

Addendum to: Consolidated Application for a Certificate of Corridor Compatibility & Route Permit



Cenex Pipeline, LLC. Liquid Petroleum Pipeline
WILLIAMS, MOUNTRAIL, AND WARD COUNTIES, NORTH DAKOTA

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1.0 BACKGROUND AND PROJECT DESCRIPTION

1.1 Description of the Proposed Project

The project is to construct a new ten-inch (10") pipeline from Sidney, MT to Minot, ND for the purpose of replacing a portion of an existing eight-inch (8") pipeline system, while adding throughput capacity. Cenex currently operates a pipeline that transports refined fuels from Laurel, MT to Fargo, ND. The Cenex pipeline was originally constructed in 1954 to transport petroleum fuels (including gasoline and diesel fuel) from the oil refinery in Laurel, MT to a distribution terminal in Glendive, MT. The refinery, which commenced production in 1930, was purchased by Cenex in 1943. In 1960, the pipeline was extended from Glendive to a terminal located in Minot, ND. Then in 1991, the pipeline was again extended from Minot to Fargo, ND, where it connects with other pipelines.

For nearly two decades, Cenex has methodically replaced its pipeline systems between Billings, MT and Minot, ND by completing pipeline replacement projects. With the completion of a project near Miles City, MT in 2016, the entire distance between Billings MT and Glendive MT has now been replaced in its entirety. Also in 2016, a 46-mile segment of the Cenex Pipeline was replaced from Glendive, MT to Sidney, MT.

Cenex will replace and re-route the existing 8" Cenex Pipeline between Sidney, MT and Minot, ND. Whereas the current pipeline crosses the Yellowstone River near Sidney, running eastward to Minot, the new, 10" pipeline route would run north from Sidney until crossing the Missouri River in MT, it would then run east to Minot, passing north of Williston. This route was chosen to minimize the amount of construction taking place in sensitive areas, while also avoiding difficult river crossings and numerous other engineering and land-use challenges. The pipeline is needed to accommodate an increased demand for refined fuels in the region and to reduce the level of maintenance required to safely operate the pipeline system. Cenex submitted a consolidated application for a Certificate of Corridor Compatibility and a Route Permit (Application) to the ND Public Service Commission (PSC) in March 2017 for the 149.7 miles of pipeline that would occur in ND. The ND PSC issued a Findings of Fact, Conclusions of Law and Order (Order) for the project (Case No. PU-17-97) on March 14, 2018.

Upon issuance of the March 2018 Order, Cenex continued to finalize the right-of-way (ROW) agreements. During final negotiation, Cenex agreed to two minor modifications to the proposed route at landowner request and one reroute to satisfy zoning restrictions for the crossing of 55th Street Northwest in Mountrail County. All three reroutes would require construction to occur outside of the previously approved 200-foot corridor. Please refer to **Table 1, Proposed Reroutes**.

Table 1, Proposed Reroutes

Reroute	Location	Length		Reason	Extent of Reroute
		Total	Outside Corridor		
1	Sec. 29, T155N, R88W	1,899	300	Increased Construction Area Due to Bore	Centerline extends outside of previously approved 200-foot corridor
2	Sec. 35, T155N, R84W	3,860	3520	Landowner Request	Centerline extends outside of previously approved 200-foot corridor
3	Sec. 21, T154N, R103W	986	0*	Landowner Request	Centerline remains within previously approved 200-foot corridor
Total		6,745	3,820		

*Reroute of the pipeline alignment within the previously approved corridor requires additional work area outside of the approved corridor.

2.0 SITE ANALYSIS

2.1 Introduction

The purpose of this analysis is to document changes to potential impacts of avoidance and exclusion areas and additional resources that may be impacted by the proposed pipeline reroutes not previously contained within the PSC application. Three reroutes are proposed to disturb areas outside the previously approved 200-foot wide corridor (environmental study area). Exclusion and avoidance areas have been identified, along with other potential environmental concerns that should be avoided, minimized, or mitigated. Commitments to avoid, minimize or mitigate impacts to resources discussed in the PSC Application would be applicable to all proposed reroutes unless specified otherwise below.

The PSC regulations include the following criteria as exclusion areas for transmission facility corridors and route criteria:

- Designated or registered national: parks; memorial parks; historic sites and landmarks; natural landmarks; monuments; and wilderness areas;
- Designated or registered state: parks; historic sites; monuments; historical markers; archeological sites; and nature preserves.
- County parks and recreation areas; municipal parks; and parks owned or administered by other governmental subdivisions.
- Areas critical to the life stages of threatened & endangered animal or plant species.
- Areas where animal or plant species that are unique or rare to this state would be irreversibly damaged.
- Areas within 1,200 feet of the geographic center of an intercontinental ballistic missile (ICBM) launch or launch control facility.
- Areas within 30 feet on each side of a direct line between intercontinental ballistic missile (ICBM) launch or launch control facilities to avoid microwave interference.

The PSC regulations include the following criteria as avoidance areas for transmission facility corridors and route criteria:

- Designated or registered national: historic districts; wildlife areas; wild, scenic, or recreational rivers; wildlife refuges; and grasslands.
- Designated or registered state: wild, scenic, or recreational rivers; game refuges; game management areas; management areas; forests; forest management lands; and grasslands.
- Historical resources which are not specifically designated as exclusion or avoidance areas.
- Areas which are geologically unstable.
- Within five hundred feet (152.4 meters) of a residence, school, or place of business. This criterion shall not apply to a water pipeline transmission facility.
- Reservoirs and municipal water supplies.
- Water sources for organized rural water districts.
- Irrigated land. This criterion shall not apply to an underground transmission facility.
- Areas of recreational significance which are not designated as exclusion areas.

Avoidance and exclusion areas were identified through available data via coordination with resource agencies and through state and agency Geographical Information System (GIS) data hubs. Several resource agencies provided confidential information used to identify potential avoidance and exclusion areas. The purpose of the confidentiality of certain data is to protect the integrity of sensitive areas from intentional disturbance. Due to the confidential nature of this information, specific details regarding the nature and locations of these sensitive areas have been excluded from the document. In addition to GIS digital and agency provided data, environmental staff from KLJ completed additional field inspection of the proposed project area during the 2016 and 2017 field seasons.

3.0 AVOIDANCE/EXCLUSION AREAS AND RESOURCE ANALYSIS

3.1 Demography and Economy

Communities nearest the proposed reroutes include Williston, Minot, and Stanley. Major employment industries within these communities include oil- and gas-related activities, agriculture, educational, health and social services, transportation and warehousing, utilities, construction, accommodation, food services, and retail trade. Stanley has limited infrastructure and public services, while Williston and Minot provide an expanded selection of shopping, dining, advanced education and recreational opportunities.

