts receivable	(21,420)	25,915
Decrease (increase) in inventory	(273,451)	(74,793)
(Increase) decrease in prepaid expenses and other	(264,144)	69,234
Increase (decrease) in accounts payable and other accrued liabilities	705,673	554,213
Increase (decrease) in accrued payroll and compensated absences	366,321	(861,401)
Decrease (increase) in other assets	83,556	36,297
Capitalized wages	(3,283,275)	(3,164,811)
Other (disbursements) receipts	(33,137)	102,523
Net cash provided by operating activities	$ 53,829,818	$ 50,142,538
Noncash investing, capital, and financing activities:		
Unrealized (gain)loss on investments	$ (2,000,236)	$ 5,062,135
Amortization of bond premium	(2,217,438)	(2,375,889)
Amortization of deferred loss on bond refunding	90,714	307,123
Loss on retirement of capital assets	2,828,938	(48,161)

See accompanying notes to basic financial statements.

(Continued)

METRO WASTEWATER RECLAMATION DISTRICT

Pension Trust Fund

Statements of Plan Net Position

December 31, 2014 and 2013

Assets	2014	2013
Investments, at fair value:		
Equity securities funds	$ 45,040,491	$ 42,721,045
Fixed Income	14,867,140	19,748,033
Real estate funds	16,014,562	7,373,553
Short-term investments	531,016	459,787
Total investments, at fair value:	76,453,209	70,302,418
Employee contributions receivable	—	45,986
Total assets	$ 76,453,209	$ 70,348,404
Liability		
Accrued administrative expenses	$ 37,259	$ 34,580
Net Position		
Held in trust for pension benefits	$ 76,415,950	$ 70,313,824

See accompanying notes to basic financial statements.

(Continued)

METRO WASTEWATER RECLAMATION DISTRICT

Pension Trust Fund

Statements of Changes in Plan Net Position

Years ended December 31, 2014 and 2013

	2014	2013
Additions:		
Investment income:		
Net appreciation in fair value of investments	$ 4,031,608	$ 7,276,265
Interest and dividend income	1,585,765	1,241,292
Less investment expense	(155,473)	(109,727)
Net investment income	5,461,900	8,407,830
Contributions from employer	4,679,000	5,009,539
Contributions from employees	1,421,235	1,254,490
Total additions	11,562,135	14,671,859
Deductions:		
Benefit payments	5,408,869	9,274,120
Administrative expenses	51,140	46,130
Total deductions	5,460,009	9,320,250
Net increase in plan position	6,102,126	5,351,609
Net position held in trust for pension benefits:		
Beginning of year	70,313,824	64,962,215
End of year	$ 76,415,950	$ 70,313,824

See accompanying notes to basic financial statements.

(Continued)

(1) Organization

(a) Organization

The Metro Wastewater Reclamation District (the District) was created in May 1961 pursuant to the Colorado Revised Statutes and is a governmental subdivision of the State of Colorado, with powers specifically granted and reasonably implied therefrom and necessary to carry out the objectives and purposes of the District. The District's facilities are used primarily to transport and treat sewage from the sewer systems of various connectors in the greater metropolitan Denver area.

The income generated by the District, as an instrumentality of the State of Colorado, is excluded from federal income taxes under Section 115 of the Internal Revenue Code. In addition, pursuant to the provisions of the Colorado Revised Statutes, the District is exempt from sales, property, and state income taxes.

(b) Financial Reporting Entity

The District is not a component unit of the State of Colorado or any other municipality of the State of Colorado. It is a stand-alone governmental entity. The scope of the District's public services encompasses only a limited portion of the State of Colorado. Accordingly, it is considered an enterprise under Section 20, Article X of the Colorado Constitution.

The Metro Wastewater Reclamation District Defined Benefit Plan (the Defined Benefit Plan) is a single-employer, defined benefit plan covering all employees of the District hired on or before December 31, 2012 (note 7). The District contributes to the Defined Benefit Plan based upon actuarial studies and has primary responsibility for management of the Defined Benefit Plan as all Retirement Plan Board members are appointed by the District's Board of Directors. The District also provides all accounting, reporting, and administrative services to the Defined Benefit Plan. The District has fiduciary responsibility for the Defined Benefit Plan. Accordingly, an evaluation of the Defined Benefit Plan using the above considerations results in the inclusion of the Defined Benefit Plan in the accompanying basic financial statements as a fiduciary fund of the District. Complete financial statements of the Defined Benefit Plan may be obtained from the District.

(c) Fund Accounting

The accounts of the District are organized into two separate funds, each of which is considered a separate accounting entity. The operations of each fund are accounted for with a separate set of self-balancing accounts that comprise its assets, deferred outflows, liabilities, deferred inflows, net position, revenue, and expenses. Government resources are allocated to and accounted for in individual funds based upon the purposes for which they are to be spent and the means by which spending activities are controlled.

The financial activity of the District is accounted for in two funds:

Enterprise Fund – The Enterprise Fund is used to account for any activity for which a fee is charged to external users for goods or services.

Pension Trust – The Pension Trust Fund for the Defined Benefit Plan is maintained to account for assets held by the District in a trustee capacity for retired employees.

(2) Summary of Significant Accounting Policies

(a) Basis of Accounting

The Enterprise and Pension Trust funds, for financial reporting purposes, are accounted for on the flow of economic resources measurement focus and use the accrual basis of accounting. Under this method, revenues are recorded when earned, and expenses are recorded at the time liabilities are incurred.

(b) Restricted Assets

Separate accounts are provided in accordance with bond resolutions and utilized to segregate restricted assets from unrestricted assets. Related liabilities, payable from these restricted assets, are also segregated and utilized in determining financial position.

(c) Cash and Cash Equivalents

For purposes of the statement of cash flows, the District considers all highly liquid investments (including restricted assets) with a maturity of three months or less when purchased to be cash equivalents.

(d) Capital Assets

The District records its plant and equipment at cost, or estimated historical cost, if actual cost is not available. Donated capital assets are valued at their estimated fair value on the date donated. Assets are capitalized when they are greater than $10,000 and have a service life greater than one year. Depreciation on facilities and equipment is charged as an expense against operations. Depreciation has been computed using the straight-line method over the following estimated useful lives:

	Estimated useful life in years
Plant in service:	
Transmission	10 – 50
Treatment	8 – 50
Solids processing	5 – 50
Solids recycling	5 – 50
Support	5 – 50
Equipment and vehicles:	
Plant	10 – 50
Support	3 – 50
Vehicles	5 – 20

Expenditures for repairs and maintenance are expensed as incurred. Major renewals, replacements, and betterments are capitalized. Upon retirement or disposition, the cost and accumulated depreciation of such assets are removed from the accounts, and the resulting gain or loss is included in the change in net position.

Major outlays for utility plant and equipment are capitalized as projects are constructed. Interest incurred during the construction phase of capital assets is reflected in the capitalized value of the asset constructed, net of interest earned on the invested proceeds for tax-exempt bonds, when applicable, over the same period. During the years ended December 31, 2014 and 2013, the District capitalized $14,928,500 and $10,967,967 in interest costs, respectively.

(e) Investments

The District's investments are carried at fair value based upon market quotations. The Retirement Plan's investments are also carried at fair value based upon market quotations, with the exception of real estate investments. These investment valuations are based upon an independent, third-party appraisal of each property. These appraisals are based upon a portfolio overview and updated cash flow modeling.

(f) Materials and Supplies Inventories

The District records its materials and supplies inventories at the lower of moving average cost or market. The inventory is charged to operations and maintenance expense as the items are used. As of December 31, 2014 and 2013, the District had loss reserves of $250,000 and $250,000, respectively, for obsolete materials and supplies.

