APPENDIX 3. GEC Plan of Development

PLAN OF DEVELOPMENT

Hotchkiss Ranch Project – 16 Natural Gas wells, Gas and Water Gathering Pipelines and Associated Roads

Gunnison Energy Corporation
Gunnison County, Colorado

Introduction

This Plan of Development (POD) describes measures to be taken by Gunnison Energy Corporation (GEC) and its contractors (Contractor) during construction, operation, and maintenance of the proposed gas and water gathering pipelines and associated roads for the Hotchkiss Ranch Project. The primary objective of the POD is to establish procedures for implementation of the mitigation measures for the project. This POD is based on the Proposed Action as presented by GEC and would be modified if determined by the Authorized Officer or other Responsible Official.

The project would be on private (Hotchkiss Ranch) and federal (Bureau of Land Management [BLM]) lands in Sections 17, 18, 19, and 20. GEC is requesting that the BLM grant a right-of-way (ROW) under Section 28 of the Mineral Leasing Act of 1920, as amended, to authorize the construction, operation, and maintenance of the proposed natural gas pipeline and related facilities in Gunnison County, Colorado.

Purpose and Need

GEC hopes to increase gas production in the area by exploring federal leases on private surface in Gunnison County, Colorado. The proposed wells are intended to increase the production from GEC's federal leases in Township (T) 12 South (S), Range (R) 89 West (W), Sections 17, 18, 19, and 20, and T12S, R90W, Sections 13 and 24. Leases involved include COC-65106, COC-65108, and COC-65523. Currently GEC is producing natural gas from three federal coal bed natural gas wells in sections 17 and 18.

This proposal for a gathering system and associated facilities would allow additional gas delivery from 16 proposed wells to the national energy market via existing inter- and intrastate pipelines. The proposed system would connect to and extend the Hotchkiss Pipeline in T12S, R89W, Section 17 at the HKF 1289 17-13. Ultimately the gas would be transported through the Hotchkiss Gathering Line to the Ragged Mountain Pipeline and finally to the Rock Mountain Pipeline for sales.

GEC's proposal, referred to as the Hotchkiss 16 Well Project (project), would involve the construction and operation of approximately 3.9 miles of 6-inch-diameter buried steel low pressure natural gas pipe and 6-inch-diameter buried steel low-pressure water pipe laid in the same trench and related aboveground appurtenances within the same ROW. The 6-inch-diameter water line would carry produced water from the proposed wells to the Hotchkiss 18-22 Disposal Well located in T12S, R89W, Section 22.

The purpose of this POD is to provide guidelines for the construction, future operations, and maintenance of the project in compliance with mitigation measures set forth by the BLM. The POD contains general information about the project. Detailed information concerning specific project-related activities, such as fire prevention and suppression, soil conservation and erosion control, and waterbody and wetlands protection, isprovided in the POD appendices. Additionally, detailed maps are provided in the form of Alignment Sheets, Attachment 1.

