Cenex Pipeline, LLC.

Construction Environmental Program for

REFINED FUELS PIPELINE SIDNEY, MT TO MINOT, ND

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Chapter 1 - Introduction

Cenex Pipeline, LLC. (Cenex), a wholly-owned subsidiary of CHS Inc. (CHS) is a farmer-owned cooperative that provides member-owners and other customers with dependable supplies of quality refined fuels from CHS owned refineries. As the nation's largest cooperative refiner, CHS sells more than three billion gallons of refined fuels annually. Cenex is proposing to 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 Construction Environmental Program (CEP) outlines construction-related environmental policies, procedures, and protection measures developed by Cenex as a baseline for the Sidney, MT to Minot, ND pipeline project (Project). This CEP was developed based on Cenex's experience implementing Best Management Practices during construction as well as the Federal Energy Regulatory Commission's (FERC's) Upland Erosion Control, Revegetation, and Maintenance Plan (FERC, 2013) and Wetland and Waterbody Construction and Mitigation Procedures (May 2013 Version). It is intended to meet or exceed federal, state, tribal, and local environmental protection and erosion control requirements, specifications, and practices. The CEP is designed to address typical circumstances that may be encountered along the Project. Project-specific permit conditions and/or landowner agreements may supersede general practices described in this document.

Cenex, during the construction, operation, and maintenance of the Project, shall implement the construction, mitigation, and reclamation actions contained in this CEP to the extent that they do not conflict with the requirements of any applicable federal, state or local rules and regulations, or other permits or approvals that are applicable to the Project. Additionally, Cenex may deviate from specific requirements of this Plan on specific private lands as agreed to by landowners or as required to suit actual site conditions as determined and directed by Cenex. All work must be in compliance with local, state, and federal permits.

Chapter 2 - General Mitigation Measures

2.1. Training

Environmental compliance is facilitated through sharing of information and providing orientations/training, hiring qualified staff and providing inspection of activities through a proactive and adaptive inspection program. Cenex, the construction contractor and all subcontractors (Contractor) shall undergo prevention and response, as well as safety training. This training shall be designed to improve awareness of safety requirements, pollution control laws and procedures, and proper operation and maintenance of equipment. This training will also provide information regarding the environmental and socio-economic requirements and sensitivities regarding the Project. This training will be completed prior to arrival on the pipeline construction right-of-way (ROW), ancillary sites, or associated component sites.

Environmental training will include, at a minimum, the following:

- identification of sensitive environmental and cultural resources
- the process to follow should a sensitive resource be located and/or disturbed during construction;
- initial response should a spill of any controlled substance occur;
- the expectation that speed limits and signage, flagging and/or fences delineating the resources shall be respected at all times; and
- the established protocol for wildlife encounters.

Additional training sessions shall be held for newly assigned personnel prior to commencing work on the Project. Additional training may occur during construction as environmental issues and incidents warrant.

All visitors and any other personnel without specific work assignments shall be required to attend a safety and environmental awareness orientation.

2.2. Environmental Inspection

Environmental Inspectors (EIs) will facilitate the transfer of environmental information and information updates as well as assist the Contractor in interpreting and implementing the requirements of this CEP. It is the EIs responsibility to ensure that all undertakings and conditions of the permits/approvals are met and that work is completed in compliance with applicable federal and local regulatory requirements, Cenex's policies, procedures, industry-accepted standards, procedures and specifications. EIs will review the Project activities daily for compliance.

EIs will also manage unforeseen situations that are not directly addressed by the Project documents. Cenex will rely on the experience and judgement of the EIs, through coordination and consultations with Project management staff, to address unforeseen situations should they occur in the field. The EIs will be expected to use judgement in the field to interpret environmental conditions and requirements, but will not be authorized to make major modifications or changes without the prior written approval of Cenex. The EI will maintain appropriate records to document compliance with these and other applicable environmental permit conditions.

2.3. Identification of Avoidance Areas

The EI will provide field indication of environmental features such as waterbodies, wetlands, drainages, buffer zones, rare plant or ecological community sites, invasive species and noxious weed locations, regulated wildlife habitat, cultural resources, and erosion-prone or steep slopes.

2.4. Construction Alignment and Permits

Cenex will provide the Contractor with alignment sheets and/or other documents that provide additional background information regarding environmental requirements and special requests (i.e., topsoil segregation, restoration measures, fencing requirements, etc.) as agreed upon with landowners. The Contractor is expected to comply with these special requirements and/or permit conditions.

2.5. Access to Property and Right-of-Way

Cenex and the landowner shall reach a mutually acceptable agreement on the route that shall be utilized by the Contractor for entering and exiting the construction ROW. Additionally, the landowner or tenant shall be provided with Cenex contact information. Landowners may utilize contact information to inform Cenex of any concerns related to construction.

Three types of workspaces will be utilized with this Project. These include:

- ROW (Permanent)

  The majority of the Project route would include a 50-foot-wide permanent ROW for the pipeline with an additional 25 feet wide temporary construction easements on one side of the ROW (a total of 75 feet wide); however, in some areas (i.e. wooded draws, steep topography, or sensitive habitats) the construction ROW would be reduced. These locations will be marked in accordance with applicable permit conditions, as indicated on the construction alignment sheets/maps and/or in the field by the use of staking.

- Temporary Workspace

  In addition to the ROW, construction will require temporary workspaces. Temporary workspaces will be located adjacent to the proposed ROW and identified in project documents and/or by distinctive staking of construction limits prior to clearing.

- Additional Temporary Workspace

  Site-specific additional temporary workspace locations, will be required at select locations such as steep slopes, road, waterbody, railroad, some wetland crossings, and where it is necessary to cross under the existing pipelines or foreign utilities. A temporary workspace will typically be located in uplands adjacent to the construction ROW and set at least 50-feet back from sensitive resource boundaries where site-specific field conditions allow. However, necessary measures will be taken to first ensure safe working conditions.

Construction equipment and vehicles will be confined to the approved construction ROW and additional temporary workspace. Prior to commencement of clearing operations, Cenex will post signs, flags or other methods to identify approved access roads in the field and to ensure that access is confined to only the approved designated areas.

Vehicle tracking of soil from the construction site will be minimized by installation and implementation of best management practices (BMPs) such as tracking pads, reducing equipment/vehicle access to the construction ROW where practicable (off-ROW parking), or equivalent. Installation of tracking pads will be in accordance with applicable permits and state/federal specifications. If such BMPs are not adequately preventing sediment from being tracked onto public roads, street sweeping, or other equivalent means of collecting sediment, will be used. If soil is tracked onto a roadway, the Contractor will remove accumulated material from the road and returned to the construction ROW as soon as possible, but in no circumstances more than 24 hours after discovery. In addition, soil on roadways will not be broomed, washed, and/or graded into the road ditch or onto the shoulder.

Cenex will coordinate with managers of public lands to reduce conflicts between construction activities and recreational uses. Cenex will consult with land managers on state and federal lands regarding any necessary construction and maintenance restrictions consistent with management and use of such lands. Damages from disruption of recreational uses of private lands will be the subject of compensation negotiations with individual landowners.

2.6. Damages to Private Property

Pipeline construction activities shall be confined to the construction ROW, temporary work space, and approved access routes.

Cenex shall reasonably compensate landowners for any construction-related damages caused by Cenex which occur on or off of the established pipeline construction ROW.

2.7. Appearance of Worksite

The construction ROW shall be maintained in a clean, neat condition at all times. At no time shall litter be allowed to accumulate at any location on the construction ROW. The Contractor shall ensure the construction site is left in a tidy and organized condition at the end of each day.

The Contractor shall provide a daily garbage detail with each construction crew to keep the construction ROW clear of trash, pipe banding and spacers, waste from coating products, welding rods, timber skids, defective materials and all construction and other debris immediately behind construction operations unless otherwise approved by Cenex. Paper from wrapping or coating products or lightweight items shall not be permitted to be scattered by the wind.

The traveled surfaces of roads, streets, highways, etc. (and railroads when applicable) shall be cleaned free of mud, dirt, or any debris deposited by equipment traversing these roads or exiting from the construction ROW.

2.8. Adverse Weather

During construction, certain activities may be suspended in wet soil conditions, based on consideration of the following factors:

- extent of surface ponding;
- extent and depth of rutting and mixing of soil horizons;
- areal extent and location of potential rutting and compaction (i.e., can traffic be rerouted around wet area); and
- type of equipment and nature of the construction operations proposed for that day.

The Contractor, in collaboration with Cenex management and the EI, will ultimately decide if wet weather shutdown is necessary in a given location.

The Contractor shall restrict certain construction activities and work in cultivated agricultural areas in excessively wet soil conditions to minimize rutting and soil compaction. In determining when or where construction activities should be restricted or suspended during wet conditions, the Contractor shall consider the following factors:

- the extent that rutting may cause mixing of topsoil with subsoil layers;
- excessive buildup of mud on tires and cleats;
- excessive ponding of water at the soil surface; and
- the potential for excessive soil compaction.

2.9. Dust Control and Suppression

The Contractor shall at all time control airborne dust levels during construction activities, especially in areas where the work approaches dwellings, farm buildings, and other areas occupied by people and when the pipeline parallels an existing road or highway. This shall also apply to access roads where dust raised by construction vehicles may irritate or inconvenience local residents. The speed of all Contractor vehicles shall be controlled in these areas. Emissions from construction equipment combustion, open burning, and temporary fuel transfer systems and associated tanks will be controlled to the extent required by state and local agencies through the permit process. The Contractor shall employ water trucks, sprinklers or other approved dust suppression methods as necessary to reduce dust to acceptable levels.

Additional measures may be required by state regulations or local ordinances. The Contractor will comply with all applicable state regulations and local ordinances with respect to truck transportation and fugitive dust emissions.

2.10. Fire Prevention and Control

The Contractor shall comply with all federal, state, county and local fire regulations pertaining to burning permits and the prevention of uncontrolled fires. The following mitigative measures shall be implemented to prevent fire hazards and control of fires:

- A list of relevant fire authorities shall be maintained on site by construction personnel.
- The Contractor shall supply and maintain an adequate supply of fire extinguishers for each crew engaged in potentially combustible work such as welding, cutting, and grinding.
- In the event of a fire, the Contractor shall notify local emergency personnel and if able use resources necessary to contain the fire.
- Flammable wastes shall be removed from the construction site on a regular basis.
- Flammable materials kept on the construction site must be stored in approved containers away from ignition sources.
- Smoking shall be prohibited around flammable materials.

2.11. Aboveground Facilities

Aboveground locations shall be selected in a manner to be as unobtrusive as reasonably possible to agricultural or other landowner activities occurring on lands adjacent to the facilities. If it is not feasible, to avoid interference, such activities shall be located so as to incur the least hindrance to the adjacent agricultural operations (i.e., located in field corners or areas where at least one side is not used for cropping purposes) provided the location is consistent with the design constraints of the pipeline.

Aboveground facilities shall avoid floodplains and wetlands to the maximum extent possible. To further reduce visual impacts from aboveground pipeline facilities and structures, Cenex will comply with standard industry painting practices with respect to aboveground facilities. Cenex will address any visual aesthetics issues with landowners in individual consultations.

2.12. Noxious Weed, Invasive Species and Crop Disease Management

Management of noxious weeds, invasive species and crop diseases is essential for the successful reclamation of disturbed areas. Cenex and their Contractors intend to minimize the potential introduction and/or spread of undesirable species along the construction ROW. However, it is not practicable for Cenex to eradicate undesirable species that are adjacent to the construction ROW. **Table 1** depicts the Noxious and Invasive Weeds that may be encountered by Contractors during construction.

Table 1, Noxious and Invasive Weeds

Common Name	Scientific Name	Mountrail	Williams	Ward
Absinth Wormwood	*Artemisia absinthium*	X	X	X
Canada Thistle	*Cirsium arvense*	X	X	X
Common Tansy	*Tanacetum vulgare*	X		
Dalmatian Toadflax	*Linaria genistifolia*	X	X	X
Diffuse Knapweed	*Centaurea diffusa*	X	X	X
False chamomile	*Matricaria chamomilla L.* *Matricaria maritima L.*			X
Houndstongue	*Cynoglossum officinale*	X		X
Leafy Spurge	*Euphorbia esula*	X	X	X
Musk Thistle	*Carduus nutans*	X	X	X
Palmer amaranth				X
Purple Loosestrife	*Lythrum salicaria*	X	X	X
Russian Knapweed	*Acroptilon repens*	X	X	X
Saltcedar	*Tamarix chinensis* *T. parviflora* *T. ramosissima*	X	X	X
Spotted Knapweed	*Centaurea maculosa*	X	X	X
Yellow Toadflax	*Linaria vulgaris*	X	X	X

Source: North Dakota Department of Agriculture

2.12.1. Prevention and Control Measures

To prevent the introduction of the noxious weeds and invasive species identified into the construction ROW from other construction sites, the following prevention and control measures will be utilized.

The Contractor will thoroughly clean all construction equipment prior to moving the equipment to the job site to limit the potential for the spread of noxious weeds, insects, and soil-borne pests. The equipment will be cleaned with shovels/scrapers for large dirt clumps and high-pressure washing equipment and compressed air to remove dust and vegetative debris.

Equipment designated for use within waterbodies and wetlands will be washed and dried prior to use. Additionally, all pumps will be purged and cleaned before proceeding from one location to the next.

Contractors will keep a log documenting the cleaning history of equipment utilized for the Project. An example Equipment Log can be found in **Appendix A**. An equivalent form may be used in lieu of this form if approved by Cenex. Cenex and the EI may request copies of the equipment log at any time. Equipment found to be non-compliant will not be allowed to return to the Project until it has been adequately cleaned.

In areas of isolated weed populations, the Contractor shall strip topsoil from the full width of the construction ROW and store the topsoil separately from other topsoil and subsoil.

Major infestations of noxious weeds may be treated with recommended and approved herbicides or their equivalents as identified through consultation with local authorities and Cenex prior to clearing and grading of the construction ROW. Treatment may be restricted in areas that are not readily accessible, such as areas where access is limited by topography or other site conditions such as saturated/inundated soils. In the event that an area is determined to be inaccessible, the EI will be notified and a site-specific alternative treatment method will be developed.

Alternatively, topsoil segregation may be implemented for weed control to allow equipment to work through the area after topsoil has been stripped, as long as equipment stays on the subsoil (clearing, grading, and restoration equipment will still be cleaned).

The Contractor will obtain necessary permits and/or certifications for the use of the applicable herbicides and will comply with state laws regarding the use of said herbicides. It is the contractor's responsibility to limit overspray. The Contractor will also keep proper documentation of the locations where the herbicides have been used and provide such documentation to the EI and Cenex within three days of completing the work. Weed control spraying will be restricted near certified organic farms and prohibited on certified organic farms. The Contractor shall not use herbicides in or within 100 feet of a wetland or waterbody.

To prevent the spread of noxious weeds and invasive species during construction, mulch used in the construction ROW will be composed of weed-free material. Certified weed-free mulch may also be required at site-specific locations. The Contractor(s) will be responsible for identifying and acquiring sources of weed-free and certified weed-free mulch. Sources will be approved by Cenex prior to purchase.

If additional noxious weed infestations are identified subsequent to herbicide applications, mechanical means (scrape down/blow down) may be used to remove weeds from tracked equipment prior to leaving the infested area. High pressure water wash stations may be established in select areas as needed. As stated above, the Contractor will keep logs documenting the cleaning history of each piece of equipment and make the logs available to the EI and Cenex personnel.

2.13. Potholing/Hydrovac Excavation

Hydrovac excavation utilizes pressurized water and a vacuum system to positively identify pipelines and other buried utilities. In upland areas, the Contractor will construct an unlined, bermed, containment area or comparable containment such as an open topped tank or other containment vessel to hold the hydrovac slurry. Hydrovac excavation operations will occur in Cenex and landowner approved areas within the construction workspace. All waste material associated with hydrovac excavation will be disposed of appropriately. Drained and dry slurry may be incorporated with in the subsoil. However, discharging hydrovac slurry on top of topsoil is not permitted as the material will degrade the quality of the topsoil and may affect revegetation.

2.14. Upland Brush, Tree and Herbaceous Vegetation Clearing

Upland clearing includes the removal of brush, trees, and tall herbaceous vegetation within the Construction ROW. Cenex will address mitigation, reclamation and remediation measures with individual

landowners and comply with any applicable state requirements. Measures may include non-vegetative remediation to reverse impacts on wind breaks, shelterbelts, and living snow fences. Where the pipeline intercepts existing tree stands, Cenex will attempt to route the pipeline as close as practicable to any existing disturbances or ROW. Clearing may be accomplished with chain saws, mowers, and hydraulic tree-cutting equipment. All work will be conducted in accordance with applicable permits.

Non-merchantable timber and slash will be disposed of by mowing, chipping, grinding, and/or hauling off site to an approved disposal location or used in stabilizing erodible slopes or construction entrances unless otherwise directed by Cenex. In non-agricultural, non-wetland areas, chips, mulch, or mechanically cut woody debris may be uniformly broadcast across the ROW where the material would ultimately be incorporated into the topsoil layer during grading activities. This activity would need landowner approval coordinated through ROW agents.

If merchantable wood is removed from the construction ROW, Cenex shall consult with the landowner to determine if said trees are of commercial or other value to the landowner. Timber shall be salvaged as per the landowner request.

Tree stumps shall be grubbed to a maximum of 5 feet on either side of a trench line and where necessary for grading a level surface for pipeline construction equipment to operate safely. Stumps will be ground below normal ground level or completely removed and hauled off to an approved location.