(g) Other Assets

Other assets include the net pension asset related to the Retirement Plan. The net pension asset is the result of annual contributions to the Retirement Plan made by the District exceeding the actuarially determined annual pension cost.

(h) Deferred Outflows

For current refundings and advance refundings, resulting in defeasance of debt reported by the District, the difference between the reacquisition price of the new debt and the net carrying amount of the old debt is reported as a deferred outflow of resources or a deferred inflow of resources. The District refundings have resulting in deferred outflows of resources of $0 and $90,714 for December 31, 2014 and December 31, 2013, respectively.

(i) Net Position

Net position is classified as follows:

Net Investment in capital assets – This represents the total investment in capital assets, net of accumulated depreciation and outstanding debt obligations (less unspent bond proceeds) related to those capital assets.

Restricted net position – Restricted net position includes resources in which the District is legally or contractually obligated to spend resources in accordance with restrictions imposed by debt agreements.

Unrestricted net position – Unrestricted net position represents resources derived from annual charges to connectors, septic charge revenue, and other revenues. These resources are used for transactions relating to the operations of the District and may be used to meet current expenses for any purposes. Unrestricted net position may be designated by actions of the Board of Directors.

When an expenditure is incurred for purposes for which both restricted and unrestricted net position are available, restricted resources are considered expended.

(j) Classification of Revenues and Expenses

The District has classified revenues and expenses as operating, nonoperating, or capital contributions according to the following criteria:

Operating revenue and expenses – Revenue and expenses that result from providing wholesale wastewater transmission, treatment, and disposal services to 49 connectors, including cities, towns, special districts, and industrial users.

Nonoperating revenue and expenses – Revenues and expenses that are not included as operating revenues. Nonoperating revenue includes investment income and rebates from the Build America Bonds program. Nonoperating expenses include interest expense on outstanding bonds and other nonoperating expenses.

Capital contributions – Revenues that include sewer connection fees.

(k) Sewer Connection Fees

The District charges fees for new sewer connections. Sewer connection fee receipts are used for payment of principal and interest on bonds issued to finance capacity-related facility improvements and to otherwise pay for such facilities.

(l) Compensated Absences

District employees earn sick leave at a rate of eight hours per month. Accumulated sick leave in excess of 960 hours is payable at one-half of the cash value at year-end or upon termination.

Employees are entitled to 10 to 21 days of vacation leave per year depending on their length of service. A maximum of 200 hours of earned vacation leave may be carried forward to subsequent years. Unused vacation leave is paid to the employee upon termination.

Vacation and excess sick pay is recorded as an expense when earned by District employees. At December 31, 2014 and 2013, accrued vacation and excess sick pay aggregated $1,941,744 and $1,719,032, respectively.

(m) Use of Estimates in Preparation of Financial Statements

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ significantly from those estimates.

(n) New and Future Accounting Pronouncements

The GASB issued Statement No. 68, *Accounting and Financial Reporting for Pensions* (Statement No. 68), which revises and establishes new financial reporting requirements for most governments that provide their employees with pension benefits. The District provides employees hired before

January 1, 2013 with pension benefits through a single employer defined benefit plan program administered by the District.

Statement No. 68 requires employers participating in a defined benefit retirement plan, such as the District, to record their share, as defined in Statement No. 68, of the Defined Benefit Plan's unfunded pension liability. Statement No. 68 is effective for fiscal year 2015. Information regarding the District's Defined Benefit Plan's current funding status can be found in note 7.

(3) Cash and Investments

As of December 31, 2014 and 2013, the District and the Defined Benefit Plan had the following cash and investments:

	December 31, 2014	December 31, 2013
District (excluding the Defined Benefit Plan):		
Cash and cash equivalents		
Deposits	$ 409,450	98,252
Money market funds	75,237,979	29,654,815
Commercial paper, less than 90 days	14,999,500	—
Investments		
U.S. Agency securities, including mortgage-backed securities	341,905,258	465,610,731
Commercial paper	—	34,997,470
Certificates of Deposit	4,467,918	8,123,273
	$ 437,020,105	538,484,541
Defined Benefit Plan:		
Equity securities funds	$ 45,040,491	42,721,045
Fixed Income	14,867,140	19,748,033
Real estate funds	16,014,562	7,373,553
Money market funds	531,016	459,787
	$ 76,453,209	70,302,418

(a) Cash Deposits

Colorado statutes require that the District use eligible public depositories as defined by the Public Deposit Protection Act (PDPA). Under the PDPA, the depository is required to pledge eligible collateral having a market value at all times equal to at least 102% of the aggregate public deposits held by the depository not insured by the Federal Deposit Insurance Corporation.

Eligible collateral, as defined by the PDPA, primarily includes obligations of, or guarantees by, the U.S. government, the State of Colorado, or any political subdivision thereof, and obligations evidenced by notes secured by first lien mortgages or deeds of trust on real property.

(b) Restricted Cash and Cash Equivalents, and Investments

Restricted cash and cash equivalents and investments are restricted for the current payment of principal and interest on outstanding bonds as required by debt covenants. In addition, restricted cash and cash equivalents and investments include $137,112,000 and $283,015,000 in unspent bond proceeds as of December 31, 2014 and December 31, 2013, respectively.

(c) Investment Policy

The District is authorized by Colorado Statute to invest in various types of instruments that include but are not limited to the following:

- Obligations of the United States, certain U.S. government agency securities and the World Bank
- General obligation and revenue bonds of U.S. local government entities
- Bankers' acceptances of certain banks
- Written repurchase agreements collateralized by certain authorized securities
- Commercial paper
- Certain money market funds
- Guaranteed investment contracts
- Local government investment pools
- Certain reverse repurchase agreements
- Certain certificates of participation
- Certain securities lending transactions.

The District, excluding the Defined Benefit Plan, has an investment policy that regulates investments in securities that have objectives of safety of principal, liquidity with all investments in U.S. dollars, and investment returns optimized within the constraints of safety and liquidity. Eligible securities are specific to Colorado State Statutes and the District's bond indenture agreements. The indenture agreements limit the number of U.S. Agency issuers to three creating a concentration of credit risk, but each security in the investment portfolio is rated AAA or AA+. All securities owned by the District are in conformity with the investment policy.

The Defined Benefit Plan has an investment policy that regulates investments by hiring a qualified investment consultant to oversee qualified investment management firms who manage the assets of the Defined Benefit Plan. The investment policy establishes an asset allocation strategy, investment objectives, and investment guidelines for all assets. The asset allocation strategy is designed to be consistent with the safety and return objectives of the Defined Benefit Plan and includes allowable domestic and foreign equity, fixed income, and real estate investments. All securities and investments owned by the Defined Benefit Plan are in conformity with the investment policy.

The Defined Benefit Plan's allowable investments in equities, fixed income, and real estate are limited to qualified investment managers.

The Defined Benefit plan's policy in regard to the allocation of invested assets is established and may be amended by the Metro Wastewater Reclamation District Retirement Board by a majority vote of its members. The following was the Retirement Board's asset allocation policy as of December 31, 2014.

At the end of December 31, 2014, the Defined Benefit Plan was invested 19.4% in fixed income and 20.9% in real estate. The Retirement Board approved a resolution on December 3, 2014 to rebalance the portfolio and increase real estate holdings by reducing the fixed income holdings.