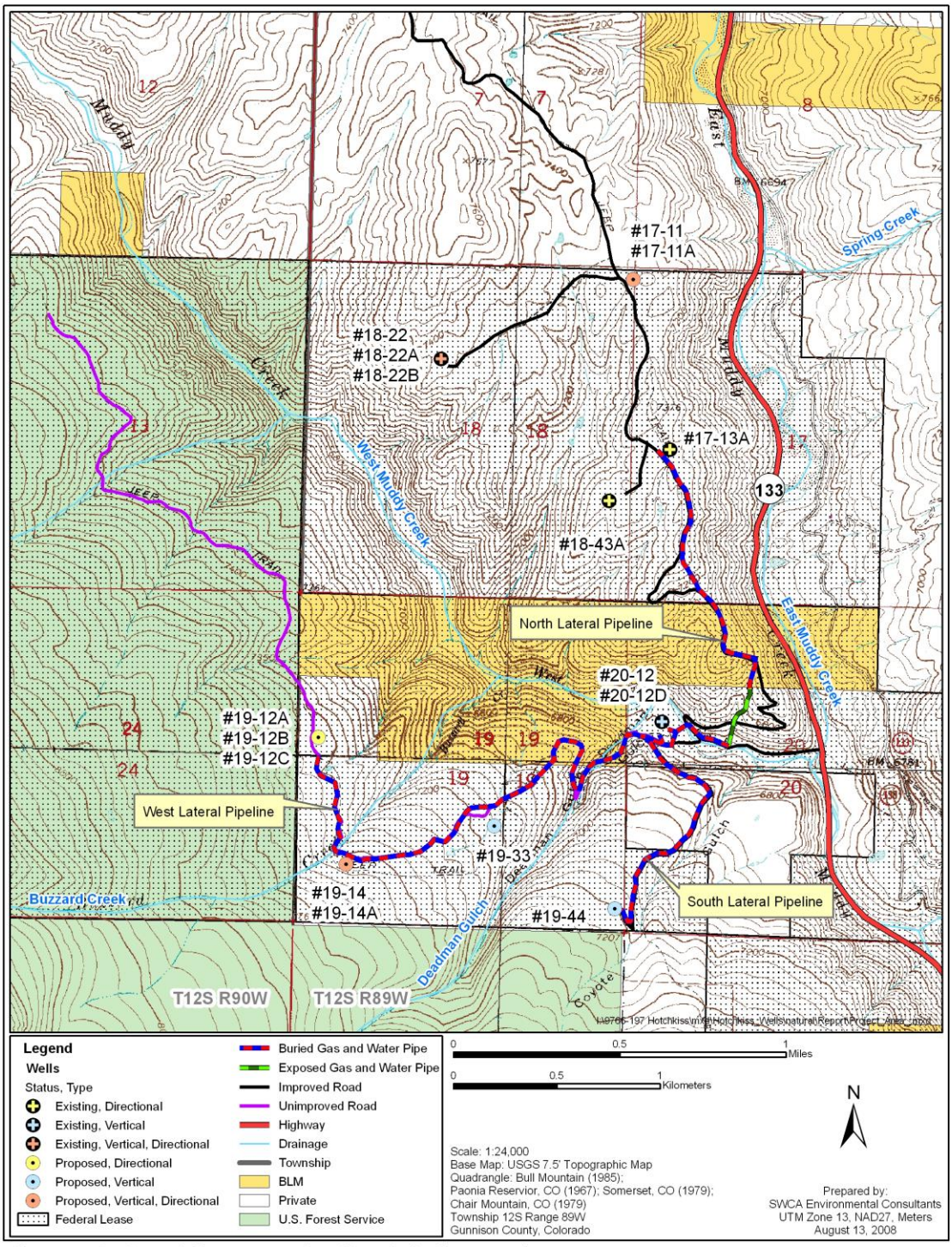

Figure 2. GEC Hotchkiss Proposed Wells and Pipeline Locations.

Figure 1.0-1 Project Location and Facilities

Proposed Facilities

GEC's Hotchkiss Federal 16 Well Project would include construction of three lateral gathering lines (North, South, and West Laterals) and road improvements along existing ranch roads. Each lateral gathering line would consist of two, 6-inch-diameter steel pipelines, one for gas production and one for water handling. The construction would include 3.9 miles of pipeline, 1.7 miles of road improvement, and 0.1 mile of new road. Approximately 89 percent of the gathering lines would be placed immediately adjacent to or within the edge of a road.

North Lateral

The North Lateral line would extend from the existing Hotchkiss Gathering Line at the HKF 1289 17-13 well pad south 1.3 miles to the proposed HKF 1289 20-12 (formerly the Megas 2). Both the gas and water pipeline would be buried alongside an existing gravel ranch road for 0.9 mile, traversing undisturbed surface for 0.4 mile of which 0.1 mile (600 feet) would be anchored aboveground through rock outcrop. Near the southern end, the lateral would cross West Muddy Creek via an existing rail car bridge. The pipe would be encased in a second pipe for containment purposes across the bridge.