Impacts

No impacts to demographics or the regional economy, outside of what was previously contained within the February 2017 Consolidated Application for a Certificate of Corridor Compatibility & Route Permit, are anticipated.

3.2 Land Use

The Project would be located in a rural setting composed primarily of croplands (5.17 acres) and pasture (14.8 acres). The remaining land uses within the environmental study areas include forest/shrubland (0.6 acres). The reroutes are all located atop private lands and would include a 50-foot-wide permanent ROW

for the pipeline and 25-foot-wide temporary construction easements on one side of the ROW (a total of 75-foot ROW). In some areas where construction activities would require less space (e.g. wooded draws, steep topography, or HDD locations) the construction corridor would be reduced as necessary to minimize impacts. For purposes of this analysis, to provide the most conservative assessment, potential temporary impacts from construction activities are estimated assuming the entire length of the Project would include a 75-foot-wide construction corridor. ***Please refer to Table 4, Land Use and Figure A-2, Land Use in Appendix A.***

Impacts

Short-term adverse impacts on land use would be expected from the project. Construction of the reroutes associated with the project would result in the temporary disturbance of approximately 11.61 acres of land within the 75-foot-wide construction corridor; however, no permanent impacts are anticipated. It is not anticipated that the disturbance of lands within the project route would result in a trend toward modification of existing land use patterns.

3.3 Public Services - Electrical Services

There are no overhead electrical utility crossings of the proposed rerouted pipeline route.

Impacts

No impacts to electrical services, outside of what was previously contained within the February 2017 Consolidated Application for a Certificate of Corridor Compatibility & Route Permit, are anticipated.

3.4 Public Services - Local Services

The Project would pass through rural portions of North Dakota, primarily composed of grasslands and cultivated lands. There are no towns or municipalities within the environmental study area. The towns nearest the proposed reroutes include Stanley, Minot and Williston. Stanley provides numerous churches, a post office, medical centers, elementary and junior high schools, and various retail business. Minot and Williston provide services associated with larger urban municipalities such as Kindergarten, elementary, middle, and high schools, hospitals, fire and paramedic service, hotels, restaurants, shopping malls, airports, and recreational opportunities.

Impacts

No impacts to local services, outside of what was previously contained within the February 2017 Consolidated Application for a Certificate of Corridor Compatibility & Route Permit, are anticipated.

3.5 Public Services - Roads and Traffic

No paved or gravel roads would be crossed by the proposed reroutes.

Impacts

No impact to roads and traffic, outside of what was previously contained within the February 2017 Consolidated Application for a Certificate of Corridor Compatibility & Route Permit, are anticipated.

3.6 Public Services - Telephone, Radio, Antenna, Communication, and Microwave Structures

There are no radio structures, microwave structures, or wireless communication towers present within the ROW, environmental study area. The Project route was selected to avoid radio, antenna, communication, and microwave structures.

Impacts

No impacts to telephone, radio, antenna, communication, and microwave structures, outside of what was previously contained within the February 2017 Consolidated Application for a Certificate of Corridor Compatibility & Route Permit, are anticipated.

3.7 Public Services - Water Supply

Ward County water is supplied by Northwest Area Water Supply. This project consists of 45 miles of pipeline from the Missouri River to Minot, North Dakota (NDSWC 2015). The Western Area Water Supply Authority (WAWSA) supplies water to rural areas in Mountrail, Williams, and Ward Counties. The Western Area Water Supply Project utilizes a combination of Missouri River water treated at the Williston Regional Water Treatment Plant and groundwater treated by the R&T Water Supply Commerce Authority's Water Treatment Plant in Ray, North Dakota. Currently, the Authority provides water to 70,000 people and should provide up to 160,000 people by 2038.

There are no sole source aquifers¹ designated in the environmental study area or the State of North Dakota (EPA 2009); however, unconsolidated aquifers may be crossed by the proposed project. Unconsolidated aquifers are located between rock formations and contain the most productive aquifers in North Dakota. The aquifers are composed of loose deposits of sand and gravel through which water readily moves. Some of these deposits are tens of square miles in area and are as much as 100 feet thick (USGS, 1983).

It is common for rural residences in the area to use private wells for domestic and agricultural purposes. Per North Dakota State Water Commission (NDSWC) data, there are no industrial or private wells within the environmental study area. All public water systems that have wells or intakes are participants in the Source Water Protection Program established by the Safe Drinking Water Act. Wellhead Protection Areas are managed by the North Dakota Department of Health (NDDH) to protect groundwater-dependent public water systems, or surface water-dependent public water systems (NDDH, 2016). There are no Wellhead Protection Areas within the proposed reroute environmental study areas.

Impacts

No impacts to water supplies, outside of what was previously contained within the February 2017 Consolidated Application for a Certificate of Corridor Compatibility & Route Permit, are anticipated.

¹ EPA (2009), "defines a sole source aquifer as one which supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer".

3.8 Human Health and Safety - Hazardous Materials/Hazardous Waste

Review of US Environmental Protection Agency (EPA) hazardous materials databases (e.g. Superfund, Resource Conservation and Recovery Act [RCRA], and Toxics Release Inventory [TRI]) was conducted for Williams, Mountrail, and Ward Counties. There are no known hazardous waste sites within the proposed reroute environmental study areas. Minor amounts of hazardous materials (i.e. used oils, cleaning agents, batteries) could be used during construction, maintenance, or operation activities associated with the Project. Hazardous waste would not be generated from construction, maintenance, or operation activities associated with the Project.

Impacts

Any hazardous waste encountered, or hazardous materials used during construction, would be contained per the SWPPP that would be maintained by Cenex. Cenex, nor its contractors, would store hazardous materials, chemicals, fuels, lubricating oils, or perform concrete coating activities within 100 feet of streams or waterbodies.

3.9 Human Health and Safety - Security

The Project would be in Williams, Mountrail, and Ward Counties. All access to the project route would require permission from property owners, which would minimize public access and should reduce the need for additional security during construction.

Impacts

No impacts to security, outside of what was previously contained within the February 2017 Consolidated Application for a Certificate of Corridor Compatibility & Route Permit, are anticipated.

3.10 Human Health and Safety - Noise

The Project would be in a rural setting. Existing noise contributions in the environmental study area would be from nearby farming activities and roadway traffic. Noise levels in rural settings typically range from 25 to 40 decibels (Noise Quest 2016, IAC Acoustics 2016).