Target Allocation	Target Allocation	Target Range
Public Equity Funds	55.0%	45%-70%
Real Estate	20.0%	15%-25%
Fixed Income	13.5%	10%-20%
Hedge Funds	6.5%	3%-9%
Private Equity Funds	5%	0%-5%
	100.0%	

On February 25, 2015, the Retirement Board approved a new investment policy that corresponds to the portfolio resolution approved on December 3, 2014. The new investment policy includes the following target allocations:

Target Allocation	Target Allocation	Target Range
Global Equity	60.0%	50%-70%
Fixed Income	30.0%	25%-35%
Real Estate	10.0%	5%-15%
	100.0%	

(d) Credit Risk

The District manages credit risk by requiring all investments, including the use of external investment pools and money market funds, be AAA, AAA-G, AAAm or AA+, and including commercial paper, be P-1 or A-1 rated by nationally recognized rating agencies. All fixed income securities, money market funds, and commercial paper held by the District meet the credit quality objective. The following is a summary of the Defined Benefit Plan's fixed income investments at December 31, 2014 and December 31, 2013 with average credit ratings of underlying investments based on Standard & Poor's rating scale:

	December 31, 2014	December 31, 2013
Pacific Investment Management Company (PIMCO):		
Total return retirement fund – institutional class shares:		
Fair value	$ 7,532,665	$ 6,683,583
Average rating of underlying investments	AA-	AA-
Unconstrained retirement fund – institutional class shares:		
Fair value	$ —	$ 6,507,831
Average rating of underlying investments	—	A
JP Morgan		
Core Bond Fund		
Fair value	$ 3,746,491	$ 6,556,619
Average rating	Not rated	Not rated
Sankaty		
Senior Loan Fund		
Fair value	$ 3,587,994	$ —
Average rating	Not rated	—
First American Money Market		
Prime Obligations Fund		
Fair value	$ 531,016	$ 459,787
Average rating	AAAm	AAAm

(e) Custodial Credit Risk

The District has no custodial credit risk. All securities are registered in the name of the District and held by a third-party safekeeping agent. Investments in money market mutual funds are not exposed to custodial risk because their existence is not evidenced by securities that exist in physical or book entry form.

The Defined Benefit Plan has no custodial credit risk. All securities are registered in the name of US Bank as the directed Trustee for the Defined Benefit Plan and held by third-party safekeeping agents. Investments in money market mutual funds are not exposed to custodial risk because their existence is not evidenced by securities that exist in physical or book entry form.

(f) Concentration of Credit Risk

The District has a concentration of credit risk where it holds more than 5% of its investment portfolio in any one security issuer, other than those explicitly guaranteed by the U.S. government. The

District investment policy and bond indenture agreements restrict investments in U.S. Agency issuers to the three listed below:

	Moody's Investor Service Fitch Ratings	Standard & Poor's
Federal Home Loan Bank (FHLB)	AAA Rated	AA+ Rated
Federal Home Loan Mortgage Corp (FHLMC)	AAA Rated	AA+ Rated
Federal National Mortgage Association (FNMA)	AAA Rated	AA+ Rated

As a result, each issuer represents more than 5% of the total investments, and all securities are AAA or AA+ as rated by nationally recognized rating agencies. The following U.S. Agency securities are in excess of 5% of total investments:

	December 31,			
	2014		2013	
Issuer	Amount	Percentage of portfolio	Amount	Percentage of portfolio
FHLB	$ 125,554,774	28.8%	$ 106,940,230	19.9%
FHLMC	77,088,351	17.7	141,813,464	26.3
FNMA	139,262,133	31.9	216,857,037	40.3
	$ 341,905,258		$ 465,610,731	

A concentration of credit risk exists for the Defined Benefit Plan if it holds more than 5% of its investment portfolio in any one security issuer, other than those explicitly guaranteed by the U.S. government. Mutual funds, external investment pools, and other pooled investments are also excluded from this requirement. The Defined Benefit plan had no concentration of credit risk as of December 31, 2014.

(g) *Interest Rate Risk*

The District has no formal policy to manage interest rate risk. Colorado revised statutes limit investment maturities to five years or less unless formally approved by the Board of Directors. Such actions are generally associated with a debt service reserve or sinking fund requirements. The District uses duration as the method to identify and manage interest rate risk. Duration measures exposure to fair value changes arising from changing interest rates. Duration uses the present value of cash flows weighted for those cash flows as a percentage of the full price of the investments. A large duration indicates more price sensitivity to changing interest rates. Each security purchased has a duration analysis, and the entire portfolio has a duration calculation weighted based on the size of each investment. As of December 31, 2014 and 2013, the duration for the District's investments was as follows:

	December 31, 2014		
Type	**Fair value**	**Duration in Years**	**Call options at 100**
U.S. Agency securities	$ 323,491,419	1.83	$ 279,485,640
Mortgage-backed securities	18,413,839	1.33	
Commercial Paper, less than 90 days	14,999,500	0.03	
Total fair value	$ 356,904,758		

	December 31, 2013		
Type	**Fair value**	**Duration in Years**	**Call options at 100**
U.S. Agency securities	$ 444,717,331	2.10	$ 292,226,301
Mortgage-backed securities	20,893,400	4.09	
Commercial Paper	34,997,470	0.06	
Total fair value	$ 500,608,201		

Investments in money market funds of $75,237,979 and $29,654,815 as of December 31, 2014 and 2013, respectively, have a weighted average maturity of less than 30 days.

The Defined Benefit Plan's investment policy manages its exposure to fair value losses arising from rising interest rates by specific guidelines for fixed income managers. As of December 31, 2014 and 2013, the Defined Benefit Plan held the following fixed income investments. Modified duration is in years.

	December 31,	
	2014	**2013**
PIMCO:		
Total return retirement fund –		
Institutional class shares:		
Balance	$ 7,532,665	$ 6,683,583
Modified duration	4.9	5.4
Unconstrained retirement fund –		
Institutional class shares:		
Balance	$ —	$ 6,507,831
Modified duration	—	4.1
JP Morgan		
Core bond Fund		
Balance	$ 3,746,491	$ 6,556,619
Modified duration	4.8	4.8
Sankaty		
Senior Loan Fund		
Balance	$ 3,587,994	$ —
Modified duration	N/A	—

Investments in money market funds of $531,016 and $459,787 as of December 31, 2014 and 2013, respectively, have an average maturity of less than 39 and 41 days, for December 31, 2014 and 2013, respectively.

(h) Foreign Currency Risk

Neither the District nor the Defined Benefit Plan was exposed to foreign currency risk as of December 31, 2014 and 2013. The Defined Benefit Plan's policy manages exposure to foreign currency risk by limiting the allocation percentage of interest of international investments to 20%.

(i) Investment Income

Investment income (loss) for the District, excluding the Defined Benefit Plan, for the years ended December 31, 2014 and 2013 was comprised of the following:

	December 31,	
	2014	**2013**
Investment income	$ 4,339,099	$ 5,044,321
Net realized gain (loss) on investments	(1,741,417)	(16,387)
Net unrealized gain (loss) on investments	2,000,236	(5,062,135)
Total	$ 4,597,918	$ (34,201)

Investment income for the Defined Beneift Plan for the years ended December 31, 2014 and 2013 was comprised of the following:

	December 31,	
	2014	**2013**
Interest and dividend income	$ 1,585,765	$ 1,241,292
Net realized gain on investments	2,193,155	1,386,790
Net unrealized gain on investments	1,838,453	5,889,475
	5,617,373	8,517,557
Less investment expense	(155,473)	(109,727)
Net investment income	$ 5,461,900	$ 8,407,830

The calculation of realized gains is independent of the calculation of the net change in the fair value of investments. Realized gains and losses on investments that had been held in more than one fiscal year and sold in the current year may have been recognized as an increase or decrease in the fair value of investments reported in the prior year.