2.15. Temporary Erosion and Sediment Controls

Temporary erosion and sediment control measures shall be installed immediately after initial disturbance of the soil, maintained throughout construction, and re-installed as necessary until replaced by permanent erosion control measures or restoration of the construction ROW is complete. Erosion and sediment controls include, but are not limited to, permanent berms, diversion dikes, and slope breakers. Specifications and configurations for erosion and sediment control measures may be modified by Cenex as necessary to suit actual site conditions. However, all work shall be conducted in accordance with applicable permits.

The contractor and EIs shall inspect all temporary erosion control measures at least daily in areas of active construction or equipment operation, and within 24 hours of each significant rainfall event of 0.25 inches or greater per 24-hour period. The Contractor will maintain erosion and sediment control structures as required in Project construction documents and as required by all applicable permits.

The Contractor shall repair all ineffective temporary erosion control measures within 24-hours after discovery, or as otherwise specified in the Project permits.

2.15.1. Sediment Barriers

Sediment barriers include silt fence, fiber rolls (straw wattles), straw bale barrier or other appropriate materials.

The Contractor shall install sediment barriers in accordance with the details noted in **Appendix B** and the North Dakota Stormwater Pollution Prevention Plan or as otherwise directed by Cenex. The Contractor is responsible for properly installing, maintaining, and replacing temporary and permanent erosion controls throughout construction and cleanup. In riparian or wetland areas, the Contractor will install sediment control structures along the construction ROW edges prior to vegetation removal where practicable. The aforementioned sediment barriers may be used interchangeably or together depending on site-specific conditions. In most cases, silt fence will be utilized where longer sediment barriers are required.

Sediment barriers will be installed below disturbed areas where there is a hazard of offsite sedimentation. These areas include:

- the base of slopes adjacent to road crossings;
- the edge of the construction ROW adjacent to and up gradient of a roadway, flowing stream, spring, wetland, or impoundment;
- trench or test water discharge locations where required;
- at locations where waterbodies or wetlands are adjacent to the construction ROW;
- across the entire construction ROW at flowing waterbody crossings;
- along the ROW immediately upslope of wetland boundary crossings as necessary to prevent sediment flow into the wetland;
- along the edge of the construction ROW within wetland boundaries as necessary to contain spoil and sediment within the construction ROW.

Sediment barriers placed at the toe of a slope shall be set a sufficient distance from the toe of the slope if possible to increase ponding volume. Sediment control barriers shall be placed so as not to hinder construction operations. If silt fence or straw bale sediment barriers are needed across the entire construction ROW at waterbodies, wetlands, or upslope of roads, a gap in the sediment barrier to allow for the safe passage of equipment and vehicle may be utilized. Immediately following each day's shutdown of construction activities, a temporary sediment control barrier shall be placed across the up gradient side of the gap with sufficient overlap at each end to eliminate sediment bypass flow. Following completion of the equipment crossing, the gap shall be closed using silt fence or straw bale sediment barrier.

The Contractor shall maintain straw bale and silt fence sediment barriers by removing collected sediment and replacing damaged bales. Sediment shall be removed and placed where it shall not re-enter the barrier. If straw bale filters cannot be cleaned out due to access problems, the Contractor shall place a new row of sediment barriers upslope.

The Contractor shall use mulch and straw bales that are free of noxious weeds. Mulch or straw bales that contain evidence of noxious weeds or other undesirable species shall be rejected.

The Contractor shall remove sediment barriers, except those needed for permanent erosion and sediment control, during cleanup of the construction ROW.

2.15.2. Temporary Mulch, Cover Crops and Tackifier

Temporary seed and/or mulch may be installed on disturbed construction work areas that are expected to be inactive for long periods of time as directed by Cenex. The Contractor may be required to install temporary stabilization materials sooner dependent on site conditions, or as required in Project permits.

Straw mulch may be applied to disturbed areas if requested by the landowner or land managing agency, if specified by the applicable permits or licenses, or as required by Cenex. Temporary mulch cannot be applied in areas particularly prone to erosion or within wetland boundaries or cultivated lands. Additionally, it is not recommended that mulch is utilized on slopes greater than 5 percent nor on dry, sand areas in which it can blow or wash away.

Per state laws, mulch will be free of noxious weeds. Certified weed-free mulch may also be required at site-specific locations. The Contractor will be responsible for identifying and acquiring sources of weed-free and certified weed-free mulch. Sources must be approved by Cenex prior to purchase.

Temporary mulch of straw or equivalent applied on slopes shall be spread uniformly to cover at least 75 percent of the ground surface at an approximate rate of 2 tons per acre of straw or its equivalent. Mulch application on slopes within 100 feet of waterbodies and wetlands shall be increased to an approximate rate of 3 tons per acre.

Mulch will be distributed by a mechanical mulch blower, or by hand in areas not accessible to the mulch blower. Mulch will be anchored/crimped using a mulch-anchoring tool or disc set in the straight position to minimize loss by wind and water, as site conditions allow.

Mulch will be applied at a rate of 2 tons per acre to cover at least 75 percent of the ground surface unless otherwise stipulated by permit conditions. Mulch will be uniformly distributed by a mechanical mulch blower, or by hand in areas not accessible to the mulch blower. Mulch will be anchored/crimped using a mulch-anchoring tool or disc set in the straight position to minimize loss by wind and water, as site conditions allow. In areas not accessible to a mulch-anchoring tool or too steep for safe operation, the mulch may be anchored by liquid tackifiers, with advance written approval from Cenex. The manufacturer's recommended method and rate of application will be followed.

Hydro-mulch and liquid tackifier may be utilized in place of straw mulch with prior approval from Cenex. Tackifier may also be utilized to stabilize stockpiles, when wetting with water does not prevent wind erosion. All hydro-mulch and liquid tackifier products used will be listed on the NDDOT product list. Application rates will be at the manufacturer's recommended rate. Should construction traffic, cattle grazing, heavy rains, or other related construction activity disturb hydro-mulch or tackifier and create a potential for wind erosion, an additional application shall by applied by the Contractor.

All seed that is used as a temporary cover crop will be approved Cenex.

2.15.3. Erosion Control Blankets

Erosion control blankets will be installed in accordance with manufacture recommendations and/or state Department of Transportation (DOT) specifications on slopes between 5 and 40 percent that would be exposed over the winter and drain to surface waters. Please refer to **Appendix B**.

The Contractor will attempt to install erosion control blankets on all exposed slopes prior to snowfall; however, construction progress and/or seasonal weather variations may prevent installation prior to the first snowfall. Installation of erosion control blankets and additional BMPs is required after the first snowfall to protect slopes prior to spring melt and runoff.

Erosion control blankets will be installed running parallel (up and down) with the direction of the slope (not perpendicular).

2.15.4. Slope Roughening

Horizontal slope grading, also known as cat tracking or slope roughening is achieved by driving a bulldozer vertically up and down the slope resulting in horizontal grooves, depressions, or steps running parallel to the slope contour over the face of the bare slope. This method reduces the speed of runoff and aides in re-establishing vegetative cover.

2.15.5. Water Bars

Temporary water bars (slope breakers) may be installed by the Contractor to minimize concentrated or sheet flow runoff in disturbed areas. These water bars will be installed in accordance with the allowable spacing noted in **Table 2** unless otherwise specified in permit conditions.

Table 2, Water Bar Spacing

Slope (%)	**Approximate Spacing (ft)**
5-15	300
15-30	200
>30	100

Temporary slope breakers may be constructed using earthen subsoil material, silt fence, straw bales, or rocked trenches at a gradient of 2 to 4 percent. It is anticipated temporary slope breakers will be constructed according to the specifications found in **Appendix B**. However, specifications and configurations may be modified as necessary to suit actual site conditions that will remain in accordance with applicable permits.

2.16. Upland Topsoil Segregation

Upland areas include cropland, hayfields, pasture, residential areas, and other areas. In these areas topsoil will be stripped a maximum depth of 12 inches, unless otherwise specified in the Plan Sheets,

commitments and/or permits and segregated. In areas where less than 12 inches of topsoil are present, the Contractor will attempt to segregate the topsoil to the maximum extent practicable.

Two techniques of topsoil segregation will be utilized throughout the Project. They are as follows:

- Modified Ditch-Plus-Spoil. A Modified Ditch-Plus-Spoil segregation technique will typically be used in active cropland areas. This technique consists of stripping topsoil from the spoil storage area, ditch line, and the primary travel lane.
- Trench-Line-Only. The Trench-Line-Only segregation technique is used in areas where there is a thick sod layer such as hay fields, pastures, golf courses and residential areas. This technique is typically used in areas where the width of the Construction ROW is insufficient for the Modified Ditch-Plus-Spoil method to be used.

Alternative topsoil segregation methods may be used on a site-specific basis or as requested by the landowner. Wetlands typically are not reseeded as the regenerate naturally. Wetland seeding and methods will be determined in the field.

When stockpiling topsoil and spoil piles in areas that convey water (ditches, swales, waterways, etc.) gaps will be left between the piles to maintain the natural drainage.

Topsoil will not be utilized to construct berms, trench breakers, temporary slope breakers, improving or maintaining roads, or to pad the pipe. Berms used for stacking pipe in pipe yards may be constructed using topsoil if landowner permission and necessary approvals are obtained.

2.17. Upland Trenching

Upland trenching is typically accomplished by a backhoe excavator or a rotary wheel ditching machine. Excavated material will be stockpiled within the approved Construction ROW separate from topsoil, and stored to minimize erosion. Cenex will coordinate with landowners to minimize disruption of access by constructing temporary access bridges or leave subsoil plugs such that livestock, equipment and wildlife are able to move across the trench. Spacing of plugs and ramps will be determined in the field.

Unless otherwise specified by Project permits or Cenex, the Contractor will limit the amount of excavated open trench to a maximum of three days of anticipated welding production per spread, per pipe. This timeframe may be decreased at the discretion of Cenex based on site conditions. Site-specific activities such as horizontal directional drilling, guided bores, road bores, tie-in points, and valve work will not be subject to the three-day rule. Standard excavation depths are found in **Table 3**. Depth of cover requirements may be modified by Cenex based on site-specific conditions. However, all depths shall be in compliance with applicable regulations.

Table 3, Pipeline Excavation Depths

Location	Normal Excavation (inches)	Rock Excavation (inches)
Most areas	48	48
All waterbodies	60	48
Dry creeks, ditches, washes, gullies, etc.	60	48
Drainage ditches at public roads and railroads	60	48

The pipeline will be installed such that the top of the pipe is a minimum of five feet below the floor of any waterbodies including rivers, creeks, streams, ditches, and drains.

2.18. Drain Tile Inlet Protection

An attempt will be made to locate existing drain tile inlets located in or near the Construction ROW prior to construction. Drain tile inlets will be flagged and denoted on Construction plans. The Contractor will protect located drain tiles using appropriate sediment controls until sources with potential to discharge have been stabilized. The determination on BMPs will be based upon the location of the inlet and dependent on site conditions such as topography, vegetation, soils, etc.

If pipeline construction damages underground drainage tile, it will be repaired in a manner that assures proper tile line operation at the point of repair.

2.19. Upland Backfilling

Backfilling consists of replacing material excavated from the trench following pipe installation. Subsoil will be placed first over the pipe with topsoil spread uniformly over the area in which it was removed. Prior to backfilling, the trench will be dewatered in accordance with the methods discussed in **Chapter 6.0** if water obscures the trench bottom.

2.20. Cleanup and Rough/Final Grading

The Contractor will begin cleanup and rough grading (including installation of temporary erosion and sediment control measures) within 72 hours after backfilling the trench. Cleanup involves removing construction debris including litter generated by construction crews, excess rock, and woody debris and installing temporary erosion control measures. The Contractor will attempt to complete this rough cleanup within one week.

The Contractor will initiate final grading, topsoil replacement, repairing/replacing fences, and installation of permanent erosion control structures within 14 days of backfilling the trench. Final grading includes restoring disturbed areas as close as practicable to pre-existing conditions. Seeding will occur as soon as practicably, but typically in the fall.

If seasonal or other weather conditions prevent compliance with these timeframes, temporary erosion controls will be maintained until conditions allow completion of cleanup.

All waste materials, including litter generated by construction crews, will be disposed of daily by the Contractor.

2.21. Permanent Erosion and Sediment Control

During final grading, permanent berms such as diversion dikes or slope breakers may be utilized to help slow drainage and promote stabilization. Diversion dikes or slope breakers will be constructed of compacted earth, stone, or functional equivalent as approved by Cenex. Maximum spacing requirements (unless otherwise specified in permit conditions are included below in **Table 4**. Erosion control blankets will be used in conjunction with permanent berms. No erosion control structures will be utilized on cropland.

Table 4, Maximum Spacing Requirements

Slope (%)	Approximate Spacing (ft)
5-15	300
15-30	200
>30	100

2.22. Noise

The Contractor shall minimize noise during non-daylight hours and within one-mile of residences or other noise-sensitive areas. Cenex shall abide by all applicable noise regulations regarding noise near residential and commercial/industrial areas. The Contractor shall provide notice to Cenex if noise levels are expected to exceed standards for a short duration. Cenex will provide advanced notice to landowners within 500 feet of ROW prior to construction, limit the hours during which construction activities with high-decibel noise levels are conducted, coordinate work schedules, and ensure that construction proceeds quickly through such areas.

2.23. Soil Compaction Treatment

Cultivated fields and compacted or depressed areas will be tilled prior to topsoil replacement with a deep tillage device or chisel plowed to loosen compacted subsoils. If subsequent construction and cleanup activities result in further compaction, additional measures will be undertaken to alleviate the soil compaction.

2.24. Rock Removal

Rocks exposed at the surface or found within the upper eight inches of subsoil will be removed from the ROW prior to and after topsoil replacement in compliance with applicable permits, contracts, or landowner agreements. This effort will result in quantity, size and distribution of rocks similar to pre-

disturbance conditions. Rock picking operations will cease when the size and density of rocks within the ROW are similar to undisturbed adjacent areas.

Clearing of rocks may be accomplished by utilizing a mechanical rock picker or by manual means provided the topsoil is preserved. Rock removed from the ROW will be hauled to an agreed upon location on the landowner's premises or disposed of at an approved location.

2.25. Post Construction Repairs

Following the completion of the pipeline, the construction ROW will be restored as closely to its pre-construction conditions as practical. Should uneven settling or documented surface drainage problems occur following the completion of pipeline construction and restoration, Cenex will take appropriate steps to remedy the issue.

Chapter 3 - Stream & River Crossing General Requirements

This chapter applies to areas delineated as a jurisdictional (natural or artificial) stream, river, or drainage as well as permanent water bodies such as ponds and lakes.

- Minor Waterbody includes all waterbodies less than or equal to 10 feet wide at the water's edge at the time of construction.
- Intermediate Waterbody includes all waterbodies greater than 10 feet wide but less than or equal to 100 feet wide at the water's edge at the time of construction.
- Major Waterbody includes all waterbodies greater than 100 feet wide at the water's edge at the time of construction.

Stream crossing requirements, including construction methods, timing, erosion control, and restoration are described in this chapter as well as in the stream crossing permits issued by state and federal agencies. If the Contractor considers certain parts of these procedures to be technically impractical due to site-specific engineering constraints, they may submit a request to Cenex for approval of alternative measures that would provide an equal or greater level of protection to stream and river ecosystems. Cenex will review the Contractor's alternatives and consult with appropriate regulatory agencies. The Contractor will receive written approval from Cenex prior to implementing the alternatives. During wet and high runoff conditions, the EI in coordination with Cenex will determine whether conditions warrant additional considerations for construction activities.

3.1. Construction Timing

Work in waterways will be conducted during periods permitted by applicable regulatory agencies and permits. In-stream work activities will be minimized to the maximum extent practicable. Unless otherwise specified, in-stream construction activities (regardless of flow) will occur within the following timeframes:

- Minor waterbodies:24 hours
- Intermediate waterbodies: 48 hours
- Major waterbodies: As specified in applicable permits.

Exceptions to these timeframes include activities such as blasting and rock breaking. Timeframes can be extended with approval from Cenex and the EI.

Stream crossings will be designed as close to perpendicular to the axis of the stream channel as engineering and routing constraints allow, creating the shortest crossing length.

At points where discharges of stormwater may impact waters designated under Section 303(d) of the Clean Water Act as Impaired Waters, additional BMPs will be implemented as specified in the applicable Project permits.

3.2. Temporary Workspace

Temporary workspaces will be located adjacent to the proposed ROW and will be identified on the construction documents. These workspaces are typically used to assemble pipe or for temporary spoil storage.

Temporary workspaces will be located a minimum of 50 away from the ordinary high water mark or ordinary high water level. If safe work practices or site conditions do not allow for a 50-foot setback, a temporary workspace should be located no closer than 20 feet from the ordinary high water mark or ordinary high water level, subject to approval by Cenex. A temporary workspace will be limited to the minimum size needed to construct the stream crossing.

3.3. Bridges

Temporary equipment bridges will be used, upon approval, on most waterways including ditches and intermittent streams, where there is a potential for stormwater runoff or rain events to transport sediment downstream. Bridges will be constructed as described below and will be removed as soon as possible during final restoration. Bridges will not typically be installed at directionally drilled waterbodies, unless there is no reasonable alternative that provides an efficient, economical way to transport heavy construction equipment around the waterbody by truck.

With the exception of clearing-related equipment, fording of waterways is prohibited. Clearing equipment and equipment necessary for installation of equipment bridges will be allowed a single pass across waterbodies prior to bridge installation, unless restricted by applicable permits.

3.3.1. Types of Bridges

Equipment bridges will be constructed using one of the following techniques:

- Typical Span Type Bridge
- Rock Flume
- Railroad flat cars
- Flexi-float or other pre-fabricated portable bridges
- Other methods as approved by Cenex and appropriate agencies

3.3.2. Bridge Design and Maintenance

Bridges will be designed to run perpendicular to the axis of the stream channel, thus creating the shortest crossing length and will be built and maintained in accordance with applicable permits. Equipment bridges will be designed to withstand the maximum foreseeable flow of the stream with headers and support structures being placed above the ordinary high water mark of the feature. Local jurisdictions may require stricter guidelines associated with bridge placement. Bridges will not restrict flow or pool water while the

bridge is in place, and will be constructed with clean materials. Bridges will be designed and maintained to prevent soil from entering the waterbody. Soil that accumulates on the bridge decking will be removed as needed, or as deemed necessary by the EI.