Impacts

No impacts associated with noise, outside of what was previously contained within the February 2017 Consolidated Application for a Certificate of Corridor Compatibility & Route Permit, are anticipated.

3.11 Aesthetics (Visual)

The environmental study area lacks large-scale development and contains sparsely scattered farmsteads and rural residences. Much of the landscape within the reroute environmental study areas is utilized for agricultural and ranching activities.

The landscape of the Project is characterized by cultivated agricultural fields, grasslands, pasturelands, oil and gas development, with occasional small creeks and drainages. The reroutes would cross portions of the prairie pothole region; an area characterized by pothole wetlands heavily interspersed within the

landscape. There are no scenic byways, or wild and scenic rivers within the reroute environmental study areas.

Impacts

No impacts to aesthetics, outside of what was previously contained within the February 2017 Consolidated Application for a Certificate of Corridor Compatibility & Route Permit, are anticipated.

3.12 Cultural and Archaeological Resources

KLJ performed a Class III cultural resource inventory along the proposed reroutes as well as other segments of the proposed pipeline that were not previously surveyed between September 13 - 22, 2017. The survey area was approximately 200-feet in width, unless it overlapped with previously surveyed areas. Two previously unrecorded cultural resources and four previously recorded cultural resources were documented within the survey area.

Impacts

A Class III Cultural Resources Report was submitted to the State Historic Preservation Office (SHPO) in June 2018. SHPO found the report and its findings to be acceptable and concurred with KLJ's recommendations for avoidance of the cultural sites. In the concurrence letter, SHPO requested archeological monitoring of four sites that are not associated with the proposed reroutes. The proposed reroutes will have no impact on cultural resources.

3.13 Recreational Resources

Rangeland, cropland, wetlands, and creeks are found in the study area. Major water bodies located within, and near to, the environmental study area, which may provide recreational opportunities, include the Souris River, Shell Lake, and McLeod Lake. These areas may be used for hunting, bird watching, photography, fishing, and general recreation. Additionally, there are city parks, golf courses, and museums located in the nearby rural towns and municipalities.

There are no Wildlife Management Areas (WMAs), Wildlife Production Areas (WPAs), or National Wildlife Refuges (NWRs) located within the proposed environmental study areas; however, Shell Lake NWR is located approximately 3.2 miles southwest of the environmental study area located in Section 29, Township 155 North, Range 88 West.

Impacts

No impacts to recreational resources, outside of what was previously contained within the February 2017 Consolidated Application for a Certificate of Corridor Compatibility & Route Permit, are anticipated.

3.14 Agriculture and Farmland

Much of the environmental study area consists of gently rolling topography and level cropland fields, an occasional drainage way, and plentiful wetland depressions containing very poorly drained soils. Most areas in this study are utilized for farmland. Impacts within the study area to Prime or Unique Farmland, or Farmland of State Importance were analyzed and minimized to the extent practicable.

There is a total of 2.5 acres of prime farmland within the environmental study area in Ward County and 1.36 acres of farmland of statewide importance within the environmental study area in Williams County. There is no farmland of statewide importance found within the environmental study area in Ward or Mountrail Counties and no prime farmland found within the environmental study areas in Williams or Mountrail Counties.

Impacts

Short-term adverse impacts on prime farmland and farmland of state importance would be associated with construction of the proposed reroutes. Potential agricultural losses from the temporary disturbance of prime farmland and farmland of statewide importance are anticipated to be minor or non-existent.

3.15 Soils

There are 9 soil types within the environmental study area: 3 soil types in Williams County; 2 soil types within Mountrail County; and 4 soil types in Ward County. Most these soil types are loamy soils, which are a broad textural class of soils that contain a mixture of sand, silt, and clay particles. The presence of clay in a soil has a greater influence on a soil than the presence of silt or sand; therefore, a soil name can include the modifier “clay” with as little as 20 percent clay, while a soil must contain at least 55 percent sand or 40 percent silt to contain those respective modifiers in its name. Soils identified as sandy loams have moderately coarse textures, silt loams have medium textures, and clay loams have moderately fine textures (Schoeneberger et. al., 2012). Much of the environmental study area consists of gently rolling topography and level cropland fields, an occasional drainage way, and plentiful wetland depressions containing very poorly drained soils. Most areas in this study are utilized for farmland.

Impacts

Short-term, adverse impacts on soils would be expected from construction of the proposed reroutes. There are approximately 30.97 acres within the 200-foot environmental survey area of the reroutes; however, approximately 11.61 acres would be temporarily impacted from surface disturbance and soil compaction during construction and the use of heavy machinery. Any impacts on soils from construction of the Project would be localized and would not be considered significant, as BMPs would be implemented to minimize impacts on soils.

The risk of soil contamination from a potential release of crude oil by way of a pipeline integrity emergency in the proposed pipeline would be minimal.

3.16 Geologic and Groundwater Resources

The environmental study area is located primarily in an ecoregion of North Dakota known as the Northwest Glaciated Plains. This area was formed by glaciers moving across the state that became stagnant, depositing rock debris, gravel, and fine-grained sediments intermixed with large ice-chunks. When buried ice-chunks melted, wetlands were created. Due to these geologic sequences, the region in which the study area is located is commonly referred to as the prairie pothole region (Bryce et. al. 1996). Geology in this ecoregion consists primarily of glacial till and outwash surface materials layered over Tertiary sandstone and shale, or Cretaceous Pierre Shale bedrock formations (Bryce et. al. 1996). The stratum, or layer of sediment deposited millions of years ago, the pipeline would be placed in consists mostly of the Coleharbor stratum (North Dakota Studies 2016). This layer was deposited by water (i.e. rivers or lakes in the region) and can be as thick as 200 feet in some areas. It is composed of sandy, silty clay with pebbles of limestone,

dolomite, granite, and basalt (USGS 2016a). This layer was deposited 2.5 million years ago in the Quaternary, Pleistocene epoch (North Dakota Studies 2016).

Landslide prone areas are most commonly located along drainage features, valleys, badlands topography and regions where sediment are exposed near the surface (M.R. McDonald, Personal Communication, May 3, 2016). There are no historically identified landslide-prone areas within the environmental study area.

An aquifer is an underground layer of water contained within consolidated layers (e.g. solid rock), rock fractures or unconsolidated materials (e.g. gravel, sand, or silt) from which groundwater can be extracted (USGS 2016b). No sole source aquifers² have been identified in the project area (EPA 2009).