(4) Capital Assets

For the years ended December 31, 2014 and 2013, changes in capital assets consisted of the following:

	Balance at December 31, 2012	Additions	Deletions or transfers	Balance at December 31, 2013	Additions	Deletions or transfers	Balance at December 31, 2014
Nondepreciable:							
Land and water rights	$ 40,180,973	1,708,549	—	$ 41,889,522	138,820	—	$ 42,028,342
Construction in progress	192,537,304	180,029,378	(10,858,696)	361,707,986	182,169,234	(222,856,614)	321,020,606
Total nondepreciable net assets	232,718,277	181,737,927	(10,858,696)	403,597,508	182,308,054	(222,856,614)	363,048,948
Depreciable:							
Plant in service:							
Transmission	195,867,331	2,043,500	(21,237)	197,889,594	8,162,658	(539,674)	205,512,578
Treatment	112,740,099	1,227,132	—	113,967,231	133,581,599	(10,036,467)	237,512,363
Solids processing	41,319,108	90,211	—	41,409,319	80,047	(113,010)	41,376,356
Solids recycling	7,082,390	—	—	7,082,390	—	(29,320)	7,053,070
Support	71,775,026	290,267	(15,084)	72,050,209	3,586,845	(1,648,504)	73,988,550
	428,783,954	3,651,110	(36,321)	432,398,743	145,411,149	(12,366,975)	565,442,917
Equipment:							
Plant	251,170,776	1,282,097	(24,886)	252,427,987	74,031,619	(18,759,662)	307,699,944
Support	52,296,732	4,394,105	(61,549)	56,629,288	3,255,351	(206,406)	59,678,233
Vehicles	13,432,889	1,356,710	(703,954)	14,085,645	884,862	(715,915)	14,254,592
	316,900,397	7,032,912	(790,389)	323,142,920	78,171,832	(19,681,983)	381,632,769
Total depreciable capital assets	745,684,351	10,684,022	(826,710)	755,541,663	223,582,981	(32,048,958)	947,075,686
Less accumulated depreciation:							
Plant in service:							
Transmission	92,448,309	4,482,711	(19,981)	96,911,039	4,593,236	(483,697)	101,020,578
Treatment	52,277,496	2,872,482	—	55,149,978	3,428,796	(8,047,045)	50,531,729
Solids processing	21,536,428	912,982	—	22,449,410	828,241	(95,634)	23,182,017
Solids recycling	2,790,927	160,628	—	2,951,555	160,627	(8,795)	3,103,387
Support	39,753,633	2,020,567	(4,679)	41,769,521	2,015,920	(1,554,651)	42,230,790
	208,806,793	10,449,370	(24,660)	219,231,503	11,026,820	(10,189,822)	220,068,501
Equipment:							
Plant	108,322,741	10,845,828	(24,885)	119,143,684	10,864,227	(18,106,899)	111,901,012
Support	24,202,756	4,663,699	(52,858)	28,813,597	4,466,883	(189,166)	33,091,314
Vehicles	8,661,069	1,001,048	(566,137)	9,095,980	1,014,208	(428,903)	9,681,285
	141,186,566	16,510,575	(643,880)	157,053,261	16,345,318	(18,724,968)	154,673,611
Total accumulated depreciation	349,993,359	26,959,945	(668,540)	376,284,764	27,372,138	(28,914,790)	374,742,112
Total capital assets, net	$ 628,409,269	165,462,004	(11,016,866)	$ 782,854,407	378,518,897	(225,990,782)	$ 935,382,522

(Continued)

(5) Long-Term Liabilities

A summary of the changes in long-term liabilities for the year ended December 31, 2014 is as follows:

	December 31, 2013	Additions	Deletions	December 31, 2014	Amounts due within one year
Bonds payable	$ 670,061,979	—	(13,377,438)	$ 656,684,541	12,005,000
Compensated absences	1,719,032	558,263	(335,551)	1,941,744	128,353
Total noncurrent liabilities	$ 671,781,011	558,263	(13,712,989)	$ 658,626,285	12,133,353

A summary of the changes in long-term liabilities for the year ended December 31, 2013 is as follows:

	December 31, 2012	Additions	Deletions	December 31, 2013	Amounts due within one year
Bonds payable	$ 683,147,868	—	(13,085,889)	$ 670,061,979	11,160,000
Compensated absences	1,699,693	1,920,437	(1,901,098)	1,719,032	150,429
Total noncurrent liabilities	$ 684,847,561	1,920,437	(14,986,987)	$ 671,781,011	11,310,429

(6) Improvement and Refunding Bonds

Total outstanding improvement bonds and refunding bonds are summarized below:

Issue	Date issued	Amount issued	December 31, 2014	December 31, 2013
2002A Sewer Improvement Bonds	07/03/02	$ 35,120,000	—	3,805,000
2008A Sewer Refunding Bonds	04/01/08	31,390,000	—	1,575,000
2009A Sewer Improvement Bonds	08/27/09	62,620,000	51,255,000	57,035,000
2009B Sewer Improvement Bonds	08/27/09	187,380,000	187,380,000	187,380,000
2012A Sewer Improvement Bonds	01/25/12	380,000,000	380,000,000	380,000,000
Plus premium on 2002A Bonds			—	52,413
Plus premium on 2008A Bonds			—	28,360
Plus premium on 2009A Bonds			2,564,703	3,353,843
Plus premium on 2012A Bonds			35,484,838	36,832,363
Total			$ 656,684,541	670,061,979

Principal and interest requirements on all outstanding bonds are summarized as follows at December 31, 2014:

	Principal	Interest	Total
2015	$ 12,005,000	$ 28,571,425	$ 40,576,425
2016	21,620,000	27,809,550	49,429,550
2017	22,370,000	26,763,550	49,133,550
2018	23,160,000	25,675,300	48,835,300
2019	23,985,000	24,541,852	48,526,852
2020-2024	131,660,000	103,360,748	235,020,748
2025-2029	157,690,000	65,259,724	222,949,724
2030-2034	78,310,000	37,690,200	116,000,200
2035-2039	100,195,000	19,947,900	120,142,900
2040-2041	47,640,000	1,929,400	49,569,400
	618,635,000	$ 361,549,649	$ 980,184,649
Unamortized premiums	38,049,541		
	$ 656,684,541		

All of the District's revenues are pledged toward the repayment of these bonds.

(a) Series 2002A

On July 3, 2002, the District issued $35,120,000 of Series 2002A Sewer Refunding Bonds, bearing interest at 5.25% to 5.50%, for the purpose of refunding the Series 1992B Sewer Refunding Bonds in the amount of $35,275,000. The 1992B bonds were called in October 2002. The 2002A bonds were due in annual installments ranging from $3,065,000 to $3,805,000 and were paid in full as of April 2014.

(b) Series 2008A

On April 1, 2008, the District issued $31,390,000 of Series 2008A Sewer Refunding Bonds, bearing interest at 3.25% to 4.00% for the purpose of refunding the remaining portion of the 1996 and 1998 Sewer Refunding Bonds outstanding in the aggregate amount of $31,235,000. Proceeds from the 2008A Bonds were deposited in an escrow fund. The 1996 and 1998 Bonds were called in April 2008. The 2008A Bonds were due in annual installments ranging from $6,865,000 to $1,575,000 and were paid in full as of April 2014.

(c) Series 2009A

On August 27, 2009, the District issued $62,620,000 of Series 2009A Sewer Improvement Bonds, bearing interest at 3.00% to 5.00%, for the purpose of financing construction of long-range capital improvement projects. The bonds are tax-exempt and due in annual installments of $5,585,000 beginning in April 2013 to $13,675,000 through April 1, 2018.