3.4. Stream and River Crossing Construction Methods

Construction methods pertinent to waterbody crossings are discussed in the following chapter. Selection of the most appropriate method at each crossing shall be depicted in the project documents but may be amended or changed based on site specific conditions (i.e. environmental sensitivity of the water body, depth, rate of flow, subsurface soil conditions, and expected time and durations of construction) at the time of crossing.

In conjunction with the United States Army Corps of Engineers (USACE) and other appropriate agencies, Cenex will develop specific crossing plans for major water bodies that contain recreationally or commercially important fisheries, or are classified as special use. Cenex will consult with state fisheries and agencies with respect to applicable construction windows for each crossing and develop specific construction and crossing methods for open cuts.

3.4.1. Wet Trench Method

The wet trench method utilizes equipment to trench inside of a waterbody. This method will be used to cross streams and rivers not permitted to be flumed, dam and pumped, or directionally drilled.

3.4.1.1. Installation

The following procedures will be used during wet trench crossings:

- Install spoil containment structures to eliminate migration into the waterbody.
- Direct grading away from the waterbody to minimize sedimentation. Grading of stream banks will be restricted to the trench line and areas necessary for safe bridge installation.
- After grading, utilize backhoes or draglines to excavate the trench. Where possible, excavating equipment will operate from one or both banks, without entering the stream. If equipment must encroach into the stream, it will operate on clean construction mats. Streambed material will be segregated (e.g., upper one foot and the remaining trench spoil will be stored separately) and placed within a spoil containment structure. Storage of streambed spoil within the stream will only be allowed if expressly approved in the applicable permits.
- Earthen trench plugs (hard plugs) between the stream and the upland trench will be left undisturbed during excavation to prevent diversion of the stream flow into the open trench and prevent accumulated water in the adjacent upland trench from entering the waterbody. Trench plugs will be removed immediately prior to pipe placement, and then replaced after installation. Water accumulated upslope of trench plugs will be dewatered prior to trench plug removal.
- Water within the trench will be managed in accordance with **Chapter 6.0.**

- Backfilling will begin after the pipe is installed. Backfill material will consist of the spoil material excavated from the trench and parent streambed unless otherwise specified in state or federal permits. The in-stream trench will be backfilled so that the stream floor is as near as practicable to its pre-construction condition, with no impediments to normal water flow.

3.4.1.2. Temporary Stabilization

The Contractor will restore the stream banks as near as practicable to pre-construction conditions unless the bank slope is determined to be unstable. If Cenex determines the slope is unstable, the Contractor will reshape the banks to prevent slumping. Once the banks have been reshaped, BMPs will be installed within 24 hours of backfilling the crossing.

A temporary seed mix and mulch and/or erosion control blankets will be installed within a 50-foot buffer on either side of the stream, with exception to actively cultivated land. Silt fence or functional equivalent as approved in advance by Cenex will be installed upslope of the temporary seeding area.

3.4.2. Dam and Pump Method

The dam and pump method is a dry crossing technique that is suitable for low flow streams and is generally preferred for crossing meandering channels. This technique is used in areas where pumps can adequately transfer streamflow volumes around the work area and there are no concerns regarding the passage of sensitive species.

3.4.2.1. Installation

The dam and pump method involves damming of the stream upstream and downstream of the proposed trench before excavation and pumping water around the construction area. The following procedures will be used for dam and pump crossings:

- Dams may be constructed of sandbags, inflatable dams, aqua-dams, sheet piling, and/or steel plates and will be capable of preventing the stream from flowing in the construction area. Dams will be continuously monitored for a proper seal. Additional sandbags, plastic sheeting, steel plating, or similar materials will be used where necessary to minimize water seeping around the dams and into the construction work area. Dams will not be removed until after the pipeline has been installed, the trench backfilled, and the banks stabilized.
- Pumping of the stream across the ROW will commence simultaneously with dam construction to prevent interruption of downstream flow. Stream flow will be pumped across the construction area through a hose and discharged to an energy dissipation device to prevent scouring of the streambed.
- Pumps and fuel containers will be located on the upstream side of the crossing and will be placed in impermeable, sided structures which will act as containment units. Pumps utilized will not be placed directly in the stream or near the streambed. Pumps will have a capacity greater than the anticipated stream flow. Pump stations will be staffed 24 hours a day. Pumping will be monitored and adjusted as necessary to maintain an even flow of water

across the work area and near-normal water levels upstream and downstream from the crossing.

- The pump intake will be suspended to prevent sediment from being sucked from the bottom of the stream and will be equipped with a screen, or equivalent device.
- Where possible, excavating equipment will operate from one or both banks, without entering the stream. If equipment must encroach into the stream, it will operate on clean construction mats. Streambed material will be segregated as stated in the wet trench method and will be placed within a spoil containment structure. Storage of streambed spoil within the stream will only be allowed if expressly approved in the applicable permits.
- Earthen trench plugs (hard plugs) between the stream and the upland trench will be left undisturbed during excavation to prevent diversion of the stream flow into the open trench and prevent accumulated water in the adjacent upland trench from entering the waterbody. Trench plugs will be removed immediately prior to pipe placement, and then replaced after installation. Water accumulated upslope of trench plugs will be dewatered prior to trench plug removal.
- Standing water isolated by the dams will be managed in accordance with **Chapter 6.0.**
- Backfilling will begin after the pipe is installed. Backfill material will consist of the spoil material excavated from the trench and parent streambed unless otherwise specified in state or federal permits. The in-stream trench will be backfilled so that the stream floor is as near as practicable to its pre-construction condition, with no impediments to normal water flow.

3.4.2.2. Temporary Stabilization

Restoration of the stream banks and the installation of temporary erosion controls will be similar to that described for the wet trench method but will occur immediately following installation of the pipeline. Once the stream banks have been stabilized, the dams and pump will be removed.

3.4.3. Flume Method

The flume method is a dry crossing technique that is suitable for crossing relatively narrow streams that have straight channels and are relatively free of large rocks and bedrock at the point of crossing. This method involves placement of flume pipe(s) in the stream bed to convey stream flow across the construction area without introducing sediment to the water.

3.4.3.1. Installation

The procedures for using the flume method are described below.

- The flume(s) will be of sufficient diameter to transport the maximum flows generated from the watershed. The flume(s), typically 40 to 60 feet in length, will be installed prior to trenching and aligned so as not to impound water upstream of the flume(s) or cause downstream bank erosion. Flumes will not be removed until after the pipeline has been installed, trench backfilled, and the stream banks stabilized.

- The upstream and downstream ends of the flume(s) will be incorporated into dams made of sand bags and plastic sheeting (or equivalent). The upstream dam will be constructed first and will funnel stream flow into the flume(s). The downstream dam will prevent backwash into the trench and construction work area. The dams will be continuously monitored for a proper seal. Adjustments to the dams will be made where necessary to prevent large volumes of water from seeping into the trench and construction work area.
- Where possible, excavating equipment will operate from one or both banks, without entering the stream. If equipment must encroach into the stream, it will operate on clean construction mats. Streambed material will be segregated as stated in the wet trench method and will be placed within a spoil containment structure. Storage of streambed spoil within the stream will only be allowed if approved in the applicable permits.
- Earthen trench plugs (hard plugs) between the stream and the upland trench will be left undisturbed during excavation to prevent diversion of the stream flow into the open trench and prevent accumulated water in the adjacent upland trench from entering the waterbody. Trench plugs will be removed immediately prior to pipe placement, and then replaced after installation. Water accumulated upslope of trench plugs will be dewatered prior to trench plug removal.
- Any additional trench dewatering discharges will be managed in accordance with Chapter 6.0
- Backfilling will begin after the pipe is installed. Backfill material will consist of the spoil material excavated from the trench and parent streambed unless otherwise specified in state or federal permits. The in-stream trench will be backfilled so that the stream floor is as near as practicable to its pre-construction condition, with no impediments to normal water flow.

3.4.3.2. Temporary Stabilization

Restoration of the ROW and the installation of temporary erosion controls will be similar to that described above but will occur immediately following installation of the pipeline. After the stream banks have been stabilized, the dams and flume will be removed from the stream bed allowing water to resume its natural flow.

3.4.4. Directional Drill and/or Guided Bore Method

Directional drilling is a steerable trenchless method of installing underground pipe along a prescribed bore path by using a surface-launched drilling unit, with minimal impact on the surrounding area.

3.4.4.1. Installation

Installing the pipe underneath a stream involves placing a drill unit on one side of the waterbody. A small-diameter pilot hole will be drilled under the stream along a prescribed profile. After the pilot hole has been completed, barrel reams will be used to enlarge the pilot hole to accommodate the desired pipeline diameter. Drilling mud will be necessary to remove cuttings and maintain the integrity of the hole. Water from a Cenex approved source will be used to prepare the drilling mud slurry, and will be appropriated according to applicable permits. The pipe section will be pulled through the hole by the drilling rig and welded to the adjoining sections of pipe on each side of the waterbody.

3.4.4.2. Drilling Mud

During drilling operations, drilling mud and slurry will be stored away from the waterbody and stored so that it does not flow into the waterbody, adjacent wetlands or off the workspace (refer to **Chapter 12.0** for additional details).

After the pipe is installed, excess drilling mud will be hauled off-site to a Cenex approved location or licensed location.

3.4.4.3. Frac-Out

A frac-out occurs when drilling fluids are inadvertently released to the surface during drilling operations. In many cases, a loss of drilling fluid circulation is the result of drilling fluid dispersing into surrounding soils, entering geological seams, fissures and fractures during drilling of the pilot hole. Consequently, the loss of drilling fluid pressure does not necessarily mean that an inadvertent release of fluid (i.e., a frac-out) to the surface has occurred or will occur.

Drilling fluid pressures in the bore hole and drilling fluid pumping return rates and volumes will be monitored to detect the potential occurrence of a frac-out or loss of drilling mud. Additionally, a monitor will visually search for observable frac-out conditions. Upon first indication of a frac-out, the HDD contractor shall reduce drilling circulating pressure, continue rotation of the drill string, and continue to advance the drill head in an attempt to stop or substantially reduce the frac-out rate. If the frac-out is initially or subsequently confirmed by an observed fluid release to the surface or turbidity plume in water, the HDD contractor will attempt to advance the drill head past the known frac-out point. If the HDD contractor determines that sealing of a fissure within the substrate is necessary, the contractor may use a plug or "pill". The plug may consist of material that has a granular, flake, or fibrous structure (e.g., ground walnuts, pecans, etc.)

In the event of an inadvertent drilling fluid release, the contractor and EI will assess the amount and location of the release. This team will evaluate the potential risk that the release may pose to aquatic or other environmentally sensitive resources and possible control measures, and will respond as described below:

- Evaluate the release; estimate the volume and rate of discharge, and determine if containment structures are warranted. If necessary, Cenex will ensure that the contractor installs containment devices (e.g., silt fence and/or staked straw bales) to prevent movement of drilling mud off-site or toward a waterbody. The contractor may simultaneously recover and remove fluid as the release is occurring.
- For larger releases where there is a potential impact to aquatic or other environmentally sensitive resources, the contractor and the EI will consider the installation of collection sumps in conjunction with sediment barriers.
- Remedial action to establish circulation may be initiated. Remedial action may include, but will not be limited to, "sizing" the hole to remove annular obstruction, reducing pumping rates, and/or modifying drilling mud properties.

- Drilling operations will not be suspended unless the release poses a threat to public health and safety and/or significant impacts to sensitive environmental resources.
- Comply with standard notification procedures listed in **Chapter 11.**
- Identify clean-up parameters and monitor clean-up and recovery activities

3.4.4.4. Temporary Stabilization

The directional drilling/guided drilling method typically does not result in the disturbance of stream banks or riparian vegetation. Consequently, temporary erosion control methods are not necessary for drilled/bored crossings.

3.5. Permanent Restoration

Disturbed stream banks will be stabilized with erosion control blankets and seeded in accordance with Chapter 8.0. For the wet trench method, permanent stabilization will be initiated 24 hours following installation of the crossing. For the dam and pump or flume method, permanent stabilization will be initiated prior to restoring flow. Where the banks have been disturbed, the Contractor will restore the slopes as near as practicable to pre-existing conditions unless that slope is determined to be unstable. In stances where the slopes are determined to be unstable or have the potential to erode or fail, the banks will be reshaped to create a blended, natural appearance.

Berms or other sediment filter devices will be installed at the base of stream approaches greater than five percent and the outlet of the berm will be directed away from the stream into a well vegetated area. Temporary sediment control devices will remain in place until the area has stabilized and revegetation is established.

3.5.1. Vegetative Bank Restoration

Typically, banks will be restored as near as practicable to preconstruction conditions after backfilling is complete. They and will be seeded with an appropriate seed mix as specified in **Chapter 8.0** and covered with an erosion control blanket. Erosion controls, (e.g. straw bales, silt fences, etc.) will be installed as necessary based on site-specific conditions.

3.5.2. Supplemental Bank Stabilization

Unstable soils and/or site-specific factors such as stream velocity and flow direction may require additional restoration efforts, to stabilize disturbed stream banks. Rock rip-rap will be used only where site-specific conditions require and where applicable permits or approvals have been acquired. Geotextile fabric and rock riprap will be placed according to site and permit conditions. Disturbed soils upslope and on either side of the riprap will be prepared for seeding according to **Chapter 8.0** and other stream bank protection requirements.

3.5.3. Bridge Removal

Equipment bridges will be removed during final cleanup or, if access is needed, after final cleanup and permanent seeding. Restoration of the bridge area will be completed upon bridge removal.

3.5.4. Swales

Swales will be restored as near as practicable to pre-existing conditions. Swales will be seeded and either straw mulch or erosion control blankets will be installed from the top of bank the width of the construction ROW.

Chapter 4 - Wetland Crossing General Requirements

This chapter applies to all jurisdictional wetlands encountered during this Project. Wetland crossing procedures described herein as well as permits issued by state and federal agencies will be utilized to make sound judgements during installation. The intent of the procedures described in this chapter are to minimize construction-related disturbance and sedimentation of wetlands and to restore wetlands to near pre-existing conditions.

If the procedures discussed herein are determined to be impractical or inefficient, the Contractor may submit a request to Cenex for approval of alternative measures. The Contractor must receive approval from Cenex prior to implementing said alternatives. Any modifications must comply with all applicable regulations and permits.

Access to wetlands will be via the construction ROW and approved roads. No additional access points are anticipated.

4.1. Clearing

Clearing of the Construction ROW in wetland areas will be similar to clearing in uplands. Clearing will include the removal of brush, trees, and tall herbaceous vegetation if necessary. Cenex will address mitigation, reclamation and remediation measures with individual landowners and comply with any applicable state requirements. Measures may include non-vegetative remediation to reverse impacts on wind breaks, shelterbelts, and living snow fences. Where the pipeline intercepts existing tree stands, Cenex will attempt to route the pipeline as close as practicable to any existing disturbances or ROW. Clearing may be accomplished with chain saws, mowers, and hydraulic tree-cutting equipment. All work will be conducted in accordance with applicable permits.

4.2. Temporary Workspace

Temporary workspaces will be located adjacent to the proposed ROW and will be identified on the construction documents and/or by distinctive staking of construction limits prior to clearing. These workspaces are typically used to assemble pipe or for temporary spoil storage.

Temporary workspaces will be located a minimum of 50 away from the ordinary high water mark or ordinary high water level. If safe work practices or site conditions do not allow for a 50-foot setback, a temporary workspace should be located no closer than 20 feet from the ordinary high water mark or ordinary high water level, subject to approval by Cenex. A temporary workspace will be limited to the minimum size needed to construct the wetland crossing.

4.3. Grading

Grading activities will be confined to the area of the trench. Grading outside the trench will only be allowed where required to ensure safety and restore the construction ROW after backfilling with prior approval from Cenex. Following grading, BMPs will be installed as follows:

- Across the entire construction ROW upslope of the wetland boundary, where necessary, to prevent sediment flow into the wetland;
- along the edge of the construction ROW as necessary to prevent sediment flow into nearby wetlands; and
- along the edge of the construction ROW to contain spoil and sediment within the construction ROW.

BMPs will be maintained in proper working order to prevent the flow of sediment into wetlands from spoil piles or sloped approaches adjacent to the wetlands.

4.4. Right-of-Way Stabilization

Where directional drill equipment is not utilized, construction equipment will operate from timber mats or other approved equipment. To prevent the spread of noxious and invasive plant species, timber mats will be free of soil and plant material prior to being transported onto the construction ROW and/or moved from one area of the construction ROW to another area. Timber riprap (also known as corduroy road) will not be used without prior written approval from Cenex and the appropriate regulatory agencies. Pre-existing corduroy roads in wetlands may be used but may not be improved, maintained, restored, or replaced without site-specific authorization from applicable agencies. Tree stumps, brush riprap, imported soil, and rock fill will not be brought in to stabilize the ROW in wetlands.

Subsoil from the pipeline trench within the immediate wetland may be placed on top of equipment mats for additional stabilization. Timber mats may be placed over the ditch line or on the working side to facilitate excavation. All timber mats, construction debris, and larger woody vegetative debris will be removed during cleanup.

4.5. Trenching

Excavation of the pipeline trench in wetlands typically will be accomplished using backhoe excavators. The Contractor will take reasonable steps to ensure the duration of open trench in wetlands, including tie-ins, is minimized to the fullest extent possible.