It is common for rural residences in the area to use private wells for domestic and agricultural purposes. Per North Dakota State Water Commission (NDSWC) data, there are no industrial or private wells within the environmental study area.

Impacts

If a pipeline integrity emergency occurs during operations, short-term or long-term, adverse impacts on groundwater might occur. Groundwater can become directly contaminated in several ways. If surface water which recharges an aquifer is polluted, this pollution will transfer to the groundwater source. Groundwater can also become contaminated when a fluid or hazardous substance leaches downward through the soil and into a groundwater source (DiGuilio et. al. 2011). The proposed reroutes are not anticipated to impact geological or groundwater resources.

3.17 Surface Water and Floodplain Resources

The study area occurs primarily in the Missouri and Souris River Basins. Numerous smaller streams, wetlands and drainages occur within the study area. These water complexes could be used by wildlife and cattle, and support hydrophytic vegetation and large woody vegetation. Majority of the pipeline reroutes were not mapped by the Federal Emergency Management Agency (FEMA) for floodplains (Zone D); however, a small portion of the pipeline route located near the city of Minot was mapped. It appears that the pipeline would cross the Zone A floodplain associated with the South Branch Coulee.

Impacts

Long-term impacts on surface water and floodplain resources would not be expected from the project. In areas of designated floodplains (Zone A), impacts are not anticipated as the line would be bored at a depth of 15 feet or greater below the South Branch Coulee.

3.18 Wetlands

Wetlands are defined both in the 1977 Executive Order 11990, Protection of Wetlands, and in Section 404 of the Clean Water Act of 1986, as those areas that are inundated by surface or groundwater with a frequency to support and, under normal circumstances, do or would support a prevalence of vegetative or

² EPA (2009), "defines a sole source aquifer as one which supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer".

aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction.

Three parameters that define a wetland, as outlined in the Federal Manual for Delineating Jurisdictional Wetlands (USACE 1987), are hydric soils, hydrophytic vegetation, and hydrology. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands are important natural resources that often serve many functions, such as providing habitat for wildlife, storing floodwaters, recharging groundwater, and improving water quality through purification.

Field wetland delineations were completed by KLJ to identify wetlands, so they could be avoided or impacts from construction could be minimized. One wetland, totaling approximately 0.58 acres was delineated within the proposed reroute environmental study areas.

Impacts

Impacts on the delineated wetland would be avoided by constructing the pipeline using HDD. Construction methodologies at all wetland locations will be based on maintaining compliance with US Army Corps of Engineers (USACE) Nationwide Permit (NWP) 12 – Utility Line Activities, and ease of construction/reclamation. NWP 12 limits impacts to temporary fills without notification as well as requires compliance with the general condition of the permit. Any temporary fills would be removed in their entirety and the affected areas returned to pre-construction elevations (USACE, 2017).

The Project would comply with USDOT regulations, specifically the design, construction, pressure testing, operation, welding, maintenance and emergency response requirements, as outlined in Transportation of Hazardous Liquids by Pipeline regulations (49 CFR Parts 194 and 195). Upon completion of construction and prior to commissioning, the pipeline would be hydrotested for pipeline integrity. The water from hydrotesting would be discharged in accordance with the requirements listed in the dewatering permit from the NDDH. Construction of the Project would include installation of MLVs, which would allow segments of the pipeline to be isolated for inspection and maintenance purposes or in the event of an emergency. During operations, SCADA system communications would be used to monitor for pipeline integrity. In addition, the pipeline would receive regular inspections along the ROW for any indications of pipeline integrity and other maintenance issues.

In the unlikely event of an emergency with the pipeline during operations, short-term, adverse impacts on wetlands may occur.

3.19 Vegetation

The study area consists predominantly of cropland and grasslands with a mixture of native and introduced grasses, forbs, and trees. Much of the study area has been previously disturbed by cultivation, and development activities that have led to soil disturbance. Grass species include Kentucky bluegrass (*Poa pratensis*), smooth brome (*Bromus inermis*), prairie junegrass (*Koeleria macrantha*), green needlegrass (*Nassella viridula*), needle-and-thread (*Stipa comata*), western wheatgrass (*Agropyron smithii*), Porcupine grass (*Miscanthus sinensis*), and Side-oats grama (*Bouteloua curtipendula*).

North Dakota has listed 11 noxious weeds: absinth wormwood, Canada thistle, diffuse knapweed, leafy spurge, musk thistle, purple loosestrife, Russian knapweed, spotted knapweed, yellow toadflax, dalmatian toadflax, and saltcedar. Cities and counties are also able to list additional noxious weeds for control within their jurisdiction. Mountrail County has designated common tansy and houndstongue, Williams County has

designated houndstongue, narrowleaf hawksbeard and Palmer amaranth, and Ward County has designated false chamomile, houndstongue, and Palmar amaranth as additional noxious weed species. According to the North Dakota Weed Mapper, no noxious weeds were documented within the reroutes from 2010 through 2015 (Information beyond 2015 was unavailable at the time of the review).

A variety of tree species were identified along the Project in shelterbelts and wooded draws. The tree species consisted primarily of American elm (*Ulmus americana*), green ash (*Fraxinus pennsylvanica*), bur oak (*Quercus macrocarpa*), eastern cottonwood (*Populus deltoides*), and Russian olive (*Elaeagnus angustifolia*).

Impacts

Short- and long-term, adverse impacts on vegetation and woodlands are anticipated to result from the proposed reroutes. Implementation of the project would result in the temporary disturbance of approximately 11.61 acres of land within the 75-foot-wide construction corridor of the proposed reroutes. In most of the woodland areas encountered during construction, the ROW would be minimized to avoid tree removal; however, some trees may need to be removed as part of the Project. During construction, it is common for weed species to grow in disturbed areas until the desired re-vegetation of the site is complete.

The risk of contaminating vegetation from a potential release of refined fuel by way of a pipeline integrity emergency would be minimal. The Project would comply with USDOT regulations, specifically the design, construction, pressure testing, operation, welding, maintenance, and emergency response requirements, as outlined in Transportation of Hazardous Liquids by Pipeline regulations (49 CFR Parts 194 and 195). Upon completion of construction and prior to commissioning, the pipeline would be hydrotested for pipeline integrity. The water from hydrotesting would be discharged in accordance with the requirements listed in the NDPDES permit. The MLVs would allow segments of the pipeline to be isolated if there were a pipeline integrity emergency or for inspection and maintenance purposes. During operations, SCADA system communications would be used to monitor for pipeline integrity. In addition, the pipeline would receive regular inspections along the ROW for any indications of pipeline integrity and other maintenance issues. If there were a pipeline integrity emergency during operations, short-term, adverse impacts on vegetation might occur.