(d) Series 2009B

On August 27, 2009, the District issued $187,380,000 of Series 2009B Sewer Improvement Bonds, bearing interest at 4.718% to 5.775%, for the purpose of financing construction of long-range capital improvement projects. The 2009B Bonds were issued as Direct Pay Build America Bonds. Build America Bonds were created as part of the American Recovery and Reinvestment Act of 2009 and are taxable bonds to the bond holder. The District receives a direct federal subsidy in the amount of 35 percent of the interest payment on the Build America Bonds. The District recorded $3,349,848 and $3,388,663 from the United States Treasury for the fiscal years ended December 31, 2014 and December 31, 2013 related to the federal subsidy received on these bonds. The bonds are due in annual installments of $14,310,000 beginning in April 2019 to $20,250,000 through April 1, 2029.

(e) Series 2012A

On January 25, 2012, the District issued $380,000,000 of Series 2012A Sewer Improvement Bonds, bearing interest at 3.00% to 5.00%, for the purpose of financing construction of long-range capital improvement projects. The bonds are tax-exempt and due in annual installments of $9,115,000 beginning in April 2016 to $24,415,000 through April 1, 2041.

(f) Bond Covenants

There are certain covenants associated with the District's bonds. As of December 31, 2014 and 2013, the management of the District believes they are in substantive compliance with these requirements.

(7) Retirement Plans

(a) General

The District offers two retirement plans to employees. Employees hired on or before December 31, 2012 are under the Defined Benefit Plan. Employees hired on or after January 1, 2013 are under the Defined Contribution Plan. Additional information on each plan follows below.

(b) Defined Benefit Plan

The Defined Benefit Plan is a single-employer, defined benefit pension plan covering all employees of the District hired on or before December 31, 2012. The Defined Benefit Plan is administered by a retirement board, which consists of seven members who are appointed by the Board of Directors of the District. The provisions of the Defined Benefit Plan give the District's Board of Directors the right and authority to establish and amend the contribution requirements and benefit provisions of the Defined Benefit Plan. The costs of administering the Defined Benefit Plan are paid from the Defined Benefit Plan's investment earnings.

The Defined Benefit Plan provides participants with retirement, death, and disability benefits, for participants are fully vested after completion of five years of eligible service. A description of the Defined Benefit Plan and the vesting and benefit provisions are included in the official plan document. Currently there are 629 total defined benefit plan members, of which 310 are employees in active service, 166 are terminated employees who have accumulated benefits but are not yet receiving them, and 153 are retired employees and beneficiaries currently receiving benefits. Copies

of this document as well as the Defined Benefit Plan's financial statements are available from the Human Resources Division of the District.

(c) Summary of Significant Accounting Policies

(i) Basis of Accounting

The financial statements of the Defined Benefit Plan are prepared using the economic resources measurement focus and the accrual basis of accounting. Investment income is recorded when earned. Expenses are recorded when liabilities are incurred. The District's contributions are recognized when due, and the District has made a formal commitment to provide the contribution. Benefits and refunds are recognized when due and payable in accordance with the terms of the Defined Benefit Plan.

(ii) Funding Policy

The District contributes such amounts as are deemed necessary on an actuarial basis under the entry age normal method to provide the Defined Benefit Plan with sufficient assets to meet the benefits to be paid to defined benefit plan participants. The fiscal year 2014 and 2013 annual required contributions were $4,679,000 and $5,009,539, respectively, or 18.6% and 19.5%, respectively, of covered payroll. Employee contributions totaled $1,421,235, or 6% of salary, and $1,254,490, or 5% of salary, for the years ended December 31, 2014 and 2013, respectively.

(iii) Valuation of Investments

Investments, with the exception of real estate investments, are recorded at the fair value of the participation units in equity securities funds, bond funds, and short-term investment funds, based on the market value of the underlying securities included in the funds, or quoted market prices for mutual funds. Fair value of the real estate investments is based on independent, third-party appraisals of each property. These appraisals are based upon a portfolio overview, updated cash flow modeling, and other procedures. Purchases and sales of investments are recorded on a trade-date basis.

(d) Annual Pension Cost and Net Pension Asset

The annual pension cost and net pension asset for the years ended December 31, 2014 and 2013 are as follows:

	December 31, 2014	December 31, 2013
Annual required contribution	$ 4,722,308	5,009,539
Interest on net pension asset	(93,268)	(96,081)
Adjustment to annual contribution	133,516	132,378
Annual pension cost	4,762,556	5,045,836
Contribution made	(4,679,000)	(5,009,539)
Decrease in net pension asset	(83,556)	(36,297)
Net pension asset, beginning of year	1,203,463	1,239,760
Net pension asset, end of year	$ 1,119,907	1,203,463

The net pension asset is recorded in other assets on the statement of net position.

(e) Three-Year Trend Information

Year ended	Annual pension cost	Actual employer funded contribution	Percentage contributed	Net pension asset
December 31, 2012	$ 3,987,815	3,977,529	99.7	1,239,760
December 31, 2013	5,045,836	5,009,539	99.3	1,203,463
December 31, 2014	4,762,556	4,679,000	98.2	1,119,907

(f) Funding Status and Funded Progress

The schedule of funding progress, presented as required supplementary information following the notes to the financial statements, presents multiyear trend information about whether the actuarial values of the plan assets are increasing or decreasing over time relative to the actuarial accrued liability for benefits. As of January 1, 2015 the most recent actuarial valuation date, the plan was 71% funded. The actuarial accrued liability for benefits was $104,374,652, and the actuarial value of assets was $74,247,843 resulting in an unfunded actuarial accrued liability (UAAL) of $30,126,809. The covered payroll was $23,834,625 and the ratio of the UAAL to the covered payroll was 126.4%.

The significant assumptions underlying the actuarial calculations at December 31, 2014 and 2013 are as follows:

	December 31,	
	2014	**2013**
Actuarial valuation date	January 1, 2015	January 1, 2014
Actuarial cost method	Entry-age normal	Entry-age normal
Asset valuation method	Five-year smoothing	Five-year smoothing
Mortality rate	RP2000 projected to 2017 for annuitants and 2025 for non-annuitants using Scale AA	Sex-distinct RP2000 mortality
Amortization method	Level dollar over a 13 year period on January 1, 2015, closed period	Level dollar over a 15 year period on January 1, 2013, closed period
Actuarial assumptions:		
Investment return	7.75%	7.75%
Earnings Progression:	Graded from 8.65% at 1 year of service to 2.75% at 30+ years of service	Graded rates based on service, future inflation of 2.75% and productivity increases of 1.0% per year

(g) Defined Contribution Plan

Effective on and after January 1, 2013 all new employees are under the new Defined Contribution Plan. Employees in the new DC Plan are required to contribute 6% of their earnings to the Plan. The District matches the mandatory employee contributions with an additional 6% contribution. Employee contributions are deducted from each bi-weekly paycheck, and this amount together with the District's matching portion, is sent each payday to the DC Plan's administrator, the International City/County Management Association (ICMA). As of December 31, 2014 and 2013 there were 45 and 23 plan members. The District's contributions for the years ended December 31, 2014 and 2013 were $126,445 and $40,962, respectively.

(8) Postemployment Healthcare Plan

(a) General

The District administers a single-employer defined postemployment healthcare plan. The District provides healthcare benefits including coverage for medical insurance to retirees and their spouses up to age 65, and limited reimbursement for medical premiums. The Colorado Revised Code allows, but does not mandate, the District to provide postemployment benefits. Authority for the District to provide healthcare coverage to eligible participants and to establish and amend benefits is codified in Colorado Revised Statute sections 24-19-102 and 24-19-103 of the Colorado Revised Code. The healthcare plan is "pay-as-you-go" and does not have an OPEB Trust Fund, thus does not have a publicly available financial report.