When constructing in wetland areas without standing water, topsoil will be stripped a minimum depth of 12 inches, unless otherwise specified in the Plan Sheets, commitments and/or permits and segregated. Topsoil will be stockpiled separately from the trench spoil to preserve the native seed. In standing water wetlands, soil segregation is not typically practical; however, the Contractor will attempt to segregate as much of the organic layer as possible based on site/saturation conditions.

Trench breakers will be installed as necessary in areas that the pipeline trench has the potential to drain or partially drain a wetland to maintain the original wetland hydrology.

4.6. Pipeline Installation

The following procedures are intended to minimize disturbances to wetlands during installation.

4.6.1. Push/Pull Method

Large wetlands with standing water can generally not be crossed with typical crossing methods. In these areas, the pipeline will be assembled in an upland area and positioned in the trench using "push-pull" and/or "float" techniques.

For this method of fabrication, a backhoe (or equivalent) supported on timber mats or equivalent low ground pressure equipment will be used to dig the trench. The prefabricated section of pipeline will then be pushed-pulled into position or floated across the wetland. When the pipeline is in position, floats (if utilized) will be removed and the pipeline will sink into position. The trench will then be backfilled and a backhoe or similar equipment working from construction mats or by low ground pressure equipment will restore the wetland.

4.6.2. Concrete Coating

Limited cement mixing and coating activities will occur within the construction ROW. Washing equipment used for mixing, pouring, casting, or coating will not be conducted within 100 feet of any wetland and will be contained in a leak-proof containment or impermeable liner.

It is anticipated that all mixed cement and concrete-coated pipe will be transported to the construction ROW. Prefabricated concrete weights and/or saddlebag weights will also be manufactured offsite and transported to the ROW. BMP's will be installed down slope of equipment wash areas to capture sediment and minimize erosion from runoff.

4.7. Backfilling

Following pipe installation, backfilling of wetland trenches will take place immediately, or as approved by EI. Subsoil removed from the trench during construction will be replaced so as to restore wetlands as near as practicable to pre-construction conditions. Subsoil will not be mounded above the adjacent ground surface. Subsoil that exceeds the elevation of the ground adjacent to the trench will be removed from the wetland and disposed of in an upland area or a Cenex approved disposal site. After the trench has been backfilled with subsoil, previously segregated topsoil will be spread over the trench area.

4.8. Rough Grading, Cleanup, and Temporary Restoration

The Contractor will begin cleanup and rough grading (including installation of temporary erosion and sediment control measures) within 72 hours after backfilling the trench. Cleanup involves removing construction debris including litter generated by construction crews, excess rock, and woody debris and installing temporary erosion control measures. The Contractor will attempt to complete this rough cleanup within one week. Temporary slope breakers or sediment breakers will be installed, as needed, near the boundary between the wetland and adjacent sloped approaches, to prevent sediment flow into the wetland.

The Contractor will initiate final grading, topsoil replacement, repairing/replacing fences, and installation of permanent erosion control structures within 14 days of backfilling the trench. Final grading includes

restoring disturbed areas as close as practicable to pre-existing conditions. Wetlands typically are not seeded as they regenerate. However, if seeding is warranted, it will typically occur in the fall.

If seasonal or other weather conditions prevent compliance with these timeframes, temporary erosion controls will be maintained until conditions allow completion of cleanup. Where necessary, disturbed wetland areas will be seeded a temporary seed mix unless standing water is prevalent or seeding with native wetland vegetation is required by applicable permits. No fertilizer, lime, or mulch will be applied in wetlands.

All waste materials, including litter generated by construction crews, will be disposed of daily by the Contractor.

Chapter 5 - Highway, Road, Rail & Transmission Line Crossings

All construction vehicles and equipment traffic shall be confined to the public roads, private roads acquired for use by Cenex, and the Construction ROW. If temporary private access roads are constructed, they shall be designed to maintain proper drainage and minimize soil erosion.

5.1. Additional Workspace

Additional workspaces for directional drilled road and railroad crossings and open-cut road crossings will be determined on a site by site basis. These workspaces will be adjacent to the road or railroad and limited to the size needed to contain spoil from the crossing.

5.2. Maintenance

Roadway crossings will be maintained in a condition that will prevent tracking of mud onto the roadway.

Rock tracking pads, as required by the applicable permits, will be installed adjacent to paved public roads to prevent or minimize the tracking of soil onto the roadway. All rock and fabric will be removed during cleanup and reclamation.

5.3. Temporary Erosion and Sediment Controls

Temporary BMPs will be installed on sloped approaches to road crossings where vegetation has been disturbed.

Chapter 6 - Construction Dewatering

Prior to initiating dewatering activities, the EI will approve the water discharge routes to ensure best management practices minimize the potential for scour and water containing sediment from reaching a wetland or waterbody. Furthermore, landowner approval is required in advance of placement of dewatering structures outside of the approved construction ROW.

6.1. Trench Dewatering

The Contractor shall make all reasonable efforts to discharge trench water in a manner that avoids damage to adjacent agricultural land, crops, and pasture. Damage includes, but is not limited to, the inundation of crops for more than 24 hours, deposition of sediment in ditches, and the deposition of gravel in fields or pastures.

If trench dewatering is necessary in an area where salt damage to adjacent crops is evident, it shall not be discharged to areas where salt damage to crops is evident, but shall be directed as feasible so that water flows over a well vegetated, non-cropland area. The following parameters will be considered when assessing each water discharge.

- **Water Discharge Surrounding Area**
  - *Soil Type* - The type of soil the discharged water would flow over. For instance, the management of discharged water traveling over sandy soil is more likely to soak into the ground as compared to clay soils.
  - *Topography* - The topography of the area would influence the surface flow of the discharged water.
  - *Discharge rate* – Manage the flow rate of discharged water to minimize instances in which water may reach a sensitive resource area, such as a wetland or waterbody. For example, water discharged at 200 gallons per minute may soak into the ground however if discharged at a higher flow rate would cause water to flow into a sensitive resource area.
  - *Outfall Discharge* - The amount of hose and number/size of pumps needed to discharge water at a location so that it drains away from waterbodies or wetlands.
- **Pump Intake** – Monitor the pump intake using a floating suction hose or other similar measures to prevent sediment from being sucked from the bottom of a trench.
- **Overwhelm an Existing Drainage –** Monitor drainage such that the discharge flow added to the waterbody will not cause the potential for erosion due to high flow conditions.
- **Filtering Mechanisms** - All dewatering discharges will be directed through a filtering device as indicated below.
  - *Well-Vegetated Upland Area* - Water can be directed to a well-vegetated upland area through a geotextile filter bag. Geotextile bags must be sized appropriately for the discharge flow and suspended sediment particle size.

- *Straw Bale Dewatering Structure* – A straw bale dewatering system shall be used in areas where the dewatering discharge point cannot be located. The discharge should be routed into a straw bale dewatering structure and geotextile filter bag to provide additional filtration near sensitive resource areas. The size of the structure is dependent on the maximum discharge rate.

- *Alternative dewatering methods* - Alternative methods may be approved by Cenex on a site-specific basis.

The volume of water discharged from the trench will be recorded as required by applicable permits. The volume may be determined using a flow meter, or equivalent method as specified by applicable permit conditions.

If required by discharge permits, water will be sampled at discharge sites per permit requirement. Cenex will notify and submit reports to appropriate state and federal agencies as required.

6.2. Hydrostatic Test Discharges

Hydrostatic testing involves filling new pipeline segments with water and pressurizing the segments for a specific period per federal DOT specifications to ensure the integrity of the pipe and welds.

Prior to performing a hydrostatic test, the Contractor will prepare the pipe by removing accumulated construction debris, mill scale, dirt, and dust using a cleaning pig. The debris accumulated will be collected in a temporary receiver and properly disposed of by the Contractor. Upon completion of the cleaning operation, the pipeline will be sealed with the test headers. Test headers and pigs will be arranged to allow rinse water to be installed ahead of the fill pigs. Similar to debris, rinse water will be treated and disposed of in accordance with all applicable permit conditions.

Following testing, the test section will be depressurized and the water will be discharged to a well-vegetated, upland area with an appropriate dewatering structure.

At no time will the discharge rate exceed the applicable discharge rates specified in any discharge permits. In the event no maximum discharge rate is identified by applicable permits, discharges will be monitored to avoid scouring, erosion, or sediment transport from the discharge location.

6.2.1. Refueling

The operation and refueling of hydrostatic test equipment will be in accordance with the conditions outlined in **Chapter 11.0.**

6.2.2. Siting of Test Manifolds

Hydrostatic test manifolds will be installed at intervals throughout the pipeline to ensure proper test pressures as well as changes in topography. When feasible, Cenex will make minor adjustments to test manifold locations to avoid placement in wetlands and riparian area. However, this may not always be feasible. Erosion control measures will be installed when deemed necessary by the EI.

6.2.3. Water Sampling

Water discharged from hydrostatic tests will be sampled as required by any state-issued appropriation or discharge permits. Water volumes and flow rates will be recorded using the form provided in **Appendix C.**

6.2.4. Flow Measurement

The total volume of water discharged will be determined with a flow meter or equivalent device required by the state permit. The total volume of water discharged will not exceed the volume specified in the applicable permit.

Chapter 7 - Water Appropriation

Water may be drawn from approved local sources, such as lakes, streams, and private or municipal wells for construction activities such as dust control, horizontal directional drilling/guided boring, trench dewatering, and hydrostatic testing.

The intake hose will be suspended off of the stream or lake bottom and equipped with a screen, or equivalent device, to prevent fish uptake. During withdrawal, waterbody flow rates and volumes will be maintained to protect aquatic life and allow for downstream uses. The volume and rate of withdrawal will comply with applicable permit conditions.

Water will only be withdrawn from approved sources as administered by the North Dakota State Water Commission. The Contractor will measure the withdrawal rate and total volumes of water appropriated with a flow meter or equivalent equipment as required by the applicable permits. Also, where required by permit conditions, the Contractor will sample the water during appropriation. If appropriation is scheduled to occur during low flow, including frozen conditions, a backup source will be identified. No water additives are permitted unless authorized in applicable permits.

Cenex will notify appropriate agencies of the time of appropriations and submit reports regarding the volume and quality of water withdrawn if required by the state permits.

Chapter 8 - Revegetation & Monitoring

This chapter was developed in conjunction with Natural Resources Conservation Service (NRCS) guidelines. Project-specific permit conditions and landowner requests (with exception to wetlands) for specific seed mixes take precedence over this chapter.

8.1. Project Seed Specifications

Seed used will be purchased on a Pure Live Seed (PLS) basis for seeding (both temporary and permanent) revegetation areas. Seed tags will identify:

- purity;
- germination;
- date tested;
- total weight and PLS weight;
- weed seed content; and
- seed supplier's name and business information.

Seed will be used within 12 months of testing as required by applicable state rules and regulations. The seed tags on the seed sacks will also certify that the seed is "Noxious Weed Free". Seed rates used on the Project will be based on PLS rate, not actual weight basis. Therefore, to determine the correct application rate if not indicated on the seed tag, a correction calculation will be performed based the purity and germination. For example, a seed mix that has a specified 10 pounds PLS per acre, 95 percent germination rate, and is 80 percent pure needs to be applied at the following rate:

(95% germination x 80% purity)/100 = 76% PLS

10 pounds PLS per acre/76% PLS = 13.2 pounds per acre actual seeding rate

The species components of individual mixes are subject to availability at the time of purchase. Grass species may be substituted with alternative native or non-invasive species that are included in the NRCS guidelines and subject to approval by Cenex.

Seed tags will be collected by the Contractor and provided to Cenex during seeding activities. The tags will be reviewed by the EI prior to installation to ensure that the seed mix complies with Cenex's specifications and that it is being applied at the correct location. Off-loading of seed will not be performed in a designated wetland area.

Legume seed (if used) will be treated with an inoculant specific to the species and in accordance with the manufacturer's recommended rate of inoculant appropriate for the seeding method (broadcast, drill, or hydroseeding). When hydroseeding, four times the manufacturer's recommended rate of inoculant will be used.

8.2. Temporary Revegetation

Cenex's temporary seed mix (refer to **Appendix D)** was developed based on recommendations from the NRCS. Unless specifically requested by landowners or land managing agencies, Cenex does not intend to establish temporary vegetation in actively cultivated land, standing water wetlands, and/or other standing water areas.

8.3. Timing for Temporary Revegetation

Temporary seed may be installed on disturbed, inactive, construction work areas at the discretion of Cenex. The Contractor may be required to install temporary stabilization materials sooner dependent on site conditions, sensitive resource areas and/or areas prone to wind/water erosion, or as required in Project permits.

Temporary vegetation should be established at any time between April 1 and September 1. Attempts at temporary revegetation after this date should be assessed on a site-specific basis and with approval from Cenex.

8.4. Mulch

Straw mulch will be applied to disturbed areas if required by landowner or the land managing agency circumstances, if specified by the applicable permits or licenses, or as required by Cenex. Temporary mulch cannot be applied in areas particularly prone to erosion or within wetland boundaries or cultivated lands. Additionally, it is not recommended that mulch is utilized on slopes greater than 5 percent nor on dry, sand areas in which it can blow or wash away.

Per state laws, mulch will be free of noxious weeds. Certified weed-free mulch may also be required at site-specific locations. The Contractor will be responsible for identifying and acquiring sources of weed-free and certified weed-free mulch. Sources must be approved by Cenex prior to purchase.

Temporary mulch of straw or equivalent applied on slopes shall be spread uniformly to cover at least 75 percent of the ground surface at an approximate rate of 2 tons per acre of straw or its equivalent. Mulch application on slopes within 100 feet of waterbodies and wetlands shall be increased to an approximate rate of 3 tons per acre.

Mulch will be distributed by a mechanical mulch blower, or by hand in areas not accessible to the mulch blower. Mulch will be anchored/crimped using a mulch-anchoring tool or disc set in the straight position to minimize loss by wind and water, as site conditions allow.

Hydro-mulch and liquid tackifier may be utilized in place of straw mulch with prior approval from Cenex. Tackifier may also be utilized stabilize stockpiles, when wetting with water does not prevent wind erosion. All hydro-mulch and liquid tackifier products used will be listed on the NDDOT product list. Application rates will be at the manufacturer's recommended rate. Should construction traffic, cattle grazing, heavy rains, or other related construction activity disturb hydro-mulch or tackifier and create a potential for wind erosion, an additional application shall by applied by the Contractor.

8.5. Permanent Revegetation

Permanent vegetation will be established in areas disturbed as a result of the pipeline installation except in actively cultivated areas and standing water wetlands. The seed mixes for permanent seeding include native seed varieties commonly found and/or available from local seed distributors. Cenex's seed mixes (refer to Appendix D) were selected to augment revegetation via natural recruitment from native seed stock and are not intended to change the natural species composition. Rates provided are assumed for a drill application and will be adjusted as discussed in Chapter 8.1.

8.6. Upland Construction Areas

A standard upland seed mix for restoring disturbed areas affected by the Project can be found in **Appendix D, Table 2**. The mix includes species that will provide effective erosion control and revegetation of the construction ROW. This seed mix will be used by Cenex as the standard upland mix unless landowners or land managing agencies specify an alternate.

8.7. Permanent Seeding of Wetland Areas

8.7.1. Unsaturated Wetland Areas

Non-standing water wetlands will be seeded with the mix provided in **Appendix D, Table 2** to provide temporary cover and the wetland to revegetate naturally. No fertilizer, lime, or mulch will be applied in wetlands.

8.7.2. Saturated/Standing Water Wetlands

Cenex does not propose to seed standing water wetland areas. It is widely accepted that the reestablishment of vegetation within standing water wetlands occurs best through natural process without supplemental seeding.

8.7.3. Forested Wetland Restoration

Cenex proposes to allow natural reforestation of temporary workspace areas within forested wetlands via stump sprouting, root sprouting, and natural recruitment. Specific forested wetland restoration provisions will be followed as indicated in applicable permits issued for the Project.

8.8. Permanent Seeding of Waterbody Banks

Cenex will re-establish stream bank vegetation using the Upland seed mix listed in **Appendix D, Table 2**, unless alternate seed mixes or vegetation requirements are requested by applicable agencies. At locations in which a waterbody is located within a wetland, the Contractor will re-seed the banks with the applicable wetland seed mix.

8.9. Specialized Seed Mixes

The following specialized seed mixes are available upon landowner request on a site-specific basis.

- Residential Areas: This seed mix will be used to re-establish residential lawns or other types of "turf-type" land cover.
- Pasture Areas: This seed mix will be used to re-establish active pastures and hayfields.
- Wildlife Areas: This seed mix will be used to provide a desirable food source for wildlife, specifically deer.
- Native Areas: A native seed mix was developed for areas currently dominated by native plant species. This mix includes naturally occurring species and will provide effective erosion control and re-vegetation of the Construction ROW. This seed mix will be used by Cenex at locations with high quality vegetation areas unless landowners or regulatory agencies specify an alternate seed mix.
- Roadways: This seed mix will be used to re-establish vegetation within upland areas of roadway easements.

8.10. Conservation Reserve Program (CRP) Properties

Cenex's ROW Agents will work with respective landowners to identify the parcel-specific CRP seed mixes. CRP lands will be seeded at the direction of the landowner per the CRP requirements for that parcel. No non-CRP approved seed mix will be planted on CRP lands.

8.11. Seed Bed Preparation and Seeding Procedures

After final grading, deep tillage will be performed in actively cultivated areas and some non-agricultural areas to relieve soil compaction and promote root penetration. Deep tillage will not be conducted in wetlands. The soil will then be tilled with a disc, field cultivator, or chisel plow to prepare a seedbed, breaking up large clods and loosening the soil surface. Tillage and equipment operations related to seeding and mulching will be performed parallel to ground contours as much as practicable. Fertilizer and other soil amendments may be incorporated into the soil during seedbed preparation as specified by Cenex. No soil amendments will be applied in wetlands unless directed by the appropriate agencies.