3.20 Wildlife -- Mammals

White-tailed (*Odocoileus virginianus*) and mule deer (*Odocoileus hemionus*) flourish within, and near to, the environmental study area due to the ample forage from surrounding cropland intermingled with the native rangeland. Numerous other mammals such as Eastern cottontail rabbit (*Sylvilagus floridanus*), red fox (*Vulpes vulpes*), beaver (*Castor canadensis*), muskrats (*Ondatra zibethicus*), black-tailed prairie dog (*Cynomys ludovicianus*), and coyotes (*Canis latrans*) also inhabit this part of the state.

Impacts

No impacts to mammals, outside of what was previously contained within the February 2017 Consolidated Application for a Certificate of Corridor Compatibility & Route Permit, are anticipated.

3.21 Wildlife - Avian Species

The study area lies in the prairie pothole region of North Dakota and the Central Flyway of North America. As such, this area is used as resting grounds for many birds on their spring and fall migrations, as well as nesting and breeding grounds for many waterfowl species hunted as game in the region. Many other non-game bird species are fly through and inhabit this region.

Impacts

No impacts to avian species, outside of what was previously contained within the February 2017 Consolidated Application for a Certificate of Corridor Compatibility & Route Permit, are anticipated.

3.22 Rare and Unique Natural Resources – USFWS-Listed Threatened and Endangered Species

The project route has been evaluated to determine the potential for occurrences of federally listed threatened, endangered, proposed, and candidate species. In Williams, Mountrail and Ward Counties there are five endangered species (e.g. interior least tern [*Sterna antillarum*], gray wolf [*Canis lupus*], pallid sturgeon [*Scaphirhynchus albus*], black-footed ferret [*Mustela nigripes*], and whooping crane [*Grus Americana*]), and four threatened species (e.g. piping plover [*Charadrius melodusnorthern*], Dakota skipper [*Hesperia dacotae*], rufa red knot [*Calidris canutus rufa*], and northern long-eared bat [*Myotis septentrionalis*]). There is USFWS-designated critical habitat for the piping plover within all three Counties; however, no critical habitat is within the environmental study area (USFWS ECOS IPaC, 2016).

Impacts

Field surveys were conducted for the proposed reroutes and no threatened or endangered species or preferred habitat were observed within the environmental study areas. In addition, designated critical habitat for the piping plover would not be impacted as part of the proposed reroutes.

3.23 Rare and Unique Natural Resources – Rare and Sensitive Species

Cenex has coordinated with the USFWS, NDGFD, and NDPRD to assist with identifying sensitive species and sensitive habitat that could exist within the proposed reroute environmental study areas. Field surveys were completed by KLJ staff in 2017. No historically documented bald or golden eagle nests occur within the proposed reroute environmental study areas.

According to NDPR NHI data, no sensitive botanical or zoological species were identified within the Project route (K. Duttonhefner, Personal Communication, December 15, 2015).

Communities of Ecological Importance

Ecological communities are used to address conservation and resource management issues. They are also used to provide a systematic way to describe natural vegetation pattern and processes across the landscape. The NDPRD NHI database did not identify any significant ecological communities within an approximate 3-mile radius of the environmental study area. Per the NDPRD, the information in the NHI database is not based on a comprehensive survey; therefore, there could be significant ecological communities in the area that are not represented in the database (K. Duttonhefner, Personal

Communication, December 15, 2015).

Impacts

Impacts to sensitive species and habitat as well as communities of ecological importance outside of what was contained within the February 2017 Consolidated Application for a Certificate of Corridor Compatibility & Route Permit, are not anticipated.

3.24 Avoidance/Exclusion Area and Resources Analysis Conclusions

The Project was sited to avoid impacts to exclusion areas. The following table provides a summary of exclusion areas identified within the 200-foot survey corridor for the proposed reroutes.

Table 2, Summary of Exclusion Areas			
Exclusion Area	Present within 200' Survey Corridor	Methods/Alternatives Considered for Exclusion Area	Proposed Mitigation
Designated or registered national: parks, memorial parks, historic sites and landmarks, natural landmarks, monuments, and wilderness areas.	None	N/A	N/A
Designated or registered state: parks, historic sites, monuments, historical markers, archaeological sites, and nature preserves.	None	N/A	N/A
County parks and recreation areas, municipal parks, and parks owned or administered by other governmental subdivisions.	None	N/A	N/A
Areas critical to life stages of threatened or endangered animal or plant species.	None	N/A	N/A
Areas where animal or plant species that are unique or rare to this state would be irreversibly damaged.	None	N/A	N/A
Areas within 1,200 feet of the geographic center of an ICBM launch or launch control facility.	None	N/A	N/A
Areas within 30 feet on either side of a direct line between ICBM launch or launch control facilities to avoid microwave interference.	None	N/A	N/A

The Project was sited to avoid impacts to avoidance areas. The following table provides a summary of

avoidance areas identified within the 200-foot survey corridor for the proposed reroutes.

Table 3, Summary of Avoidance Areas			
Avoidance Area	Present within 200' Survey Corridor	Methods/Alternatives Considered for Avoidance Area	Proposed Mitigation
Designated or registered national: historic districts; wildlife areas; wild, scenic, or recreational rivers; wildlife refuges and grasslands.	None	N/A	N/A
Designated or registered state: wild, scenic, or recreational rivers; game refuges; game management areas; management areas; forests; forest management lands; and grasslands.	None	N/A	N/A
Historical resources that are not specifically designated as exclusion or avoidance areas.	None	N/A	N/A
Areas which are geologically unstable.	None	N/A	NA
Location of route within 500 feet (152.4 meters) of a residence, school, or place of business.	None	N/A	N/A
Reservoirs and municipal water supplies.	None	N/A	N/A
Water resources for organized rural water districts.	None	N/A	N/A
Areas of recreational significance which are not designated as exclusion areas.	None	N/A	N/A