(b) Funding Policy

Authority for the District funding of the postemployment healthcare plan comes from the District's Board of Directors. There are no required contributions from plan members. The plan is financed on a pay-as-you-go basis.

(c) Annual OPEB Cost and Net OPEB Obligation

The District's annual OPEB cost is calculated based on the annual required contribution of the employer (ARC), an amount actuarially determined in accordance with the parameters of GASB Statement 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other than Pensions*. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal costs each year and amortize any unfunded actuarial liabilities (or funding excess) over a period not to exceed 30 years. The following table shows the components of the District's annual OPEB cost for the year. The net OPEB liability is recorded in other accrued liabilities on the statements of net assets.

	December 31,	
	2014	2013
Annual required contribution	$ 882,608	812,799
Interest on OPEB liability	111,389	92,869
Adjustment to annual contribution	(160,579)	(133,881)
Annual OPEB cost	833,418	771,787
Contribution made	(287,117)	(277,928)
Increase in OPEB liability	546,301	493,859
Net OPEB liability, beginning of year	2,970,363	2,476,504
Net OPEB liability, end of year	$ 3,516,664	2,970,363

(d) Three-Year Trend Information

Year ended	Annual OPEB cost	Percentage contributed	Net OPEB obligation
December 31, 2012	$ 780,548	32.2%	2,476,504
December 31, 2013	771,787	36.0%	2,970,363
December 31, 2014	833,418	34.5%	3,516,664

(e) Actuarial Methods and Assumptions

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. Amounts determined regarding the funded status of the plan and the annual required contributions of the employer are subject to

continual revision as actual results are compared with past expectations and new estimates are made about the future.

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and the plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and the plan members at that point. The actuarial methods and assumptions used include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

The significant assumptions underlying the actuarial calculations at December 31, 2014 are as follows:

Actuarial valuation date	January 1, 2014
Actuarial cost method	Projected Unit Credit
Mortality rate	Sex-distinct RP-2000
Amortization method	30 year (open), level dollar amount
Actuarial assumptions:	
Inflation Rate	N/A
Investment Return	N/A
Discount rate	3.75%
Healthcare cost trend rate, initial	15.0
Healthcare cost trend rate, ultimate	4.70
Post-retirement benefit increases	N/A
Earnings Progression:	Graded rates based on service, future inflation of 2.75% and productivity increases of 1.0% per year

(f) Funding Status and Funded Progress

The schedule of funding progress, presented as required supplementary information following the notes to the financial statements, presents multiyear trend information about whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liabilities for benefits. As of January 1, 2014, the most recent actuarial valuation date, the plan was 0% funded. The actuarial accrued liability for benefits was $7,965,271 and the actuarial value of assets was $0, resulting in an unfunded actuarial accrued liability (UAAL) of $7,965,271. The covered payroll was $26,296,926 and the ratio of the UAAL to the covered payroll was 30.3%.

(9) Deferred Compensation Plan

The District offers its employees a deferred compensation plan created in accordance with Internal Revenue Code Section 457 (Section 457). The plan, available to all the District's employees, permits deferral of a portion of the employees' salary until future years. The deferred compensation is not available to employees until termination, retirement, death, or an unforeseeable emergency. Since the plan assets are held in trust by a third party, the District's basic financial statements exclude such Section 457 plan assets

and associated liability in accordance with GASB Statement No. 32, *Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans*.

(10) Service Agreements

The District has entered into service agreements with each of the member municipalities and special connectors who provide for, among other things, charges for service to such connectors. Annual charges are based on the budgeted expenses of the District for the year, and are payable to the District in quarterly installments by each of the connectors. The rates charged to connectors are based on the quantity and quality of the sewage flow received and treated.

For the years ended December 31, 2014 and 2013, the District's connectors and related revenue consisted of the following:

Classification	Number	Years ended December 31, 2014	Years ended December 31, 2013
Member municipalities	22	$ 103,120,736	98,790,818
Special connectors	27	11,726,569	11,110,909
	49	$ 114,847,305	109,901,727

(11) Board Designated Amounts

Included in the balance of unrestricted net position of the District are moneys designated by the District's Board of Directors (the Board) for specific purposes. These amounts are not included in restricted net position because the designations do not meet the definition of restricted net position as defined by U.S. generally accepted accounting principles. Board designations were as follows:

	December 31, 2014	December 31, 2013
90 day expense reserve plus $1 million	$ 17,553,000	16,700,000
Sewer connection charge reserve	25,000,000	25,000,000
Total designated amount	$ 42,553,000	41,700,000

(12) Risk Management

The District is exposed to various risks of loss related to property, auto, health, and workers' safety, for which the District carries commercial insurance. The District's commercial insurance coverage has remained substantially the same from the prior year. The District retains the first $100,000 of any property loss. There have been no claim settlements in excess of insurance coverage in the last three years.

The District manages its general liability exposure on a self-insurance basis. As of December 31, 2014 and 2013, there were no claims outstanding against the District that were required to be accrued in the

accompanying basic financial statements. As there have been only insignificant general liability claims against the District, there are also no reserves for claims that have been incurred but not reported.

(13) Commitments and Contingencies

The District is a party to various lawsuits resulting from risks inherent in its operations. After consulting with legal counsel, District management has concluded that the final disposition of these matters will not have a significant adverse effect on the District's 2014 basic financial statements.

As of December 31, 2014, the District had various commitments totaling approximately $160.3 million for the construction of major capital improvements, growth, and replacement projects. Funding of these projects will be provided through annual charges for services, bond proceeds, investment earnings, and unrestricted net assets. The largest project representing 72.7% of this total is the Northern Treatment Plant, with remaining costs of $106.6 million.

(a) Suncor Air and Soil Contamination

In November 2012, while trenching to install utilities on property leased from the Metro District, Suncor Energy USA Inc. (Suncor) identified groundwater contamination from the light non-aqueous phase liquids. Suncor notified District staff and the Colorado Department of Public Health and Environment (CDPHE).

In 2011, increasing levels of both dissolved and un-dissolved petroleum products was observed in various locations on the Metro District's Robert W. Hite Treatment Facility (RWHTF). The District began working with Suncor staff to address the situation, including having Suncor 1) install skimming devices to remove the free product from monitoring wells, 2) install additional monitoring wells to determine the source of the contamination, and 3) construct concrete "collars" around the District's Sand Creek Interceptor to prevent Suncor's product from running along the Interceptor to the District's RWHTF. District staff began their own independent monitoring, and met with Suncor staff to discuss safety issues, reimbursement of costs, additional monitoring requirements, and future remediation.

In November 2011, Metro District employees observed petroleum-like odors in other areas of the RWHTF and the District conducted atmospheric tests in those areas. As a result of these tests, portions of the Technical Services Building were closed and equipment was installed to enhance ventilation. Since November 2011, Suncor has increased its efforts to monitor and remove both dissolved and un-dissolved petroleum products from the Metro District property, and is responsible for developing and implementing long-term plans for remediation.

In response to the critical nature of the situation; the pace at which response actions were being initiated by the CDPHE, the Environmental Protection Agency (EPA) and Suncor on and around the RWHTF; and the lack of in-house environmental contamination expertise, Metro District staff determined outside assistance was necessary, and, as a result hired an independent consultant and outside legal counsel to assist with the rapidly developing situation.

In December 2011, the consultant was engaged to assist the Metro District with monitoring and mitigating the air and soil contamination originating from the Suncor property. In February 2012, the Board of Directors appropriated $1.5 million for the work related to the Suncor petroleum contamination. The District has paid ARCADIS approximately $209,000 and $352,000 in 2014 and 2013, respectively, in the monitoring efforts. In addition, the District paid its outside legal counsel $796 and $26,259 in 2014 and 2013, respectively.