8.12. Seeding Methods

Seed will be applied uniformly at specified rates across the prepared construction ROW by drilling, broadcasting, or hydroseeding. The EI will suspend seeding activities if conditions are such that equipment will cause rutting of the surface in the designated seeding areas.

8.12.1. Drill Seeding

Seeding equipment will be capable of uniformly distributing the seed and sowing it at the required depth. Drills will be equipped with a feeding mechanism that will provide a uniform flow of seed at the desired application rate. Double-disc furrow openers equipped with depth bands and packer wheels to firm the soil over the seed will be used where practicable.

8.12.2. Broadcast Seeding

Broadcast seeding rates will be double that used for drill-seeding. Seed will be uniformly distributed by a mechanical or hand operated seeder. Following seeding, a harrow, or hand rake will be used to cover the seeds and firm the seedbed as is appropriate for the area.

8.12.3. Hydroseeding

The hydroseeding rate will also be double the drill seeding rate, or the same as broadcast seeding rate. Seed will be applied alone or in a seed, fertilizer, and/or hydromulch slurry. If seeding is applied alone, the amount of hydromulch material will be adjusted to visually show where seeding has taken place, thus providing a means to identify uniform cover. Hydroseeders will be capable of supplying a continuous, non-fluctuating flow of slurry. Cenex will pre-approve all hydromulch products, which must be on the applicable state DOT product list.

8.13. Soil Amendments

Cenex will consult with NRCS representatives and review county soil survey information to assess where soil amendments, specifically the application of fertilizer or lime, are needed to promote successful revegetation. No fertilizer nor lime will be added with native seed mixes. When using non-native species on dry, dry-mesic and mesic sites for permanent seeding a minimum of 150 pounds of 20-10-10, and 2 tons of 80-85 lime or equivalent will be applied, unless otherwise specified. Soil amendments may be applied to agricultural, pasture, and/or residential lands if requested by landowners and/or land managing agencies. Cenex will apply phosphate free fertilizers to areas within 100 feet of a waterway if soil amendments are required.

8.14. Seeding Periods

The seeding windows found in **Table 5** have been developed per NRCS guidelines and local/regional seed suppliers for normal average growing seasons.

Table 5, Seeding Periods

Native Mixes	
Spring Permanent Seeding	Fall Dormant Seeding
April 1 to June 15	Soil temperature below 55 degrees Fahrenheit

Cenex will delay seeding activities in late fall and winter until spring to allow for better germination rates. Cenex will install temporary erosion controls in late fall and winter to account for these conditions.

8.15. Timing of Final Seeding

Seeding and restoration/stabilization will occur within 48 hours of final grading and restoration of wetlands and waterways. Other methods of stabilization will be used if temporary seeding is not appropriate due to seasonal conditions (e.g., mulch, erosion control matting).

8.16. Erosion and Sediment Control

Erosion control blankets, such as straw mats, jute mats, coconut erosion control blankets, or biodegradable synthetic erosion control blankets will be used on slopes over 30 percent, on stream banks and ditch banks and as directed by Cenex.

8.17. Dormant Seeding

Dormant seeding is a method used after soil temperatures have cooled below 55 degrees Fahrenheit to prevent seed germination. Dormant seeding is only practicable if the soil is not frozen and snow is not present. Procedures for applying soil amendments, seedbed preparation, seeding, and mulching are the same as outlined for permanent revegetation in this chapter.

Where dormant seeding is conducted, one or more of the following temporary erosion and sediment controls will be put in place over the freshly seeded area unless otherwise specified. The temporary measures will be in place within 48 hours of seeding, and are as follows:

- noxious weed-free straw mulch, at not more than 2 tons/acre, anchored;
- hydromulch, at 2 tons/acre, anchored; and/or
- erosion control blanket.

Additional erosion control measures will be applied as requested by the EI.

8.18. Monitoring

Cenex will monitor and re-stabilize all areas where stabilization techniques have been implemented in accordance with conditions identified in the applicable Project permits.

Chapter 9 - Winter Construction

Frozen conditions can inhibit effective topsoil segregation. When soil is frozen to a depth greater than the depth of topsoil, the soil will come off in thick slabs that contain both topsoil and subsoil, and mixing can result. If top soiling will proceed under these conditions, it should be done at the excavation only. A ripper should be used to break up the frozen topsoil over the trench line only. Care should be taken to only rip to the actual depth of topsoil or to a maximum depth of 12 inches, whichever is less. Topsoil in the spoil storage area should be graded smooth to minimize mixing during backfilling. Sufficient time is needed to allow the newly graded topsoil to freeze in place prior to trenching.

Summer construction of large diameter pipelines in saturated/standing water wetlands with unconsolidated soils can be difficult and potentially result in greater wetland disturbance including wider trench widths and extensive rutting/surface disturbance. Constructing across these types of wetlands in the winter can result in fewer impacts. Heavy construction equipment can use and travel along the construction ROW in the winter by establishing temporary winter frost/ice roads over areas typically saturated during the summer. These frost/ice roads protect underlying vegetation and upper layers of wetland surfaces from disturbance potentially created during summer construction.

The area of open excavation will be minimized during winter construction to reduce amount of frozen backfill, and facilitate restoration to pre-construction contours. If winter conditions preclude final grading and cleanup, the Contractor will stabilize the area and temporary erosion control measures will remain in place until permanent erosion control measures are installed. Dependent on site and weather conditions, Cenex may require the Contractor to install dormant seeding, mulching, and/or installation of erosion control blanket on stream banks or other sensitive locations.

Chapter 10 - Waste Management

The Contractor will properly handle, store, and dispose of all solid and hazardous materials and wastes that are used or generated by the Contractor as a result of the Project. The Contractor will determine if the materials and wastes associated with the Project classify as hazardous materials and/or wastes in accordance with applicable federal and/or state criteria. Upon request by Cenex, the Contractor will provide documentation to substantiate findings of the regulatory status of materials and/or wastes used and/or generated as a result of the Project.

The Contractor will collect all waste materials, including oil or other waste liquids generated daily as a result of equipment maintenance, in suitable or approved containers. On a routine basis, the Contractor will remove waste containers from the site and properly dispose of them at an appropriate location. Throughout the duration of the Project, the Contractor will cleanup areas to the satisfaction of Cenex. The Contractor is responsible for proper off-site disposal of all wastes generated during the Project. No wastes are to be left on Cenex property, along the ROW, buried during excavation or otherwise disposed of on a Cenex property or ROW.

10.1. Non-Hazardous Waste Disposal

Non-hazardous pipeline construction wastes include human waste, trash, pipe banding and spacers, waste from coating products, welding rods, timber skids, cleared vegetation, stumps, and rock.

All waste which contains (or at any time contained) oil, grease, solvents, or other petroleum products is presumed a hazardous waste and shall be segregated for evaluation, handling, and disposal.

The Contractor shall be responsible for ensuring that human wastes are handled and disposed of exclusively by means of portable, self-contained toilets during all construction operations. Wastes from these units shall be collected by a licensed contractor for disposal only at licensed and approved facilities.

The Contractor shall remove all trash from the construction ROW on a daily basis unless otherwise approved or directed by Cenex.

The Contractor shall dispose of HDD drill cuttings and drilling mud at a Cenex-approved location.

The Contractor shall remove all trash and wastes from all staging areas when work is completed at each location.

The Contractor shall dispose of all waste materials at licensed waste disposal facilities. Wastes shall not be disposed of in any other fashion such as un-permitted burying or burning.

10.2. Hazardous Wastes

The Contractor shall ensure that all hazardous and potentially hazardous materials are transported, stored, and handled in accordance with all applicable regulations. Workers exposed to or required to handle hazardous or dangerous materials shall be trained in accordance with the applicable regulations and manufacturer's recommendations.

The Contractor shall dispose of all hazardous wastes at licensed waste disposal facilities. Hazardous wastes shall not be disposed of in any other fashion such as un-permitted burying or burning.

All transporters of oil, hazardous substances, and hazardous wastes shall be licensed and certified according to the applicable state vehicle code. Incidents on public highways shall be reported to the appropriate agencies.

All hazardous wastes being transported off-site shall be manifested. The manifest shall conform to requirements of the appropriate state agency. The transporter shall be licensed and certified to handle hazardous wastes on the public highways. The vehicles, as well as the drivers, must conform to all applicable vehicle codes for transporting hazardous wastes. The manifest shall conform to 49 CFR Parts 172.101, 172.202, and 172.203.

If toxic or hazardous waste materials or containers are encountered during construction, the Contractor shall stop work immediately to prevent disturbing or further disturbing the waste material and shall immediately notify Cenex. The Contractor shall not restart work until clearance is granted by Cenex.

10.3. Abrasive Blast Debris

The Contactor shall ensure spent abrasive blast materials are collected and stored in covered storage containers. The Contractor is responsible for determining if the spent abrasive is classified as a "hazardous" or "special" waste as defined by applicable federal and state regulations and disposing of storage containers in accordance with applicable federal, state and local regulatory requirements. If the spent abrasive is determined to be hazardous waste as a direct result of constituents of a Cenex facility or equipment, Cenex will coordinate proper disposal with the Contractor.

Chapter 11 - Spill Prevention, Control & Countermeasures

Spill Prevention Control and Countermeasures (SPCC) provide guidance and information to the Contractor on how to prevent oil and other contaminant spills from occurring within the construction ROW. These measures also provide information to perform safe, efficient and timely response in the event of a spill or leak (both referred to as "spills" herein) in accordance with United States Environmental Protection Agency oil pollution prevention regulations (40 CFR 112). Although no facilities associated with this project are expected to trigger 40 CFR 112 requirements, this chapter is included to meet Cenex's requirements for the project. Should any facilities meet applicable SPCC requirements noted in 40 CFR 112, a certified SPCC plan shall be developed and in place prior to operation of the facility.

As defined by 40 CFR Part 112, oil means; oil of any kind or in any form, including, but not limited to: fats, oils, or greases of animal, fish or marine mammal origin; vegetable oils, including oils from seeds, nuts, fruits, or kernels; and other oils and greases including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil. Part 112 further defines petroleum oil as petroleum in any form, including, but not limited to: crude oil, fuel oil, mineral oil, sludge, oil refuse, and refined products.

This chapter should be used in the following ways:

- As a reference for oil storage and containment system information.
- As a tool for informing and training employees on practices for preventing and responding to spills.
- As a guide to periodic training programs for employees.
- As a guide to oil containment inspections.
- As a resource during an emergency response.

Implementing proper planning and preventative measures minimizes the likelihood of spills and prepares the Contractor and their staff to quickly clean up a spill should one occur. Potential sources of construction-related spills include: machinery and equipment failure, fuel handling, transfer accidents and storage tank leaks.

11.1. Roles and Responsibilities

Individual roles and responsibilities of personnel will ultimately be assigned by the Contractor however, below are a list of suggestions.

11.1.1. Spill Coordinator

A Spill Coordinator will be designated by the Contractor. For all construction related spills, the Spill Coordinator will:

- report all spills to the Cenex Representative immediately;
- report spills to appropriate federal, state and local agencies as soon as possible (subject to EI verification);
- mobilize on-site personnel, equipment, and materials for containment and/or cleanup of the spill;
- assist the Emergency Response Contractor (refer to a list of potential contractors provided in **Appendix E**) and monitor containment procedures to ensure that the actions are consistent with the requirements of this chapter;
- Consult with Cenex and appropriate agencies to determine when it is necessary to evacuate spill sites to safeguard human health;
- Consult with Cenex to determine additional agencies or parties that need to be notified of the incident; and
- Complete a Spill Report Form (refer to **Appendix F**) within 24-hours of the occurrence of a spill, regardless of the size of the spill.

11.1.2. Environmental Inspector

The EI will monitor the Contractor's compliance with the provisions of this chapter to ensure that appropriate agency notifications are made, spill resources are allocated, and clean-up is accomplished in accordance with applicable agency requirements.

11.1.3. Authorized Personnel

Authorized Personnel are representatives of the Contractor who are designated to handle fuel, lubricants or other regulated substances. Authorized Personnel will be familiar with the requirements of this chapter and the consequences of non-compliance.

11.1.4. Construction Personnel

Construction Personnel are representatives of the Contractor involved with the installation of the pipeline. Construction Personnel and Authorized Personnel titles may be used interchangeably. Construction Personnel will notify the crew foreman or Spill Coordinator immediately of any spill of a petroleum product or hazardous liquid, regardless of volume.

11.2. Training

The Contractor will train all employees to implement spill prevention practices for work with and around oil and hazardous substances. All employees are expected to use common sense and rely on spill prevention practices at all times to minimize the potential for a release.

For example, the following "common sense" practices are recommended:

- Keep container lids securely fastened at all times.
- Do not leave portable sources unattended.
- Return portable sources to their storage location after use.

- Use pads, drip pans, and funnels when transferring petroleum products from a portable container.
- Protect oil sources from damage by moving equipment.
- Maintain closed berms at all times except when discharging clean storm water.
- In consultation with the EI, contaminated water within a bermed area shall be removed and disposed of by an appropriately licensed and qualified contractor (See **Appendix E**).
- Loading and unloading of petroleum products shall be attended at all times.
- All spills, regardless of size, shall be immediately cleaned up and reported.
- The source of any spill shall be immediately corrected to prevent reoccurrence.

Spill prevention during oil transfer operations is the primary responsibility of the Spill Coordinator. The Spill Coordinator will implement spill prevention measures and guidelines for all on-site transfer operations. In addition, the Spill Coordinator will oversee the following:

- Ensure that all transporting vendors meet the minimum requirements and regulations for tanker loading/unloading as established by the United States Department of Transportation.
- Ensure that the vendor understands the site layout, knows the protocols for entering the site and unloading product, and has the necessary spill equipment on board to respond to a spill from the tanker or fuel delivery hose.
- Monitor the transfer area to assure safe and proper operation and take immediate action to correct deficiencies. Monitoring shall include:
    - Vehicle inspection prior to delivery and departure (*e.g.,* to make sure the driver does not drive away with the fill hose connected).
    - Adequate spill response equipment is on board the vehicle.
    - Inquiry to ensure the truck contains the right product for the tank; and
    - Assurance the tank can hold the volume the supplier intends to deliver.

11.3. Equipment

Each construction crew will have adequate absorbent materials and containment booms on hand, to enable the rapid cleanup of any spill which may occur.

The Contractor will maintain spill kits to adequately contain and recover foreseeable spills. These kits may include but are not limited to the following: absorbent pads, straw bales, absorbent clay, sawdust, floor-drying agents, spill containment barriers, plastic sheeting, skimmer pumps, and holding tanks. This equipment will be well marked and located in a readily accessible area. Suitable plastic lining materials will be available for placement below and on top of temporarily-stored contaminated soils and materials.

All fueling vehicles, and service vehicles will carry materials adequate to control spills. Materials may include but not be limited to absorbent pads, commercial absorbent material, plastic bags with ties, and shovels.

The Spill Coordinator will inform the Authorized Personnel, Construction Personnel, and the Els of the locations of spill control equipment and materials, and have them readily accessible during construction. Spill kits should be clearly labeled for quick and easy identification in the field.

All fuel nozzles will be equipped with functional automatic shut-offs. Fuel trucks transporting fuel to on-site construction equipment will only travel on approved access roads.

11.4. Supervision and Inspection

The Contractor will perform a pre-construction inspection and test of all equipment to ensure that it is in good repair. During construction, the Contractor will regularly inspect hoses, pipes, valves, and tanks to ensure equipment is free of leaks. Any equipment found to be leaking or in need of repair will be immediately removed from service by Contractor and repaired, prior to resuming work.

11.5. Storage and Handling of Fuels/Hazardous Liquids

11.5.1. Fuel Storage – General

The Contractor will follow proper fuel storage practices, including:

- Proper signage will be located at and adjacent to fuel storage areas to discourage smoking near fuel areas.
- Contractor will keep tools and materials of various sizes on-site to stop the flow of leaking equipment in the event of a spill. Equipment may include, plugs of various sizes, 3M tank patches, a hammer, assorted sizes of metal screws with rubber washers, a screwdriver, plastic tape, etc.
- Fuels, lubricants, waste oil, and any other regulated substances will be stored in aboveground containers or tanks.
- Storage tanks and containers will conform to all applicable industry codes (NFPA, UFC, etc.).
- A suitable secondary containment structure will be utilized at each fuel storage site. These structures will be lined with suitable plastic sheeting and provide a minimum containment volume equal to 150 percent of the volume of the largest tank.
- Secondary containment areas will not have drains. Precipitation may be drawn off as necessary. If visual inspection by the EI indicates that no oil sheen or chemical residue in the secondary containment structure, accumulated water may be drawn off and discharged in accordance with **Chapter 6.0**. If contamination has occurred within the structure, water will be pumped into a drum or other storage container for disposal.

11.5.2. Refueling

Contractor will make all efforts to dispense fuel during daylight hours. Fuel dispensing operations will be attended by Authorized Personnel at all times. Personnel will be stationed at both ends of the hose during fueling unless both ends are visible and readily accessible by one person.

11.5.3. Refueling, Maintenance, and Fuel Storage Near Wetlands and Waterbodies

Cenex requires that refueling, maintenance, concrete coating activities and lubricating operations take place in upland areas that are more than 100 feet from wetlands, streams, waterbodies, and water supply wells. In addition, the Contractor will store hazardous materials, chemicals, fuel and lubricating oils outside of these areas.