4.0 References

- DiGiulio, D.C., R.T. Wilkin, C. Miller. (2011). Investigation of ground water contamination near Pavillion, Wyoming [draft]. Ada, OK: Environmental Protection Agency, Office of Research and Development, National Risk Management Research Laboratory.
- Duttenhefner, K. (2015). North Dakota Parks and Recreation Department. Kathy Duttenhefner, Coordinator Natural Resources Division. Personal letter to Jennifer Davis; KLJ. December 15, 2015.
- Environmental Protection Agency (EPA). (2009). Sole Source Aquifer Program. Region 8. Retrieved 21 December 2016 from https://www.hudexchange.info/resource/reportmanagement/published/ESD_900000010013889_09142017_900000010031726_1473844800924.pdf
- IAC Acoustics. (2016). Comparative Examples of Noise Levels. Retrieved 20 December 2016 from <http://www.industrialnoisecontrol.com/comparative-noise-examples.htm>
- McDonald, M.R. (2016). North Dakota Geological Service. Mark. R. McDonald. Geologist. Personal letter to Grady Wolf; KLJ. May 3, 2016.
- Noise Quest. (2016) Noise Basics and Metrics. The Pennsylvania State University. Retrieved 20 December 2016 from <http://www.noisequest.psu.edu/index.html>
- North Dakota Department of Health (NDDH). (2016). North Dakota Source Water Protection Program. NDDH Ground Water. Retrieved 30 December 2016 from <http://www.ndhealth.gov/wq/gw/sourcewater.htm>
- North Dakota Geological Service. (undated). North Dakota Landslide Maps; 100K. Retrieved on 25 January 2017 from <https://www.dmr.nd.gov/ndgs/landslides/>
- North Dakota State Water Commission (NDSWC). (2015). Northwest Area Water Supply. Retrieved 19 December 2016 from http://www.swc.nd.gov/project_development/naws.html
- NDSWC. (2015b). General Water Resources MapService. State Water Commission and Office of the State Engineer. Retrieved 21 December 2016 from <http://mapservice.swc.nd.gov/>
- North Dakota Studies. (2016). Lesson 1: Changing Landscapes; Topic 2: Geology; Section 1: Formations; Easy as Cake!. State Historical Society of North Dakota. Retrieved 21 December 2016 from <http://ndstudies.gov/gr8/content/unit-i-paleocene-1200-ad/lesson-1-changing-landscapes/topic-2-geology/section-1-formations-easy-cake>
- Bryce, S.A., Omernik, J.M., Pater, D.A., Ulmer, M., Schaar, J., Freeouf, J., Johnson, R., Kuck, P., and Azevedo, S.H., (1996). Ecoregions of North Dakota and South Dakota, (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, US Geological Survey (map scale 1:1,500,000). Retrieved 21 December 2016 from <https://www.epa.gov/eco-research/ecoregion-download-files-state-region-8#pane-32>
- Schoeneberger, P.J., D.A. Wysocki, E.C. Benham, and Soil Survey Staff. (2012). Field book for describing and sampling soils, Version 3.0. Natural Resources Conservation Service, National Soil Survey Center, Lincoln, NE.
- Southwest Water Authority (SWA). (2014). Southwest Pipeline Project. 2014 Annual Operating Report. Retrieved on 3 February 2016 from <http://swwater.com/wp-content/uploads/2014-Annual-Report.pdf>
- US Army Corps of Engineers (USACE). (2017). Summary of the 2017 Nationwide Permits. 2017 Nationwide Permit Information. Retrieved 11 January 2017 from http://www.usace.army.mil/Portals/2/docs/civilworks/nwp/2017/nwp2017_sumtable_Jan2017.pdf?ver=2017-01-06-091151-173
- US Department of Agriculture (USDA). (2012). 2012 Census Volume 1, Chapter 2: County Level Data. County Summary Highlights: 2012. USDA National Agricultural Statistics Service. Retrieved 21 December 2016 from https://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_2_County_Level/North_Dakota/

USDA. (2014). CropScape – Cropland Data Layer. USDA National Agricultural Statistics Service. Retrieved on 11 January 2016 from <http://nassgeodata.gmu.edu/CropScape/>

US Environmental Protection Agency (USEPA). (2016a). Search for Superfund Sites Where You Live. National Priorities List (NPL) Sites. Last updated 1 February 2016. Retrieved on 22 December 2016 from <http://www.epa.gov/superfund/search-superfund-sites-where-you-live>

USEPA. (2016b). Toxics Release Inventory (TRI) Program. Last updated 21 January 2016. Retrieved 22 December 2016 from <http://www2.epa.gov/toxics-release-inventory-tri-program>

USEPA. (2016c). Resource Conservation and Recovery Act Information (RCRAInfo) database in Envirofacts: RCRAInfo Search. Last updated 19 January 2016. Retrieved on 22 December 2016 from <http://www.epa.gov/enviro/facts/rcrainfo/search.html>

USFWS Environmental Conservation Online System (ECOS) Information for Planning and Conservation IPaC). (2016). Information requests for Williams, Mountrail and Ward Counties. Retrieved 22 December 2016 from <https://ecos.fws.gov/ipac/>