The existing road along the North Lateral is a ranch road which corresponds to a BLM Resource Road. The road would be returned to its existing condition following construction of the pipeline. No new or reconstructed road would be required for this lateral. The existing road crosses BLM surface in NW ¼ of Section 20, T12S, R89W (refer to Attachment 1). A BLM ROW is in affect for this portion and would need to be amended.

South Lateral

The Southern Lateral line would extend from the proposed HKF 1289 20-12 south along an existing graveled ranch road for 0.8 mile and along an existing two-track ranch road that would require upgrading to a 14-foot-widegraveled road for approximately 300 linear feet. No new road construction would be necessary. Both the gas and water pipeline would be buried in the same trench adjacent to or within the road. No BLM surface would becrossed by the South Lateral.

West Lateral

The West Lateral line would extend from the proposed HKF 1289 20-12 west along an existing two-track ranch road for approximately 1.75 miles to the proposed HKF 1289 19-12 well pad. The entire road would be upgraded to a 14-foot-wide graveled road. Approximately 600 linear feetof new road would be required adjacent to the proposed HKF 1289 19-33. Both pipelines (gas and water) would be laid immediately adjacent to or within the road during upgrading.

Low water crossings would be constructed on Deadman Gulch and Buzzard Creek;; see attached engineered drawings. All crossings would conform to BLM Gold Book standards.

Pipeline Facilities

The pipelines would be engineered in conformance with the requirements of Title 49 Code of Federal Regulations (CFR), Part 192, "Regulations for the Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards." The gas pipeline, a low-pressure line, would be designed for a maximum operating pressure (MAOP) of approximately 1400 pounds per square inch gauge (psig). Anticipated system operating pressure of the 6-inch-diameter gas line is approximately 100 to 200 psig with a resulting design flow rate of approximately 15 million standard cubic feet per day (MMSCFD). The pipelines (gas and water) would be buried to a minimum depth of cover of 36 inches in soil or minimum 18 to 24 inches of cover in solid rock. Additional burial depth would be achieved at stream and roadway crossings (i.e., 4 feet of minimum cover) as per permit requirements and good engineering

practices. A 600-linear-foot section of the North Lateral, located on private surface,, would be exposed aboveground as it traverses the outcrop in Section 20.

Pipe specifications for the pipelines are as follows:

Hotchkiss 6-inch natural gas pipelines	6.625" O.D., 0.250" w.t., Grade B
Hotchkiss 6-inch water pipelines	6.625" O.D., 0.250" w.t., Grade B

Both 6-inch-diameter low-pressure gas and water lines are proposed for simultaneous construction with road reconstruction. This would prevent road disturbance whether or not the wells are successful. The lines would be left in the ground regardless of well status.

Construction Schedule and Equipment

GEC does not intend to drill all 16 wells in one year. Drilling would likely occur from north to south then west, depending upon initial results. This is expected to occur over a three- to five-year schedule. Construction would only be conducted in the summer and, where necessary (for instance along Deadman Gulch), only during dry conditions. It is anticipated that each lateral would be constructed separately over three seasons.

Listed below is the equipment likely needed for construction during a single season.

Equipment	Quantity	Weight
Caterpillar Track-Hoe	2	72,000 lbs
Caterpillar D-7 Side Boom	1	65,000 lbs
Caterpillar 140	1	37,000 lbs
Motor-grader Tractor Trailer	1	25,000 lbs
Stringing Truck Trailer	1	25,000 lbs
Pipe Splicing Machine	2	10,000 lbs
Fuel/Supply Trucks	2	35,000 lbs
Fuel Tanker	1	15,000 lbs
Water Tanker	1	20,000 lbs
Lube Truck	2	10,000 lbs
Crew Trucks	4	6,000 lbs
Welding Trucks	1	8,000 lbs
6" Pipe Transport	1	80,000 lbs
Caterpillar 725 Haul Truck	2	50,000 lbs
Reclamation Seeder	1	28,000 lbs

Gravel required for all pads and roads is estimated to be approximately 8,000 cubic yards. The gravel would be transported to the Hotchkiss Quonset adjacent to State Highway 133 by commercial vendors and then transported by haul trucks to the roads or pads.