In certain instances, refueling or fuel storage may be unavoidable due unique circumstances (e.g. continuously operating pumps). These locations will be approved in advance by the EI. Additional site-specific precautions will be taken in these instances including:

- Adequate absorbent materials and containment booms will be kept on hand by each construction crew to enable the rapid cleanup of any spill which may occur;
- If fuel will be stored within wetlands or near streams for refueling of continuously operating pumps, secondary containment will be used;
- Secondary containment structures will be lined with suitable plastic sheeting, provide a containment volume of at least 150 percent of the storage vessel, and allow for at least one foot of freeboard; and
- Provide adequate lighting for these locations and activities.

11.5.4. Overnight Parking

Overnight parking of equipment (including but not limited to light plants, generators, pumps, and machinery) is not allowed within 100 feet of a wetland or waterbody unless special containment provisions have been approved by the EI.

11.5.5. Concrete Washout Handling

Concrete wash water, cuttings, and slurry will not be discharged to wetlands, waterbodies, storm sewer systems nor allowed to drain onto adjacent properties. Wash water disposal will be limited to an area designated for cement washout. The area will be sufficient to contain the wash water and residual cement. Contractors hired to provide concrete products will provide equipment capable of reclaiming wash water during wash out.

11.6. Initial Spill Management

Immediately upon learning of any fuel, oil, hazardous material or other regulated substance spill, or upon learning of conditions that will lead to an imminent spill, the person discovering the situation will:

- Initiate actions to contain the fluid that has spilled or is about to spill and initiate action to eliminate the source of the spill to the maximum extent that is safely and expeditiously possible.
- Notify the Spill Coordinator and provide them with the type of fluid location, size, volume, and proximity to any surface water.
- If human health and safety is at risk, all workers shall immediately evacuate the spill site and move to a safe distance away from the spill.

Upon learning of a spill or a potential spill the Spill Coordinator will:

- Request medical assistance, if workers are injured (no worker shall engage in rescue operations unless they have been properly trained and equipped).
- If the spill is small enough to be cleaned onsite, place spill debris in properly labeled waste containers.
- If spill is large and/or hazardous, direct personnel to set up a security perimeter. Mark off affected area with hazard tape, temporary fencing or other means readily available. Allow only qualified personnel and verified cleanup personnel into area. Allow nothing to be removed from site.
- Identify and document all witnesses.
- The Spill Coordinator will coordinate cleanup and seek assistance from a cleanup contractor, as necessary.

If the Spill Coordinator is not available at the time of the spill, then the next senior level operations employee shall assume responsibility.

11.6.1. Spill Control – Upland Areas

- If a spill should occur during refueling operations, STOP the operation until the spill can be controlled and the situation corrected.
- The source of the spill will be identified and contained immediately.
- For large spills on land, the spill will be contained and pumped immediately into tank trucks. The Contractor or, if necessary, an Emergency Response Contractor, will excavate contaminated soil.
- The spilled material and the contaminated soil will be treated and/or disposed of in accordance with all applicable federal, state, and local agency requirements.
- Smaller spills on land will be cleaned up with absorbent materials. Contaminated soil or other materials associated with these releases will also be collected and disposed of in accordance with applicable regulations.
- Flowing spills must be contained and/or absorbed before reaching surface waters or wetlands.
- Absorbent material(s) will be placed over spills to minimize spreading and to reduce its penetration into the soil.
- The Spill Coordinator, in consultation with the EI and appropriate agencies, determine when spill sites will be evacuated as necessary to safeguard human health. Evacuation parameters will include consideration for the potential of fire, explosion, and hazardous gases.

11.6.2. Spill Control – Wetlands and Waterbodies

In addition to the above measures, the following conditions apply if a spill occurs near or into a wetland or waterbody, regardless of size:

- If a spill occurs during refueling operations, STOP the operation until the spill can be controlled and the situation corrected.
- The Contractor will use sorbent booms and pads to contain and recover released materials in standing water.

- For large spills in waterbodies, the Contractor will secure an Emergency Response Contractor to further contain and clean up the spill.
- The Contractor will excavate contaminated soils in wetlands and temporarily place them on plastic sheeting in a bermed area, a minimum of 100 feet away from the wetland.
- Contaminated soils will be covered with plastic sheeting while being stored temporarily and properly disposed of as soon as possible, in accordance with **Chapter 11.8**.

11.7. Spill Notification Responsibilities

The Contractor's Construction Superintendent or representative will notify Cenex and the EI immediately following any spill of a petroleum product or hazardous liquid, regardless of volume.

The Spill Coordinator will complete a Spill Report Form (**Appendix F**) for each release of a regulated substance, regardless of volume. The Spill Report Form will be submitted to the EI within 24 hours of the occurrence of a spill. Follow-up written reports, associated laboratory analyses, and other documentation may also be required separately on a site-specific basis as directed by the EI. Documentation is the responsibility of the Contractor.

The Contractor will report spills to appropriate federal, state and local agencies as soon as applicable. A listing of federal, state, and local agencies including reporting thresholds and timeframes is provided in **Appendix E**. Document all calls to agencies.

The Contractor, in coordination with Cenex and the appropriate federal, state and local agencies will ensure that additional parties or agencies are properly notified. Additionally, the Contractor is responsible for ensuring that all cleanup activities required by a jurisdictional agency are satisfactorily met and provide documentation to Cenex demonstrating this compliance.

11.8. Spill Containment and Cleanup

In the event of a spill, the Contractor will abide by all applicable federal, state and local regulations with respect to cleaning up the spill. All clean-up and other construction related spill activities will be completed by, and costs assumed by the Contractor. If necessary and appropriate, Cenex may also activite its emergency response system to respond to the incident. Specific cleanup measures for both upland and wetland/waterbody spills are described below.

Wastes resulting from a spill response will be containerized in impervious bags, drums or buckets. The waste will be removed from the site within two weeks by a licensed waste hauler and transported to an approved disposal location approved for the waste type. All contaminated soils and cleanup materials shall be removed and disposed at a State Health Department approved disposal location in accordance with State and US EPA regulations.

If waste is unable to be containerized, contact a spill response contractor listed in **Appendix E**. Waste disposal will then be handled by the spill response contractor.

Chapter 12 - Drilling Fluid Response, Containment, & Notification Procedures

Construction of a pipeline may include the use of trenchless methods known as the horizontal directional drilling (HDD) and guided/road bore methods. Throughout this chapter, both methods are referred to collectively as HDD. While the HDD method always includes the use of drilling fluid, the guided or road bore method might use drilling fluid or water to power and lubricate the bore. HDD drilling fluids/mud consists primarily of water mixed with inert bentonite clay. Only non-hazardous additives will be used and a Material Safety Data Sheet (MSDS) for the drilling fluid will be maintained on-site.

This chapter discusses measures to be implemented by the Contractor if an inadvertent release of drilling fluid occurs despite prevention efforts. Prior to the commencement of drilling operations, the Contractor will ensure that the appropriate response personnel and containment equipment are on site for each drill/bore.

12.1. On-site Observation During HDD

During HDD, the Contractor will monitor the process as follows:

- The Contractor will inform observers what to watch for and make them aware of the importance of timely detection and response to any release of drilling fluid.
- Construction observers will have appropriate, operational communication equipment (e.g., radio and cell phones) available at all times during HDD.
- The HDD operator will monitor the annular drilling fluid pressures during pilot hole operations.
- If the HDD operator realizes a sustained loss in fluid pressure or loss of circulation:
    - The operator will immediately notify the construction observers of the assumed position of the drill tool; and
    - The Contractor will visually monitor the appropriate portion of the drill path where the drill tool is located to determine if an inadvertent return occurred.

12.1.1. Containment, Response, and Clean-up Equipment

Containment, response and clean-up equipment will be available at both sides of an HDD crossing location to assure a timely response in the event of an inadvertent release of drilling fluid. Containment and response equipment includes but is not limited to:

- straw bales and staking
- pre-filled sandbags
- turbidity curtain (not necessary for guided or road bores that do not involve a waterbody)
- silt fence
- plastic sheeting and/or geotextile fabric
- shovels, brooms, buckets, and other appropriate hand tools
- pumps and sufficient hose
- fluid storage tanks (may not be necessary for guided or road bores)
- vacuum truck on 24-hour call

- light plant/generator (only necessary where operations are conducted outside of daylight hours)

12.2. Response

In the event an inadvertent drilling fluid release is observed, the EI and the Contractor will assess the area to determine the amount of fluid being released and potential for the release to reach sensitive resource areas. Response measures will vary based on location of inadvertent release as discussed below.

12.2.1. Upland Locations

The EI will evaluate the release to determine if containment structures such as earthen or sandbag berms, silt fence, and/or hay bales will effectively contain the release.

If the amount of fluid released is not great enough to allow physical collection from the affected area, it will be diluted with clean water and/or the fluid will be allowed to dry and dissipate naturally.

If the release exceeds amounts which can be completely contained with hand-placed barriers, small collection sumps may be used to remove released drilling fluid.

The Contractor will suspend drilling operations if the fluid released cannot be effectively contained.

12.2.2. Wetland and Waterbody Locations

This chapter also applies to areas adjacent to wetlands and waterbodies, such as stream banks or steep slopes, where drilling fluid releases could quickly reach surface waters.

In the event of a drilling fluid release in wetlands, waterbodies, or adjacent areas:

- The EI will evaluate the release, and aide the Contractor in implementing appropriate containment measures.
- The EI and the Contractor will evaluate the recovery measures to determine the most effective collection method.
- Cenex and the Contractor will review and adjust drill pressures, pump volume rates, and drill profiles to minimize the extent of the release.
- Drilling operations will be suspended if containment measures do not effectively control the release.

If the release exceeds amounts which can be completely contained with hand-placed barriers, small collection sumps may be used to remove released drilling fluid.

If the amount of fluid released is not great enough to allow physical collection from the affected area, it will be diluted with clean water and/or the fluid will be allowed to dry and dissipate naturally.

Excess fluid will be held within the containment area and removed using pumps.

Recovered fluid will be stored in a temporary holding tank away from a floodplain and/or wetland for reuse or eventual disposal in an approved disposal location.

Cenex and/or the Contractor will consult with appropriate regulatory agencies to evaluate the circumstances of the release, discuss additional cleanup requirements, and under what conditions HDD may proceed.

12.3. Notification and Resumption of Suspended HDD Operations

The Contractor will immediately notify the EI of all drilling fluid releases. If the release affects wetland or waterbody areas, the EI will immediately notify Cenex and the appropriate regulatory agencies.

The conditions under which drilling/boring operations can resume will be discussed with appropriate regulatory agencies and/or field representatives. If containment measures are functioning and the circumstances and potential impacts of the previous spill are understood, drilling/boring operations will resume.

12.4. Clean-Up

Drilling fluid will be cleaned up by hand using hand shovels, buckets and soft-bristled brooms without causing extensive ancillary damage to existing vegetation. Clean water washes may also be employed if deemed beneficial and feasible.

Containment structures will be pumped out and the ground surface scraped without causing undue loss of topsoil or ancillary damage to existing and adjacent vegetation.

Material will be collected in containers for temporary storage prior to removal from the site.

The EI will evaluate cleanup efforts to determine if the physical damage to the site exceeds the benefits of removal activities. This decision will be made in consultation with the appropriate regulatory agencies and/or Cenex.

12.5. Restoration and Post-Construction Monitoring

Following cleanup activities, restoration and revegetation of affected areas will be completed in accordance with all applicable local, state, and federal permits. Cenex will monitor the release site as appropriate to assure adequate restoration.

Chapter 13 - References

Federal Energy Regulatory Commission. Office of Energy Projects. 2013. Upland Erosion Control, Revegetation & Maintenance Plan. Retrieved on 15 May 2017 from https://www.ferc.gov/industries/gas/enviro/guidelines/upland-pocket-guide.pdf

North Dakota Department of Agriculture. (2017a). Noxious Weeds. North Dakota Noxious Weeds. Retrieved on 2 June 2017 from: https://www.nd.gov/ndda/program/noxious-weeds

North Dakota Department of Agriculture. (2017b). North Dakota County and City Listed Noxious Weeds. Retrieved on 2 June 2017 from: https://www.nd.gov/ndda/files/2-9-17_City_County_Noxious_Weeds_List.pdf

Acronyms/Abbreviations List

CHS	CHS Inc.
Cenex	Cenex Pipeline, LLC
CEP	Construction Environmental Program
CLL	Construction Line List
Contractor	Construction Contractor and subcontractors
CRP	Conservation Reserve Program
EI	Environmental Inspector
FERC	Federal Energy Regulatory Commission
HDD	Horizontal Directional Drilling
PLS	Pure Live Seed
Project	Sidney, MT to Minot, ND pipeline project
ROW	Right-of-Way
SPCC	Spill Prevention, Control & Countermeasures
USACE	United States Army Corps of Engineers

APPENDIX A

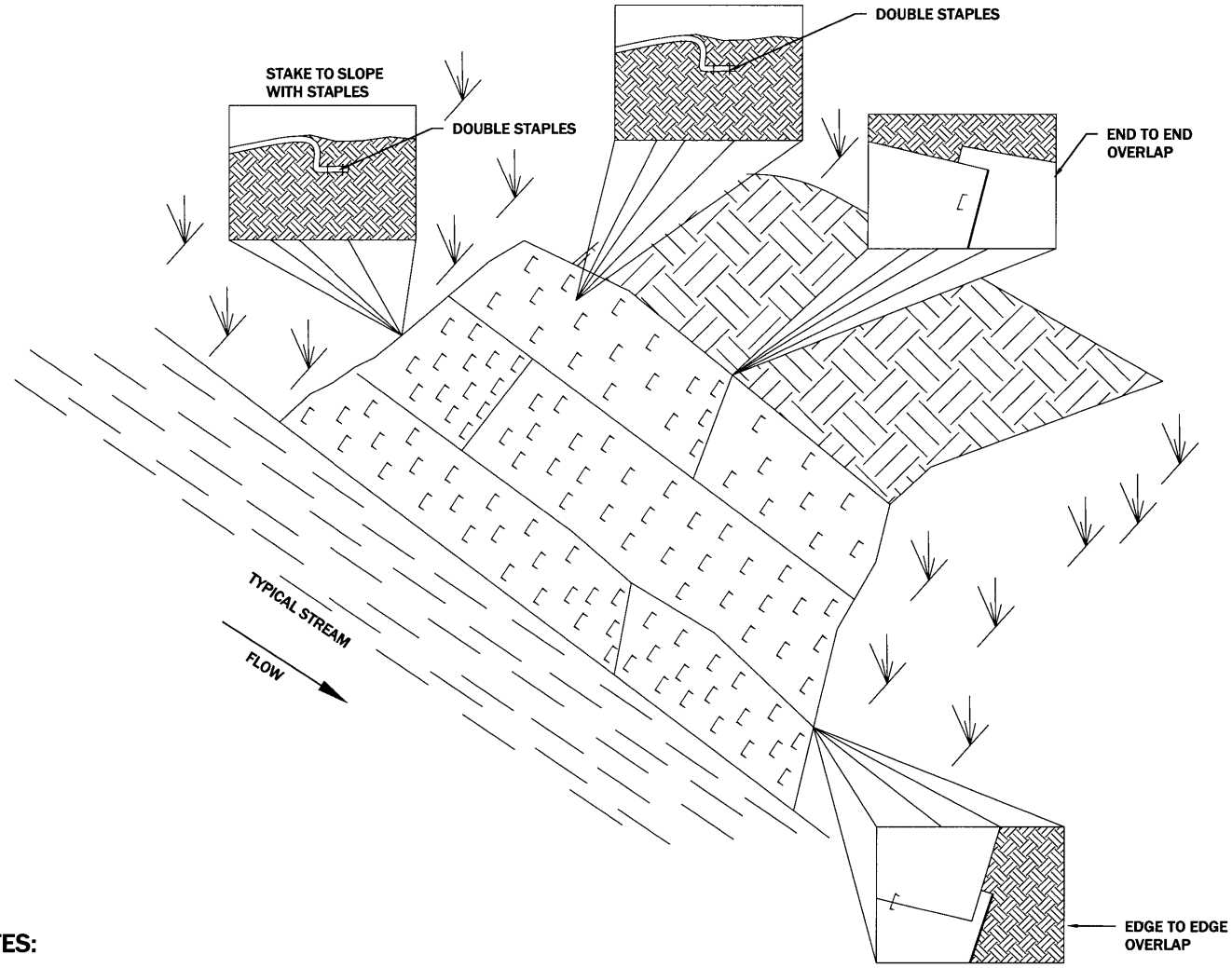
Equipment Cleaning Log

Cenex Equipment Cleaning Log

Date:				
Time:				
Equipment Type:				
Equipment ID: **(e.g., company, unique ID number)**				
Cleaning Method: **(check all that apply)**	☐ Scrape Down ☐ Steam Wash Blow Down (compressed air) ☐ Power/Pressure Wash (water) ☐ Other (describe): _____	☐ Scrape Down ☐ Steam Wash Blow Down (compressed air) ☐ Power/Pressure Wash (water) ☐ Other (describe): _____	☐ Scrape Down ☐ Steam Wash Blow Down (compressed air) ☐ Power/Pressure Wash (water) ☐ Other (describe): _____	☐ Scrape Down ☐ Steam Wash Blow Down (compressed air) ☐ Power/Pressure Wash (water) ☐ Other (describe): _____
Signature:				
Comments: **(Date after any comments provided if form is used on multiple days)**				