Also in February 2012, the Metro District signed an Access and License Agreement with Suncor in which Suncor agreed to pay a fee of $40,000 per quarter through 2017 for access to the District site. This amount, together with ARCADIS costs and certain other direct expenses, is billed to and reimbursed by Suncor on a quarterly basis. Suncor is fully responsible for remainder (not a liability of the District) and has reimbursed the District approximately $379,000 and $908,000 in 2014 and 2013, respectively.

(14) Subsequent Events

Northern Treatment Plant

The District is building a Northern Treatment Plant to serve growth in the northern portion of the District's service area, and capable of serving portions of Aurora, Brighton, Denver, South Adams County (Commerce City) and Thornton. The new facility will be located at the northwest corner of Highway 85 and 168th Avenue. When it opens in 2016, the new facility will be capable of serving about 300,000 people. Ultimately, the facility could be expanded to be capable of serving about 750,000 people. The total project is currently estimated to cost $417.6 million, and approximately $416.5 million has been appropriated through December 31, 2014. Through February 2015, $309.9 million of the $416.5 million appropriated has been spent.

REQUIRED SUPPLEMENTARY INFORMATION

METRO WASTEWATER
RECLAMATION DISTRICT
RETIREMENT PLAN

Schedule of Funding Progress (Unaudited)

Three years ended December 31, 2014

Actuarial valuation date	Actuarial value of plan assets (a)	Actuarial accrued liability (AAL) (b)	Unfunded AAL (UAAL) (b)-(a)	Funded ratio (a)/(b)	Covered payroll (c)	UAAL as a percentage of covered payroll ((b)-(a))/(c)
1/1/13	64,216,611	98,556,195	34,339,584	65	25,039,481	137.1%
1/1/14	67,541,636	101,332,434	33,790,798	67	25,353,510	133.3%
1/1/15	74,247,843	104,374,652	30,126,809	71	23,834,625	126.4%

The excess (deficiency) of assets over (under) the unfunded actuarial accrued liability is amortized using a closed 15-year level percentage of pay method. See note 7 to the basic financial statements for additional actuarial assumptions.

See accompanying independent auditors' report.

(Continued)

METRO WASTEWATER
RECLAMATION DISTRICT
POSTEMPLOYMENT HEALTHCARE BENEFIT PLAN

Schedule of Funding Progress (Unaudited)

December 31, 2014

Actuarial valuation date	Actuarial value of assets (a)	Actuarial accrued liability (AAL) (b)	Unfunded AAL (UAAL) (b)-(a)	Funded ratio (a)/(b)	Covered payroll (c)	UAAL as a percentage of covered payroll ((b)-(a))/(c)
1/1/10	—	6,923,021	6,923,021	—%	22,043,035	31.4%
1/1/12	—	7,161,337	7,161,337	—%	22,854,848	31.3%
1/1/14	—	7,965,271	7,965,271	—%	26,296,926	30.3%

See accompanying independent auditors' report.

(Continued)

SCHEDULES

Schedule 1

METRO WASTEWATER RECLAMATION DISTRICT

Supplementary Information –
Schedule of Revenue and Expenses

Budget and Actual

Year ended December 31, 2014

	Year-to-date actual	Budget fiscal 2014	Variance – favorable (unfavorable)
Operating revenue:			
Annual charges to connectors	$ 114,847,305	$ 114,847,305	$ —
Septic charge revenue	580,274	680,000	(99,726)
Other operating income	296,156	294,405	1,751
	115,723,735	115,821,710	(97,975)
Operating expenses:			
Operations and maintenance:			
Wastewater transmission	1,771,176	2,072,260	301,084
Wastewater treatment	14,590,143	14,874,669	284,526
Solids processing	7,868,558	7,750,673	(117,885)
Solids recycling	5,636,565	6,216,139	579,574
Technical management and support	12,695,975	15,906,575	3,210,600
Administrative and general	16,065,322	16,987,026	921,704
	58,627,739	63,807,342	5,179,603
Operating revenue in excess of expenses (excluding depreciation)	57,095,996	52,014,368	5,081,628
Nonoperating revenue:			
Interest	2,131,544	1,937,411	194,133
Grant revenue - Federal and State	723,347	—	723,347
Insurance proceeds	4,269,901	—	4,269,901
Other	3,903,297	—	3,903,297
Total nonoperating revenue	11,028,089	1,937,411	9,090,678
Nonoperating expenses:			
Capital (operations and management)	113,553	140,000	26,447
Debt service	40,219,750	36,609,028	(3,610,722)
	40,333,303	36,749,028	(3,584,275)
Revenue over expenses	27,790,782	17,202,751	10,588,031
Reconciliation to change in net position:			
Add:			
Sewer connection fees	34,639,805		
Capital outlay	113,553		
Debt service	40,219,750		
Fixed asset, sewer and A&C interest	466,138		
Net decrease in the fair value of investments	2,000,236		
Deduct:			
Depreciation	(27,372,138)		
Interest expense included in debt service above	(11,885,425)		
Nonoperating expenses	(3,416,369)		
OPEB liability	(546,301)		
Increase in net position	$ 62,010,031		

Capital (operations and management) only includes the portion of capital expenditures related to operations. Additional capital expenditures are shown on Footnote 5.

(Continued)

Schedule 2

METRO WASTEWATER RECLAMATION DISTRICT

Supplementary Information –
Schedule of Operating Expenses

Budget and Actual

Year ended December 31, 2014

	Year-to-date actual	Budget fiscal 2014	Variance – favorable (unfavorable)
Operations and maintenance:			
Wastewater transmission:			
Personnel	$ 1,186,398	$ 1,436,400	$ 250,002
Materials and fuel	209,580	251,000	41,420
Chemicals	28,080	25,000	(3,080)
Utilities	336,578	329,860	(6,718)
Outside services	10,540	30,000	19,460
	1,771,176	2,072,260	301,084
Wastewater treatment:			
Personnel	7,372,983	7,778,088	405,105
Materials and fuel	727,641	888,200	160,559
Chemicals	1,278,455	1,870,000	591,545
Utilities	4,959,575	4,051,731	(907,844)
Outside services	200,596	248,000	47,404
Support services	50,893	38,650	(12,243)
	14,590,143	14,874,669	284,526
Solids processing:			
Personnel	1,488,281	1,647,387	159,106
Materials and fuel	955,064	526,500	(428,564)
Chemicals	3,456,924	3,552,400	95,476
Utilities	651,880	585,382	(66,498)
Outside services	1,316,409	1,439,004	122,595
	7,868,558	7,750,673	(117,885)
Solids recycling:			
Personnel	3,197,869	3,255,165	57,296
Materials and fuel	1,175,050	1,221,926	46,876
Chemicals	1,103,651	1,240,620	136,969
Utilities	20,065	29,900	9,835
Outside services	139,930	468,528	328,598
	5,636,565	6,216,139	579,574
Total operations and maintenance	29,866,442	30,913,741	1,047,299

(Continued)