To complete the construction, a contractor would utilize an average work crew of approximately eight people. This work force is expected to be comprised of local residents. GEC would comply with Title VI of the Civil Rights Act of 1964 (42 USC 2000d, et seq.) and the regulations of the Secretary of the Interior issued pursuant thereto.

Land Requirements

Construction of the pipelines would disturb approximately 12.6 acres. Two cases of pipeline construction are required. One case includes trenching the pipelines immediately adjacent to the road; the second case includes trenching across open ground where no road exists. For both cases, pipeline construction would require at least a 40-foot-wide level bench to include the trench, pipe, and side-boom dozer with zap-lok machine; 50 feet was used for calculation purposes.

- For pipelines directly adjacent (in the borrow ditch), a level bench about 10 feet wide would be required (beyond the road) so the excavator can trench adjacent to the road, and a level working surface width of 35 to 40 feet would be created; 50 feet was used for calculation purposes. Trench spoils (including bank excavation) would be stacked on the uphill side of the road. Normal disturbance would be approximately 30 feet in width. Following pipeline construction, the trenched area would be reclaimed and the roadway would be reconstructed to pre-construction conditions.
- For ROW construction off the side of the road or cross-country, a 40-foot-wide level work surface would be required and the total disturbance width would be dependant on the degree of sidehill; 50 feet was used for calculation purposes. Following pipeline construction, all surface disturbances would be reclaimed and buried. Listed below are the values used for acreage calculations.

BLM official ROW width	50 feet
Pipeline & road requirement	50 feet
Road running/finished surface	14 feet
Bench width required for p/l construction on existing gravel road (averaged)	10 feet
Normal existing two-track width	12 feet
Road & p/l disturbance along two-track (50' - 12' =38)	38 feet
	30 feet
Exposed p/l surface requirement	
Avg. Pad Size	300 X 300 feet

Rights-of-Way

The ROWs would consist of operations easements during construction. Except in certain areas, land use disturbance generally would not exceed 40 feet in width. A 50-foot-wide operations easement is requested to contain the proposed 6-inch-diameter pipelines. The proposed pipelines would be installed in the same trench with 1 foot of separation between the pipelines (see typical in Attachment 2).

Access Roads

GEC proposes to use State Highway 133 and existing ranch roads to gain access to the ROWs during construction. Hauling equipment and materials would be used in accordance with Colorado state requirements. Modifications, including grading, would be required before using some of these roads.

Existing roads that are used in conjunction with the ROWs would be periodically maintained during construction. Maintenance would include blading throughout the construction period to maintain road levels and to prevent rutting. Roadways would be maintained and kept open for ranch and gas operations access throughout construction as prescribed by the BLM. Following construction completion, roadways would be returned to as good or better condition than prior to construction or as prescribed by the respective authorizing agencies. Temporary disturbances along the ROWs would be reclaimed at the end of construction. Operations and maintenance activities could require year-round access following construction.

Contractor/Pipe Storage/Offloading Yards

A construction yard would be located on private property. No other storage or construction yard would be needed.

Aboveground Appurtenances

Associated aboveground appurtenances proposed by GEC include pipeline markers, pig receiver, meter station, and cathodic protection equipment. These would be painted in conformance with color specifications provided by the BLM from the "Standard Environmental Color Chart" issued by the Rocky Mountain Five-State Inter Agency Committee. GEC would coordinate with the BLM in order to determine the appropriate color.

Land Requirements

Any aboveground appurtenances such as pig launchers would be within the 50-foot-wide operations easement or on the well pad.

Pig Launcher and Receiver

Pig launchers would be installed on private lands at the proposed well pads.

Cathodic Protection Equipment

Cathodic protection equipment would be installed as necessary along the pipelines. Exact placement and type of equipment has not yet been engineered.