APPENDIX B

BMP Details

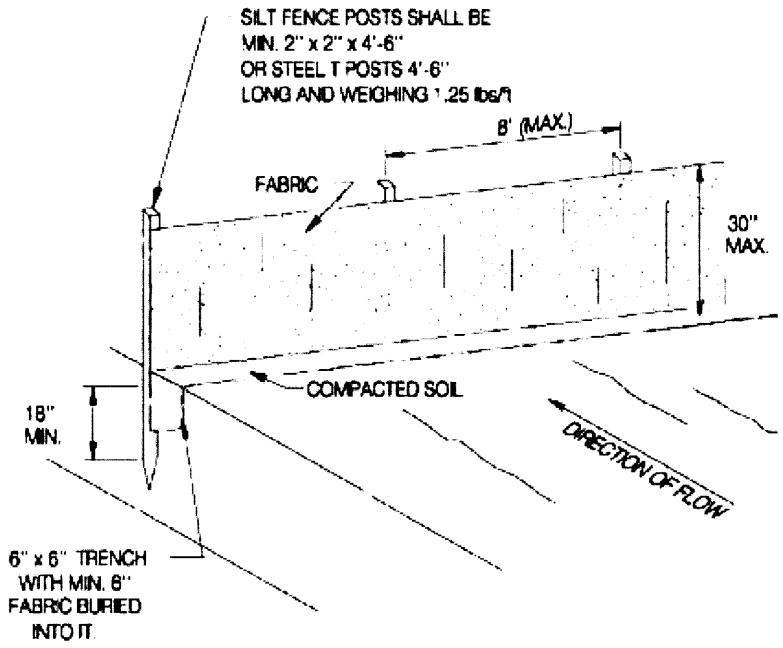


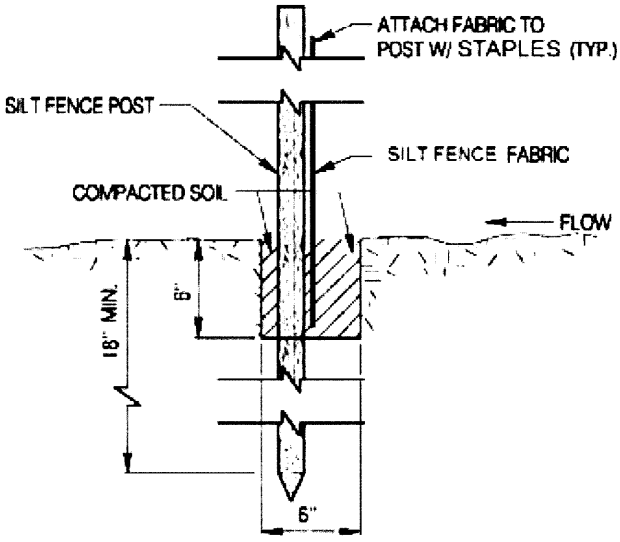
NOTES:

1. Erosion control blankets shall be placed on streambanks of all perennial streams and/or in locations directed by the Environmental Inspector.
2. Matting shall be ErosionControlBlanket SC32 BD or an approved equivalent. Product shall have the following minimum specifications:
   - 70% agricultural straw (maximum) and 30% coconut fiber (minimum) matrix;
   - Straw/coconut fiber matrix applied at a rate of 0.5 lbs/yd2;
   - Top and bottom weave, made of woven biodegradable nets with mesh size 0.5" x 1.0";
   - 100% biodegradable leno woven net, thread, and matrix;
   - "C" factor = 0.002;
   - Maximum Permissible Shear Stress = 2.00 lbs/ft2 (96 Pa);
   - Maximum Permissible Velocity = 8 ft/sec (2.44 m/s);
   - Manning's "n" = 0.03.
3. Staples shall be 8 gauge wire and 8" in length.
4. Matting shall be installed according to manufacture specifications or as follows:
   - Top of blanket shall extend 2' above ordinary high water mark.
   - Blankets shall be installed across the slope in flow direction.
   - Upstream edge shall be "keyed-in" using a 6" x 6" (minimum) anchor trench. Double staple every 12" before backfilling and compacting trench.
   - Overlap blanket edges a minimum of 6", upper blanket over lower blanket. Staple every 12" along seam.
   - Staple every 3' (maximum) throughout blanket.
5. Ensure good soil to blanket contact. Do not suspend or bridge blanket.

EROSION CONTROL BLANKETS

FIGURE 1



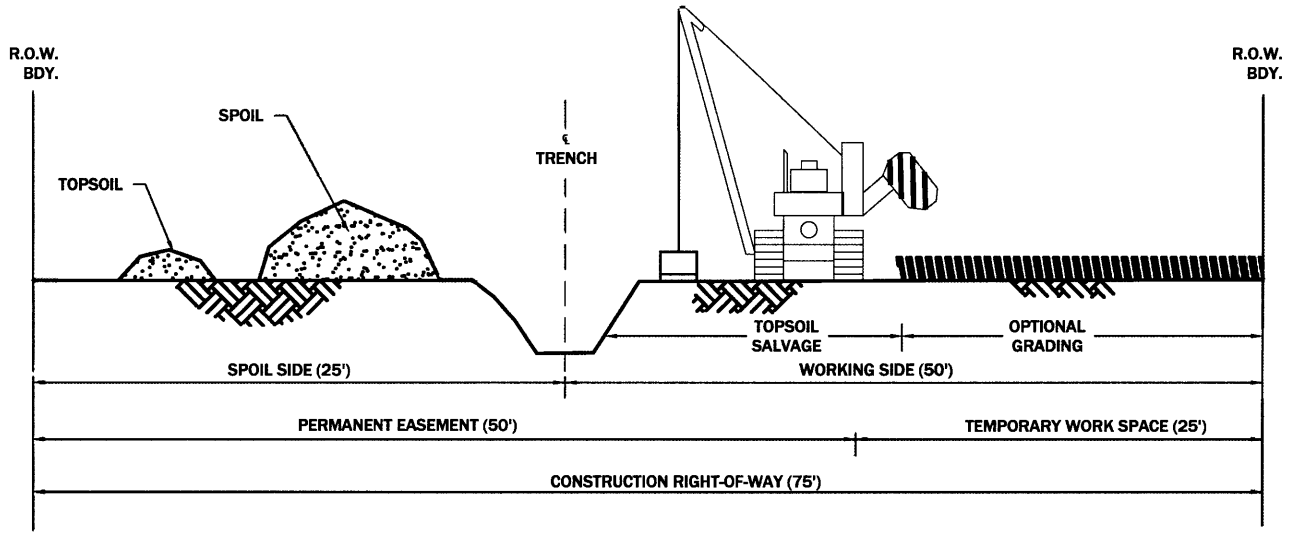


Adapted from Montana Dept. of Environmental Quality Storm Water Management During Construction. Field Guide for Best Management Practices.

NOTES:

1. Install at base of all slopes above stream, wetlands, or as directed by Environmental Inspector.
2. Install along contour, 3' (minimum) from toe-of-slope for sediment accumulation.
3. Install at rate of 100 linear feet per 1/4-acre of drainage area.
4. Do not install in areas of concentrated flow.
5. Stabilize with metal posts and woven wire, if directed.
6. Overlap/wrap adjoining ends of fence segments to eliminate gaps.
7. Repair as necessary. Remove accumulated sediment when exceeds 1/3 of fence height.

SILT FENCE BMP | **FIGURE 1**

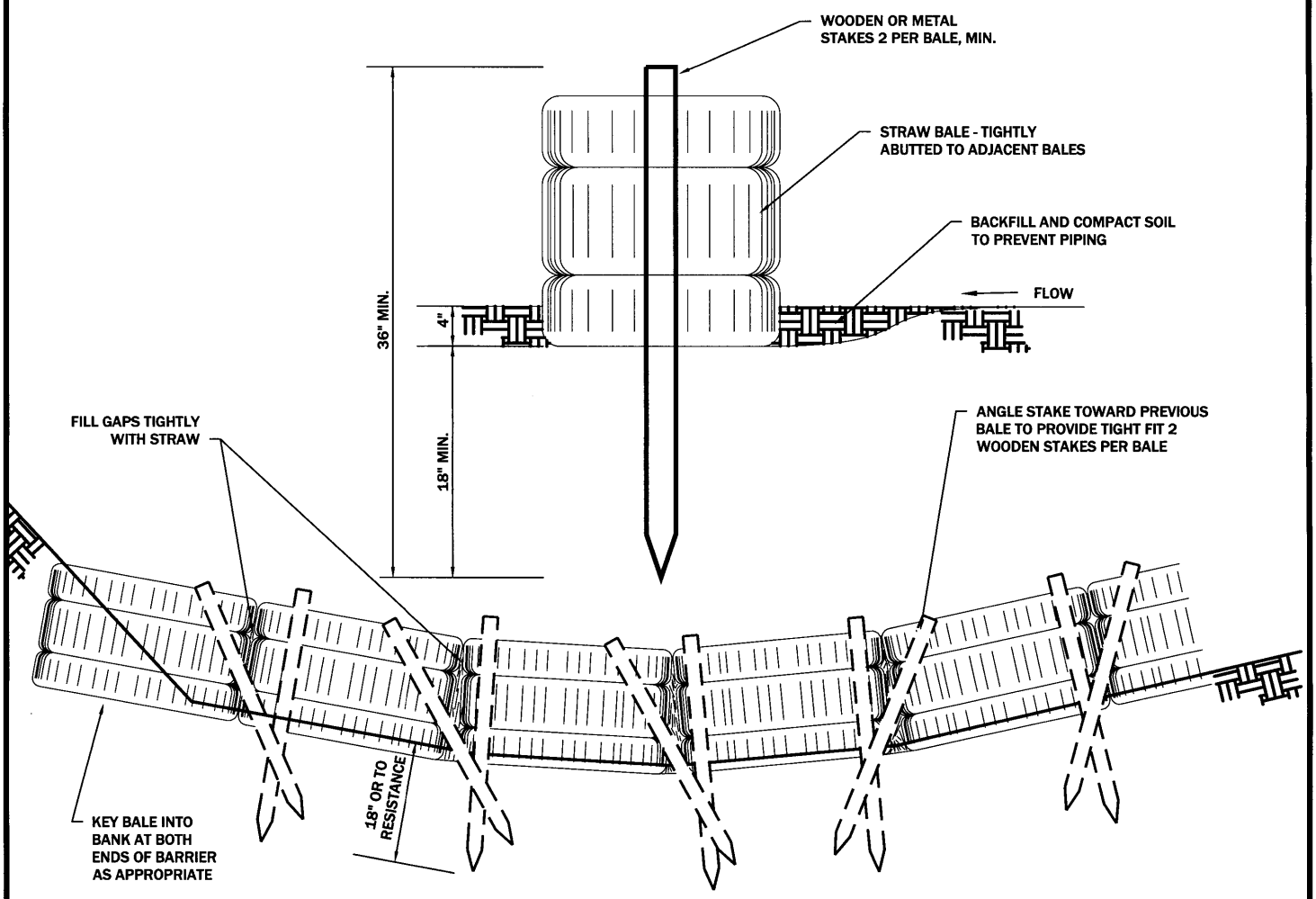


NOTES:

1. Minimize soil disturbance.
2. Cut vegetation from working areas, where necessary.
3. Maintain a 50' buffer at drainage crossing until time of pipe installation.
4. Maintain a 10' (minimum) vegetated buffer between right-of-way and adjacent water bodies.
5. Full right-of-way grading shall not occur except in steep areas. Topsoil will only be removed from the ditchline and adjacent soil stockpile area, not from other areas of the right-of-way.
6. Topsoil will be removed to a maximum depth of 12" and stockpiled on the non-working side of the right-of-way.
7. Trench spoils will be stockpiled separate from the topsoil.
8. Gaps will be left in the material piles at drainages to accommodate runoff.
9. Provide 48" minimum cover above top of pipe. Minimum cover is reduced to 36" if rock excavation required.
10. Width of ditch is 30" maximum except at bell holes where OSHA sloping requirements will be followed.
11. Implement appropriate erosion control measures to minimize erosion and sediment transport.
12. If dewatering is necessary, discharge water where vegetative cover prevents channeling and sediment transport, or discharge into a sediment filter bag or temporary dewatering structure constructed of silt fence/fiber roll and straw bales.
13. Trench spoils may be backfilled directly into the ditch in areas where the spoils are composed of soft earthen material.
14. A minimum of 6" of padding will be used to cover the pipeline before any hard objects are placed in the ditch.
15. Backfill will be compacted by running tractor wheel along the ditch line. Excess spoils will be spread evenly across right-of-way or removed.
16. Respread topsoil to a uniform depth across right-of-way.
17. Install permanent water bars.
18. Roughen slopes ("dozer tracks") perpendicular to the fall line.
19. Leave topsoil in a loose and friable condition appropriate for seeding.
20. Seed prior to or after ground freezing between October 1 and June 1.

SOIL SALVAGE AND GRADING

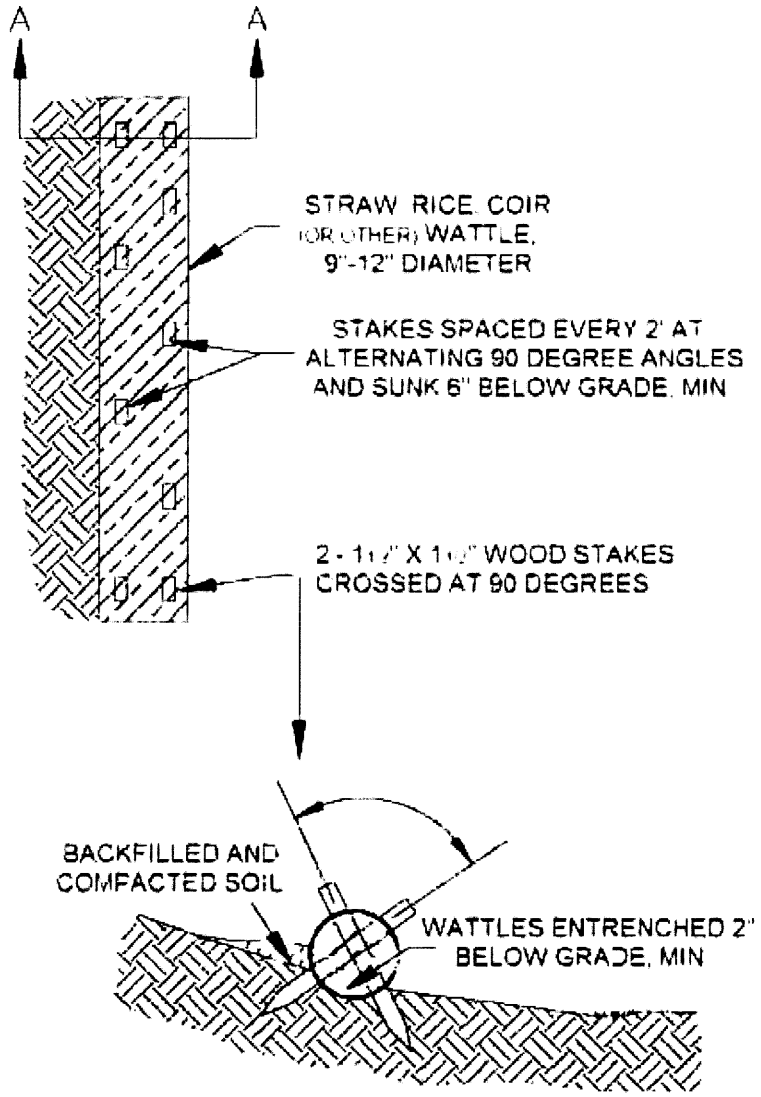
FIGURE 1



NOTES:

1. Straw bale barriers shall be installed at the base of slopes above streams, wetlands, or as directed by the Environmental inspector.
2. Straw bales shall consist of weed free material and weigh no less than 45 lbs.
3. Bales are to be placed in row(s) with their ends tightly abutted.
4. Each bale is to be securely anchored with two stakes (minimum). The first stake is driven into the adjoining bale to force bales together.
5. Stakes are to be a minimum length of 36". Wooden stakes shall have a minimum dimension 2" square. Metal stakes shall have a minimum weight of 1 lb/ft.
6. Bales are to be oriented with cut fiber edge keyed into the ground a minimum of 4". Excavated material shall be backfilled and compacted on the upslope side.
7. Gaps between bales shall be filled tightly with straw.
8. End of rows shall extend upslope to trap runoff.
9. Damaged or ineffective barriers shall be repaired or replaced promptly.
10. Sediment shall be removed from behind the barriers when accumulation is ½ of bale height.
11. Straw bale barrier shall be removed when service is no longer required and/or at the request of the Environmental Inspector.

STRAW BALE BARRIER | **FIGURE 1**



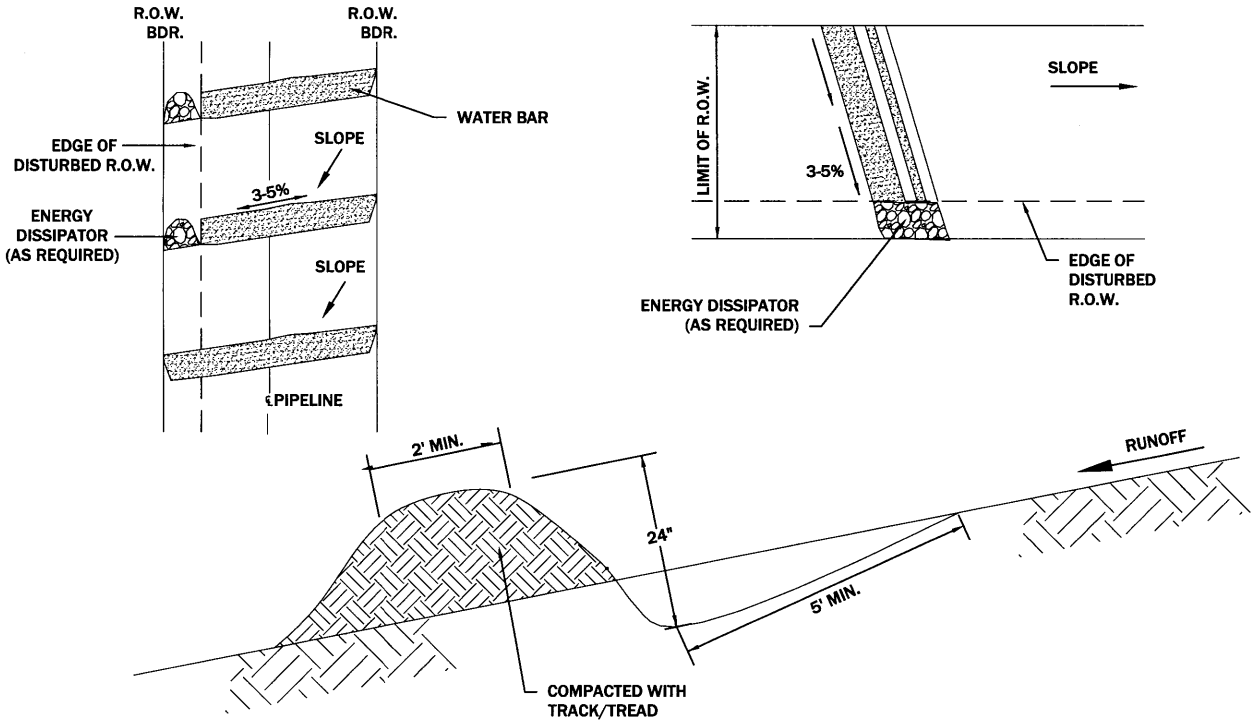
SECTION A

Adapted from Montana Dept. of Environmental Quality Storm Water Management During Construction. Field Guide for Best Management Practices.