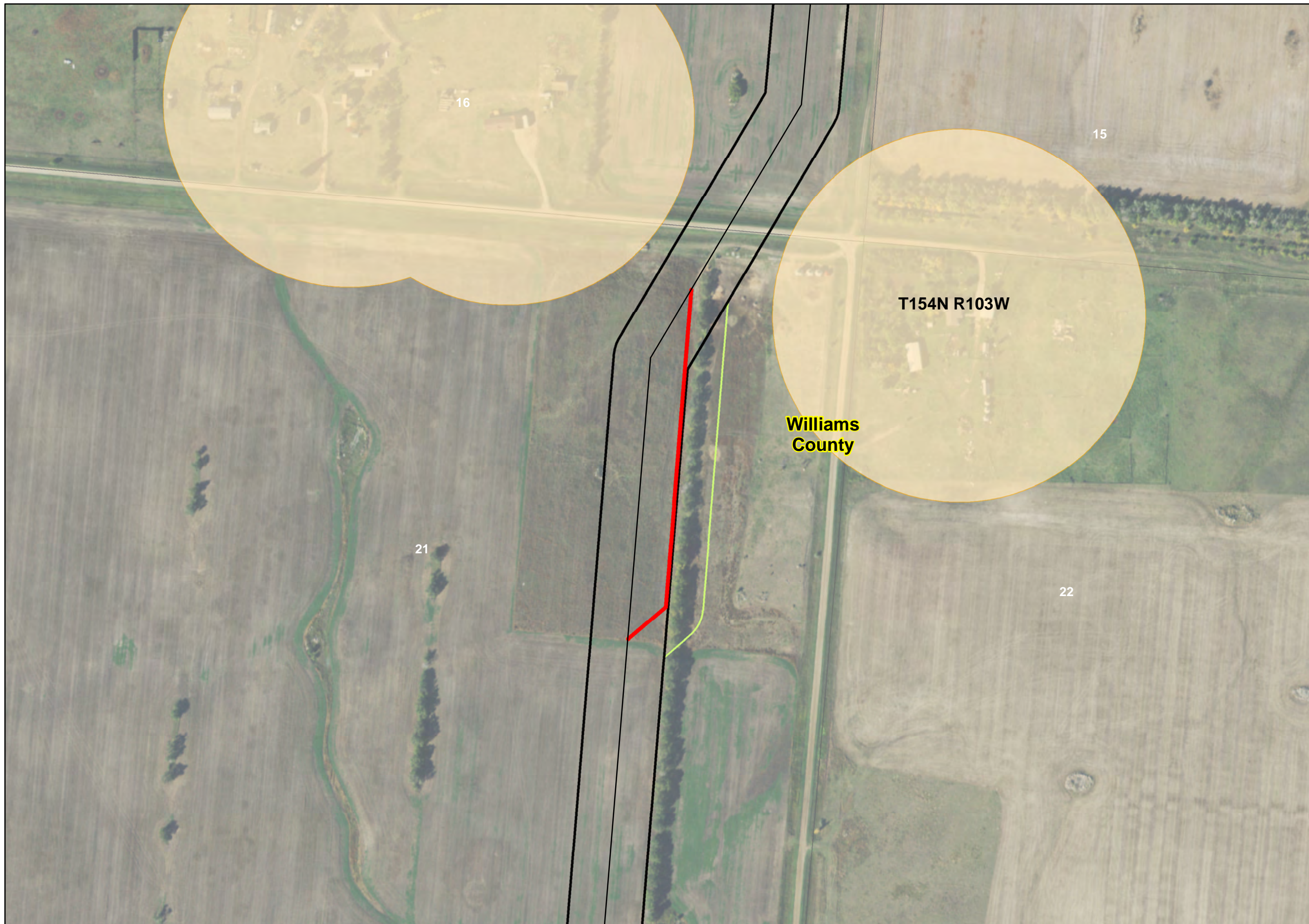
US Geological Survey (USGS). (1983). Guide to North Dakota’s Ground Water Resources. USGS Water Supply Paper 2236 by Q.F. Paulson. Retrieved 28 December 2016 from <https://pubs.usgs.gov/wsp/2236/report.pdf>

USGS. (2016a). Mineral Resources On-Line Spatial Data. Coleharbor Formation-Offshore Sediment-Eroded Lake Sediment. Retrieved 21 December 2016 from <https://mrdata.usgs.gov/geology/state/sgmc-unit.php?unit=NDQcoe%3B0>

USGS. (2016b). USGS FAQs: What is the difference between consolidated and unconsolidated sediments? Retrieved 21 December 2016 from <https://www2.usgs.gov/faq/node/2777>

APPENDIX A

Maps



**Cenex Pipeline, LLC
Refined Fuels Pipeline**

**Re-Route Changes
Outside of Corridor**

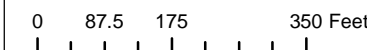


Legend

- Schools - 500' Avoidance
- Missile Site - 1200ft Exclusion
- Residential/Commercial Building - 500' Avoidance
- Potential Dakota Skipper Habitat
- Historic Landslide Areas
- Delineated Wetlands
- PSC Corridor - June 2017
- PSC Route - June 2017
- Proposed Corridor - as of April 2018 -
- Proposed Re-Routes - as of April 2018 -

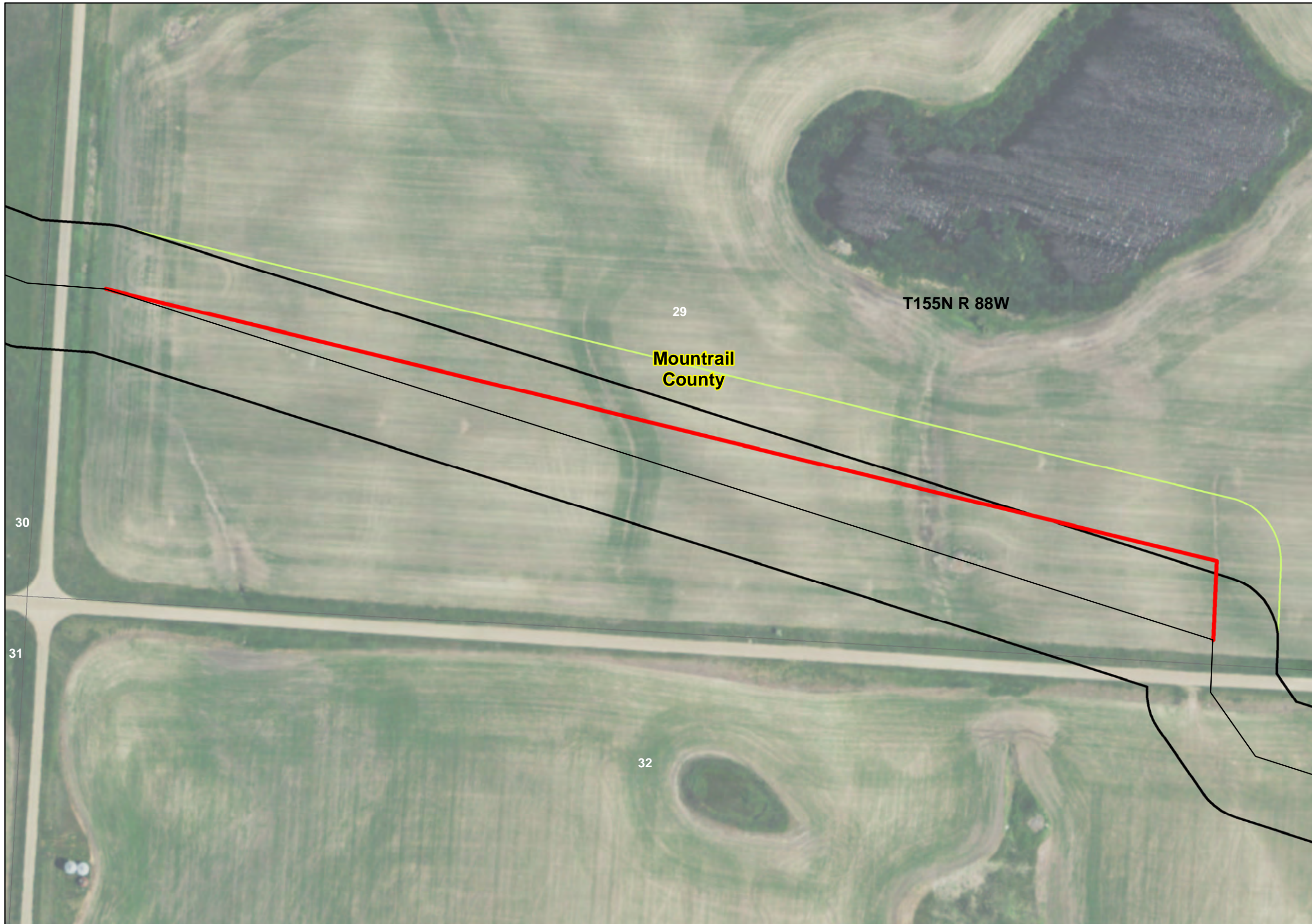
**Re-Route Length
Outside of PSC
(June 2017): 986 FT**