Schedule 2

METRO WASTEWATER RECLAMATION DISTRICT

Supplementary Information –
Schedule of Operating Expenses

Budget and Actual

Year ended December 31, 2014

	Year-to-date actual	Budget fiscal 2014	Variance – favorable (unfavorable)
Technical management and support:			
Operations and maintenance:			
Personnel (1)	$ 3,185,147	$ 3,563,035	$ 377,888
Materials and fuel	1,006,749	887,500	(119,249)
Outside services	1,057,197	1,088,000	30,803
Support expenses	37,895	47,370	9,475
	5,286,988	5,585,905	298,917
Resource recovery and reuse:			
Personnel	755,833	907,241	151,408
Materials and fuel	142,068	90,000	(52,068)
Utilities	154,490	189,600	35,110
Outside services	21,619	20,750	(869)
Support expenses	40,255	36,800	(3,455)
	1,114,265	1,244,391	130,126
Laboratory:			
Personnel	3,221,889	3,217,284	(4,605)
Materials and fuel	637,790	597,115	(40,675)
Outside services	177,730	178,779	1,049
Support expenses	18,729	21,162	2,433
	4,056,138	4,014,340	(41,798)
Engineering:			
Personnel (1)	2,145,393	4,961,939	2,816,546
Materials and fuel	14,719	12,000	(2,719)
Outside services	41,303	45,000	3,697
Support expenses	37,169	43,000	5,831
	2,238,584	5,061,939	2,823,355
Total technical management and support	12,695,975	15,906,575	3,210,600

(Continued)

Schedule 2

METRO WASTEWATER RECLAMATION DISTRICT

Supplementary Information –
Schedule of Operating Expenses

Budget and Actual

Year ended December 31, 2014

	Year-to-date actual	Budget fiscal 2014	Variance – favorable (unfavorable)
Administrative and general:			
Personnel (1)	$ 11,409,831	$ 11,826,616	$ 416,785
Materials and fuel	586,829	578,605	(8,224)
Outside services	1,986,950	2,362,220	375,270
Support expenses	2,081,712	2,219,585	137,873
Total administrative and general	16,065,322	16,987,026	921,704
Total operating system	58,627,739	63,807,342	5,179,603
Capital outlay	113,553	140,000	26,447
Total District system	$ 58,741,292	$ 63,947,342	$ 5,206,050

(1) Personnel has been decreased by $3,246,269 to reflect staff costs relating to capital projects that were capitalized during 2014.

(Continued)

DENVER RATES

Sanitary Sewage Rates Effective July 1, 2015

	July 1, 2014	July 1, 2015
Rate/thousand gallons	$ 3.68	$ 3.78
Unit minimum/living unit (monthly)	$ 10.06	$ 10.33
Average SFR monthly charge:		
Winter consumption=7,000	$ 25.76	$ 26.46
Winter consumption=5,000	$ 18.40	$ 18.90
Meter minimums (monthly)		
5/8" meter	$ 10.06	$ 10.33
3/4" meter	$ 15.10	$ 15.51
1" meter	$ 25.14	$ 25.82
1-1/4" meter	$ 37.79	$ 38.81
1-1/2" meter	$ 50.36	$ 51.72
2" meter	$ 80.53	$ 82.70
3" meter	$ 150.98	$ 155.06
4" meter	$ 251.70	$ 258.50
6" meter	$ 503.38	$ 516.97
8"meter	$ 805.74	$ 827.49
10" meter	$ 1,157.74	$ 1,189.00
12" meter	$ 2,164.47	$ 2,222.91
16" meter	$ 2,164.47	$ 2,222.91
Outside City rate:		
3-month period (fixed)	$ 137.60	$ 141.32
Rate / thousand gallons	$ 5.52	$ 5.67
Unit min. / living unit	$ 15.10	$ 15.51

*Rate increase is based on 2.7% percentage change in Denver-Boulder-Greeley CPI-U

AURORA WATER

Water, Storm Drain and Sewer

RATES EFFECTIVE JANUARY 1, 2016

(Water is billed in units of 1000 gallons)

AURORA

RESIDENTIAL & MULTI-FAMILY (less than five units)

	WATER	
BASE	See below	
TIER I	$5.27	0-20,000 gal.
TIER II	$6.00	20,001-40,000 gal.
TIER III	$7.50	40,001 gal. and above
	SEWER	
BASE	See below	
USAGE*	$3.50	
	STORM DRAIN	
BASE	$9.16	

COMMERCIAL

	WATER	
BASE	See Below	
TIER I	$5.67	up to 100% allocation
TIER II	$6.24	greater than 100%
	SEWER	
BASE	See Below	
USAGE*	$3.50	
	STORM DRAIN	
BASE	$9.16	
	$7.21	*each additional unit*

MULTIFAMILY (five or more units)

	WATER	
BASE	See Below	
TIER I	$5.60	up to 100% allocation.
TIER II	$6.16	greater than 100%
	SEWER	
BASE	See Below	
USAGE*	$3.50	
	STORM DRAIN	
BASE	$9.16	
	$7.21	*each additional unit*

IRRIGATION

BASE	See Below	
TIER I	$6.48	up to 100% allocation
TIER II	$7.13	greater than 100%

HYDRANT

BASE 3/4	$11.05	USAGE	$8.97
BASE 3	$70.09		per 1000 gal.

BASE CHARGES

Size (inches)	R/M/C	IRR	SEWER
5/8 & 3/4	$12.06	$10.46	$3.81
1 & 1 1/4	$17.77	$13.77	$9.53
1 1/2	$27.31	$19.28	$19.05
2	$38.74	$25.91	$30.48

Size (inches)	R/M/C	IRR	SEWER
3	$69.23	$43.57	$66.68
4	$103.53	$63.45	$190.50
6	$198.81	$118.64	$381.00
8	$465.60	$273.18	$381.00

R/M/C = RESIDENTIAL/MULTIFAMILY/COMMERCIAL

* Sewer usage is determined by Winter Quarterly Average (average December, January and February water use) *Billed per thousand gallons.*

NOTE:

2016 Sewer Rates reflects a 4% increase

2016 Storm Drain Fees reflects a $1.00 per month increase

SOUTH ADAMS COUNTY WSD

2016 Water and Wastewater Services Rate Structure

Effective January 1, 2016

Residential Water Charges
Gallons Used Over Monthly Minimum

Gallons	Per 1,000 gallons ($)
1,000 - 11,999	$4.44
12,000 - 17,999	$4.68
18,000 - 29,999	$5.74
30,000 - 45,999	$8.64
46,000 and over	$12.73

Monthly Utility Water Service Fees

Meter Size	Min Gallons	Min Charges
5/8”	-0-	$8.18
3/4"	4,000	$22.52
1”	7,000	$39.41
1 1/2"	14,000	$78.82
2”	22,000	$123.86
3”	30,000	$168.90
4”	68,000	$382.84
6”	100,000	$563.00

Multi-Family, Schools, Churches and Commercial
Water Charges for Gallons Used Over
Monthly Minimum

Charge per 1,000 gallons ($)

$5.63

Hydrant Water
Charges per 1,000 gallons ($)

$11.95

Properties serviced by , but not included in the District, are subject to an extraterritorial surcharge.

Residential	15%
Commercial	35%

Sewer Service Monthly Billing
Single Family Residence

Gallons	Charges
0-999	$24.87
1,000-1,999	$29.85
2,000-2,999	$34.83
3,000 and Over	$39.81

Sewer Service Monthly Billing - Flat Rate
Sewer Only & Multi Family All Units

$39.81

Commercial/Industrial - Sewer Service
Monthly Billing Rates

Meter Size	Min Gallons	Min Charges
3/4	11,000	$43.01
1	19,000	$74.29
1 1/2	33,000	$129.03
2	49,000	$191.59
3	97,000	$379.27
4	162,000	$633.42
6	355,000	$1,388.05

Schools, Churches, and Commercial
Sewer Charges for Gallons Used Over
Monthly Minimum
Charge per 1,000 gallons water used

$3.91

Fireline Standby Charge
Monthly Fee ($)

Connection Size (inches)	
4”	$24.23
6”	$48.33
8”	$64.44
10”	$169.15
12”	$241.65

Note: There is 999 gap between each tier. The bills are calculated by the 1,000 gallons. If a user consumes 8,200 gallons, they will be billed for 8,000 gallons. The remaining 200 gallons will be calculated into the next month's bill.