NOTES:

1. Install at base of all slopes and above streams, wetlands, or as directed by Environmental Inspector.
2. Suitable for small drainage areas with sheet flow.
3. Install along grade contours. Trench below grade and backfill.
4. Secure every 2'; staking at alternating angles.
5. Hook up "free" ends. Overlap adjoining ends.
6. Remove sediment accumulation when exceeds 1/2 of height.
7. Repair/replace as necessary.

STRAW WATTLE BMP | **FIGURE 1**



NOTES:

1. Water bars will be installed at locations shown on the plans, on slopes between 5% and 40%, and/or as directed by the Environmental Inspector.
2. At the discretion of the Environmental Inspector, "temporary" water bars shall be installed during grading operation and maintained throughout the life of the project.
3. Water Bar spacing shall be as follows or as directed by the Environmental Inspector.
   - 5% - 15% slope every 300' (minimum)
   - 15% - 30% slope every 200' (minimum)
   - > 30% slope every 100' (minimum)
4. Spacing shall be reduced near the top-of-slope, at the discretion of the Environmental Inspector.
5. Water bars will be oriented as shown or as directed by the Environmental Inspector to route water from slope.
6. Water bars will be constructed at a 3-5% gradient across the slope.
7. Water Bar will be 2' deep, as measured from the trough to the top of the bar. The trough shall be 5' wide across the right-of-way.
8. The outlet of the bar must freely drain all runoff off the disturbed right-of-way.
9. If necessary, the berm (and not trough) will extend beyond the edge of disturbance to ensure water flowing off the disturbed area does not return to the right-of-way below the water bar.
10. In the absence of adequate vegetation at the outlet, rock or erosion control matting shall be placed at the outlet as directed by the Environmental Inspector, to dissipate flow energy.
11. Berms shall be repaired following any breach or failure to drain properly.
12. Sediment shall be removed from the trough when the holding capacity behind the bar is reduced by over 50%.
13. Temporary water bars shall be reestablished within 24 hours following pipe stringing, following pipe welding, and following lowering-in operations.
14. Water bars shall be made a permanent feature during final grading.

WATER BARS | **FIGURE 1**

APPENDIX C

Environment Hydrotest

Discharge Authorization and Documentation

Cenex Environmental Hydrotest Discharge Authorization and Documentation

The purpose of this form is to document and ensure that appropriate planning occurs prior to hydrostatic test discharge activities as well as the proper recording of necessary information during the actual discharge event. If the discharge permit specifies the need for a Certified Operator, he/she is responsible for the final section of the form. Otherwise, an Environmental Inspector will be responsible for completion of this form.

Part 1: Basic Discharge Information: All information must be completed. Coordination with Cenex is necessary to obtain the exact test section length and volume of water to be discharged. The estimated duration of the discharge must be calculated using the maximum permitted rate (or the anticipated rate, if lower than the permitted rate) and the total volume of water to be discharged. This is critical information and will ensure that any required sampling is conducted at the appropriate frequency specified in the permit.

Part 1: Basic Discharge Information

Date: _____ Spread: _____ Tract #: _____
Project Name: _____
Test Section Identification: _____
Pipe Diameter (inches): _____ Test Section Length (feet): _____
Volume to be Discharged (gallons): _____
Permitted Discharge Rate (gpm): _____ Est. Duration of Discharge (hours): _____
Receiving Waterbody Name/Nearest Surface Waterbody: _____
Certified Operator Name and Number (if applicable): _____

Part 2: Pre-Discharge Planning Checklist: A pre-discharge planning meeting must be held with the, Contractor, Environmental Inspector, and Construction Management staff to review items included in the checklist and any other pertinent information deemed necessary. A full copy of the permit and discharge plan must be provided to all participants. Upon completion of this meeting, all participants must sign the form to indicate that they understand all steps of the discharge process.

Note: In order to proceed with discharge activities, the Cenex Staff assigned to the project, or their designees, must review the information and provide their authorization by signing and dating the form.

Part 2: Pre-Discharge Planning Checklist

NOTE: All items must be complete prior to initiating discharge activities

- ☐ Notification to agency(ies) provided (if applicable - attach copy of notification documentation)
- ☐ Flow meter installed and functional in accordance with manufacturers recommendations
- ☐ Sample collection port/tap installed or other positive means of direct sampling of discharge water (only necessary if sampling is required)
- ☐ Review of discharge permit and site-specific plan complete (attach a copy of the permit and approved site specific plan)
- ☐ Discharge structure/BMPs installed according to approved plan
- ☐ Complete the table below, including quantity of samples required in accordance with the permit based on anticipated discharge duration. Add other parameters as specified in the permit:

Parameter	Analytical Method Number	Container Type	Container Volume	Preservation	Maximum Holding Times	Permit Limit	Sample Type	Frequency of Analysis Specified in Permit	Number of Samples Required
pH	NA	Polyethylene/ Glass	NA	None required	Analyze immediately		Field measurement		

- ☐ Indicate responsible party for emergency/upset/spill notifications in accordance with the permit:_____
- ☐ Indicate responsible party for to begin flow diversion when change in coloration observed: _____

All staff involved in hydrostatic test discharge activities must review the above information and print and sign their name below indicating their participation in a pre-job planning meeting and that they understand the discharge plan, permit, and procedures and are prepared to properly implement them. Attach additional sheets as necessary.

Name (print and sign):

Environmental Inspector Signature: _____

Cenex Environment and Construction Management staff reviewed the pre-planning information provided and approve the initiation of discharge activities.

Cenex Environment Staff Signature and Date: _____

Cenex Construction Manager Signature and Date: _____

Part 3: Discharge Monitoring: A copy of the permit, discharge plan, and parts one and two of the form must be on-site at all times during the discharge event. In addition to the items specified on the form, the following photographs are required:

- Receiving water before, during, and after the discharge (minimum 3 photos/day)
- Discharge structure/device before and during the discharge (minimum 3 photos/day)

As noted, upon completion of the discharge event, the Environmental Inspector, Contractor Foreman, and Cenex Construction Manager must sign and date the form. The completed form, along with the supplemental photographs, and a copy of the chain of custody for any samples submitted for laboratory analysis must be submitted to the Cenex Environmental Project Manager within 12 hours of ending the discharge. Any permit violations will be reported to the applicable agencies by the Cenex Environmental Project Manager within the timeframes specified in the discharge permit.

Part 3: Discharge Monitoring - attach additional sheets as necessary

Note: Flow rate must be recorded hourly; sample frequency must be in accordance with the permit specifications

Date	Time	Recorded/ Sampled By	Flow Rate (gpm)	pH	Dissolved Oxygen (mg/l)	TSS Sample Collected?	Oil & Grease Sample Collected?	Other (indicate)

Flow meter manufacturer and model: _____

Flow meter date of last calibration: _____

pH/Dissolved Oxygen instrument manufacturer and model: _____

pH/Dissolved Oxygen instrument date of last calibration: _____

Date and Time discharge start: _____ Date and Time Discharge Complete: _____

Equipment, Discharge, and Receiving Water Inspection Notes (minimum 3 entries per day):

Outfall Observations & Photo Documentation Notes (note presence or absence of any unusual characteristics such as unnatural turbidity, color, oil film, floating solids, foams, settled solids, suspended solids, or deposits - minimum 3 entries per day):

Certified Operator or Environmental Inspector Signature: _____

Contractor Foreman Signature: _____

Cenex Construction Manager Signature: _____

APPENDIX D

Seed Mixes

Table 1 – Temporary Cover Crop Seed Mix

Seed Name	Pure Live Seed (Pounds Per Acre)	% of Seed
Oats (*Avena sativa*) if summer seeding or Winter Wheat (*Triticum aestivum*) if dormant (late fall) or spring seeding	40	50 %
Annual Ryegrass (*Lolium italicum*), Annual Alfalfa (*Medicago sativa*), or Slender Wheat Grass (*Elymus trachycaulus*)	40	50%
Grand Total	**80 pounds**	**100%**

Table 2 – Construction Area Standard Upland Seed Mix

Seed Name	Pure Live Seed (Pounds Per Acre)	% of Seed
Western Wheatgrass (*Pascophyrum smithii*)	3.2	20%
Slender Wheatgrass (*Elymus trachycaulus*)	1	10%
NewHy bluebunch-quackgrass hybrid	6	30%
Pubescent Wheatgrass (*Elytrigia intermedia*)	5.2	30%
Alfalfa (*Medicago sativa*)	1.2	10%
Total	*16.6*	*100%*
Associated Companion Crop Mix		
Oats (*Avena sativa*) if summer seeding or Winter Wheat (*Triticum aestivum*) if dormant (late fall) or spring seeding	16	80%
Annual Ryegrass (*Lolium italicum*), or Slender Wheat Grass (*Elymus trachycaulus*)	4	20%
Grand Total	**36.6 pounds**	**100%**

Table 3 – General Restoration Mix

Seed Name	Pure Live Seed (Pounds Per Acre)	% of Seed
American Slough Grass (*Beckmannia syzigachne*)	6	30%
Annual Rye Grass (*Lolium perene*)	8	40%
Fowl Bluegrass (*Poa palustris*)	6	30%
Grand Total	**20 pounds**	**100%**

Table 4 – Residential Area Upland Seed Mix

Seed Name	Pure Live Seed (Pounds Per Acre)	% of Seed
Kentucky Bluegrass (*Poa pratensis*)	82.5	52%
Perennial Ryegrass (*Lolium perenne*)	30	19%
Creeping Red Fescue (*Festuca rubra*)	37.5	23%
Annual Rye Grass (*Lolium italicum*)	10	6%
Grand Total	**160 pounds**	**100%**

Table 5 – Livestock Grazing and Hay Production Areas Upland Seed Mix

Seed Name	Pure Live Seed (Pounds Per Acre)	% of Seed
Western Wheatgrass (*Pascophyrum smithii*)	3.2	20%
Slender Wheatgrass (*Elymus trachycaulus*)	1	10%
NewHy bluebunch-quackgrass hybrid	6	30%
Pubescent Wheatgrass (*Elytrigia intermedia*)	5.2	30%
Alfalfa (*Medicago sativa*)	1.2	10%
Total	*16.6*	*100%*
Associated Companion Crop Mix		
Oats (*Avena sativa*) if summer seeding or Winter Wheat (*Triticum aestivum*) if dormant (late fall) or spring seeding	16	80%
Annual Ryegrass (*Lolium italicum*), or Slender Wheat Grass (*Elymus trachycaulus*)	4	20%
Grand Total	**36.6 pounds**	**100%**

Table 6 –Wildlife Area Upland Seed Mix

Seed Name	Pure Live Seed (Pounds Per Acre)	% of Seed
Western Wheatgrass (*Pascophyrum smithii*)	4	34.5%
Slender Wheatgrass (*Elymus trachycaulus*)	1	8.6%
Green needlegrass (*Stipa viridula*)	2.4	20.7%
Sideoats grama (*Bouteloua curtipendula*)	2.4	20.7%
Blue grama (*Bouteloua gracilis*)	0.4	3.4%
Canada wild rye (*Elymus canadensis*)	0.6	5.2%
Switchgrass (*Panicum virgatum*)	0.8	6.9%
Grand Total	**11.6 pounds**	**100%**

Table 7 –Native Area Seed Mix

Seed Name	Pure Live Seed (Pounds Per Acre)	% of Seed
Western Wheatgrass (*Pascophyrum smithii*)	4	34.5%
Slender Wheatgrass (*Elymus trachycaulus*)	1	8.6%
Green needlegrass (*Stipa viridula*)	2.4	20.7%
Sideoats grama (*Bouteloua curtipendula*)	2.4	20.7%
Blue grama (*Bouteloua gracilis*)	0.4	3.4%
Canada wild rye (*Elymus canadensis*)	0.6	5.2%
Switchgrass (*Panicum virgatum*)	0.8	6.9%
Grand Total	**11.6 pounds**	**100%**

Table 8 – Roadside Seed Mix

Seed Name	Pure Live Seed (Pounds Per Acre)	% of Seed
Western Wheatgrass (*Pascophyrum smithii*)	3.2	20%
Slender Wheatgrass (*Elymus trachycaulus*)	1	10%
NewHy bluebunch-quackgrass hybrid	6	30%
Pubescent Wheatgrass (*Elytrigia intermedia*)	5.2	30%
Alfalfa (*Medicago sativa*)	1.2	10%
Total	*16.6*	*100%*
Associated Companion Crop Mix		
Oats (*Avena sativa*) if summer seeding or Winter Wheat (*Triticum aestivum*) if dormant (late fall) or spring seeding	16	80%
Annual Ryegrass (*Lolium italicum*), or Slender Wheat Grass (*Elymus trachycaulus*)	4	20%
Grand Total	**36.6 pounds**	**100%**

Table 9 – Conservation Reserve Program (CRP) Seed Mix

Seed Name	Pure Live Seed (Pounds Per Acre)	% of Seed
Tall wheat grass (*Thinopyrum ponticum*)	2.2	27.5
Intermediate or pubescent wheat grass (*Thinopyrum intermedium*)	4.3	53.75
Alfalfa (*Medicago sativa*)	1.1	13.75
Sweet clover (*Melilotus officinalis*)	0.4	5
Grand Total	**8 pounds**	**100%**

APPENDIX E

Emergency Contacts

Emergency Contacts Emergency Contacts

Spill Reporting Hotlines

Agency	Telephone #
North Dakota Department of Health Environmental Health Section	1-701-328-5210 or 1-701-328-5166
North Dakota Department of Emergency Services	1-701-328-9921 or 1-800-472-2121 (24-Hour Hotline)
National Response Center USCG/USEPA	1-800-424-8802
EPA Region VIII	1-303-312-6312

Local Emergency Agencies

Agency	Telephone #
In the event of an emergency	911
Williams County Emergency Manager - Mike Smith	1-701-577-7707
Williams County Sheriff's Department - Scott Busching	1-701-577-7700
Mountrail County Emergency Manager - Lisa Lee	1-701-628-2909
Mountrail County Sheriff's Department - Kenneth Halverson	1-701-628-2975
Ward County Emergency Manager - Amanda Schooling	1-701-857-6560
Ward County Sheriff's Department - Steve Kukowski	1-701-852-1305

Spill Response Contractors

Company/Location	Telephone #
Veolia/Wisconsin (large scale emergencies only)	1-920-757-5265
SWAT Consulting/Watford City	1-866-610-7928
Clean Harbors/Watford City	1-701-586-3170
Sakakawea Area Spill Response/New Town	1-701-456-5415
Williston Basin Oil Spill Cooperative/Watford City	None known
LePier Oil/Fosston, MN	1-218-435-1040
West Central Environmental Consultants/Morris, MN	1-320-589-2039

Cenex Pipeline LLC Contacts

Name/Title	Telephone #
Joey Phillips/Environmental Coordinator	406-628-5361 (office) 406-855-5407 (cell)

APPENDIX F

Spill Report Form

Spill Report Form

County:		**Date:**	
Township:	**Range:**	**Section:**	**Quarter Quarter:**
Latitude:		**Longitude:**	
Location Description (driving directions from nearest town, etc.):			
Date of Spill:		**Date of Spill Discovery:**	
Time of Spill:		**Time of Spill Discovery:**	
Name and Title of Discoverer:			
Type of Substance Spilled:			
Estimated Duration:		**Estimated Volume:**	
Weather Conditions:			
Topography and Surface Conditions of Spill Site:			
Spill Medium (pavement, sandy soil, water, etc.):			
Was the spill contained (circle one)?	**Yes**	**No**	
Did the spill reach a waterbody (circle one)?	**Yes**	**No**	
If so, was a sheen present (circle one)?	**Yes**	**No**	
Describe Cause:			
Describe extent of observed contamination, both horizontal and vertical (ie. spill-stained soil in a 5-foot radius to a depth of 1 inch):			
Action Taken and Recommended, Current, and Planned Future Action (how was spill contained, soil excavated, emergency approval to burn, evacuation of nearby personnel, etc.):			
Where will recovered wastes be disposed?			
Other agencies that have or will be notified:			
☐ **NDDES**	☐ **State Fire Marshal**	☐ **State Highway Patrol**	
☐ **Local Fire Department**	☐ **Local Law Enforcement**	☐ **Local Emergency Manager**	
☐ **Other (please list):**			
Please provide name and company for the following			
Construction Superintendent:			
Cenex Representative:			
Person whom Reported the Spill:			
Environmental Inspector:			
Spill Coordinator:			
Form completed by:		**Date:**	