**Furthest Distance
to PSC (June 2017)
ROW: 0 FT**



Exclusion & Avoidance





**Cenex Pipeline, LLC
Refined Fuels Pipeline**

**Re-Route Changes
Outside of Corridor**

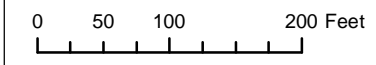


Legend

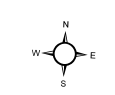
- Schools - 500' Avoidance
- Missile Site - 1200ft Exclusion
- Residential/Commercial Building - 500' Avoidance
- Potential Dakota Skipper Habitat
- Historic Landslide Areas
- Delineated Wetlands
- PSC Corridor - June 2017
- PSC Route - June 2017
- Proposed Corridor - as of April 2018 -
- Proposed Re-Routes - as of April 2018 -

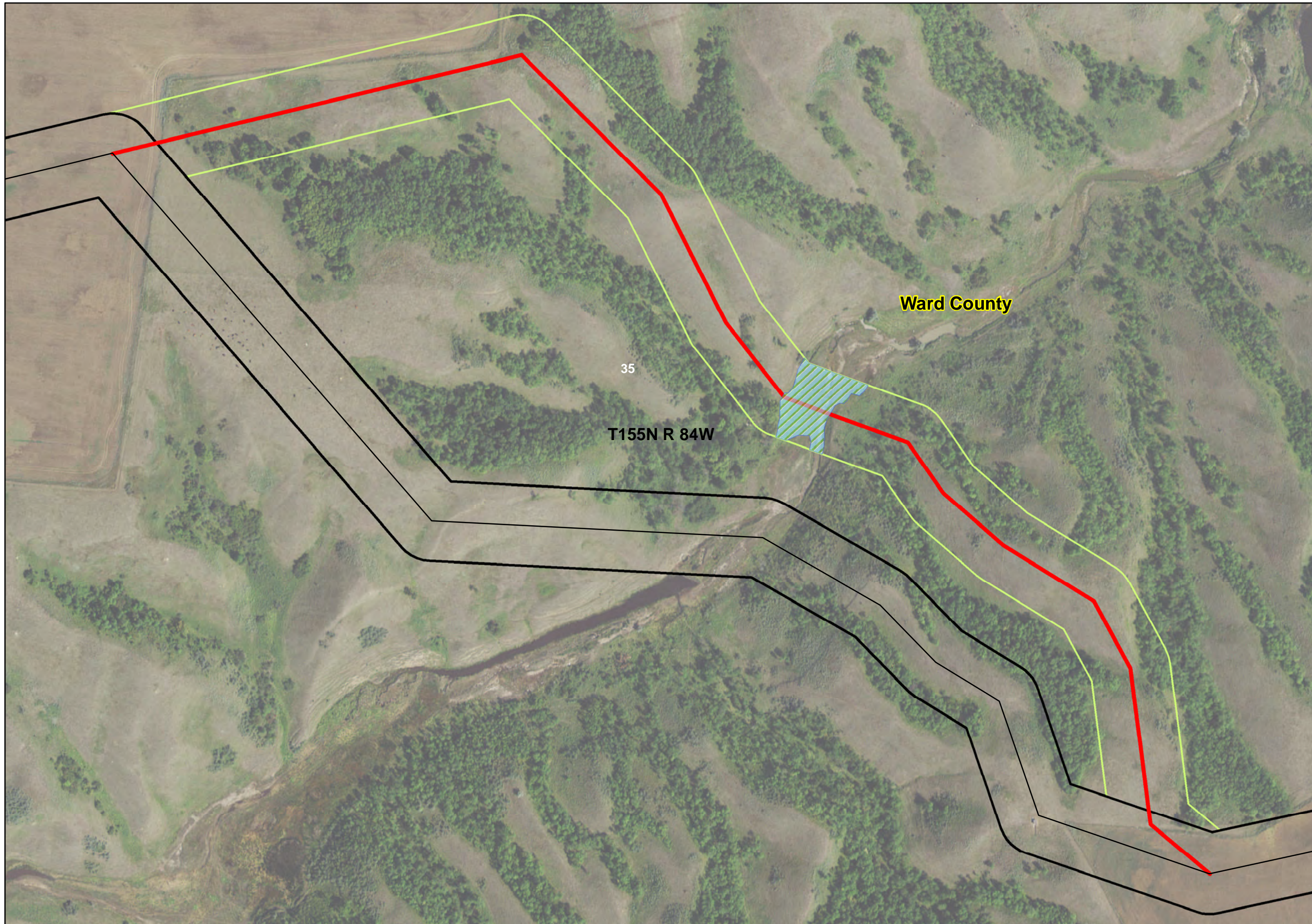
**Re-Route Length
Outside of PSC**
(June 2017): 300 FT

**Furthest Distance
to PSC (June 2017)**
ROW: 19 FT



Exclusion & Avoidance





**Cenex Pipeline, LLC
Refined Fuels Pipeline**

**Re-Route Changes
Outside of Corridor**

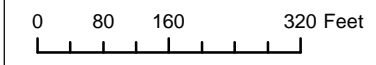


Legend

- Schools - 500' Avoidance
- Missile Site - 1200ft Exclusion
- Residential/Commercial Building - 500' Avoidance
- Potential Dakota Skipper Habitat
- Historic Landslide Areas
- Delineated Wetlands
- PSC Corridor - June 2017
- PSC Route - June 2017
- Proposed Corridor - as of April 2018 -
- Proposed Re-Routes - as of April 2018 -

**Re-Route Length
Outside of PSC**
(June 2017): 3520 FT

**Furthest Distance
to PSC (June 2017)**
ROW: 937 FT



Exclusion & Avoidance