Pipeline Markers

The pipeline location would be marked with aboveground markers in accordance with Colorado Department of Transportation (DOT) safety requirements, land managing agencies, and landowners. Markers typically would be installed at road and fence crossings. Refer to Attachment 2, Figure 4.2.1 for an example of a typical pipeline warning marker.

1.0 Construction Activities

The following sections provide a description of each phase of standard construction along the ROWs. Also included in these sections are specific applicable mitigation requirements that would be implemented by the Contractor.

1.1 Project Area Surveying and Staking

1.1.1 Pre-Construction

Pre-construction surveys and a literature review would be conducted to identify sensitive resources along the project route. Resources may include sensitive wildlife (e.g., elk, raptors, amphibians, and federally listed species) populations and habitat; sensitive plant populations; cultural resources; wetlands and waterbodies; and areas of potential geologic instability. Mitigation for sensitive areas that cannot be avoided is addressed in environmental compliance plans included in this document (e.g., Environmental Protection Plan, Cultural Resources Protection Plan, Biological Resources Protection Plan, etc).

Pre-construction surveys for noxious weed infestations, nesting raptors, and sensitive plant populations would be conducted along the ROW in accordance with the Biological Resources Protection Plan (Appendix A). The field survey results would be used to identify sensitive resource construction buffer areas and areas requiring special protective signing, flagging, fencing, or timing restrictions.

1.1.2 Construction

Civil engineering surveys would be performed by GEC or a contractor hired by the company to identify the centerline of the pipelines and the boundaries of both sides of the approved working limits before construction activities commence. Flagged or painted lath would be set at 200-foot intervals (maximum), or as required to maintain line of sight along the proposed centerline. The edges of the work limits would be marked at 200-foot intervals (maximum), or as required to maintain line of sight, with flagged or painted lath.

GEC's Construction Inspectors would be responsible for verifying that the limits of authorized construction work areas are staked prior to construction.

Construction equipment could include trucks, loaders, various sized dozers, shovels and backhoes, cranes, side booms, generators, and bending machines. Most of the equipment to be used during ROW restoration would consist of dozers, blades, and backhoes.

1.2 Clearing, Grading, and Topsoiling

Vegetation would be cleared and the construction ROW graded to provide for safe and efficient operation of construction equipment and inspection vehicles, and to provide space for the storage of subsoil and topsoil. Construction activity and ground disturbance would be limited to approved, staked areas.

Where feasible and requested by the BLM, clearing would be feathered to eliminate the straight line effect and to soften the visual impact. ALL work must be conducted inside the 50 foot ROW..

If approved by the BLM, chipping and shredding of brush may be completed throughout portions of the alignment as directed by the BLM. This would eliminate a large portion of slash and would provide mulch for the reclaimed easement. No marketable trees are expected to be cut.

Topsoil would be segregated using one of the following methods: from either the full-work area (full ROW method), from the trenchline only (trenchline only method), or from the trenchline and working side (trench and working side method) depending on the amount of surface leveling needed.
Where grading is not required to level the construction area, all available topsoil up to a depth of 6 inches would be removed from the trenchline only. On any lands requiring leveling for safe construction use, the topsoil up to a depth of 6 inches would be stripped from the entire portion of the ROW that requires grading.

Topsoil would be stockpiled separately from subsoil and would not be used to pad the trench or construct trench breakers.

1.2.1 Clearing, Grading, and Topsoiling Requirements

GEC's Construction Inspectors would ensure that the Contractor implements the following mitigation measures during clearing, grading, and topsoiling operations.

- All survey monuments found within the ROW would be protected. Survey monuments include, but are not limited to, General Land Office and BLM Cadastral Survey Corners, reference corners, witness points, U.S. Coastal and Geodetic benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments.

- If any survey monuments found within the ROW or temporary use areas are disturbed or obliterated during the course of the project, the Contractor would immediately report the situation to GEC. GEC would immediately report the disturbance in writing to the Authorized Officer and the respective installing authority, if known.

- Clearing would be performed to preserve roots to the extent practicable. Vegetation wastes would be stockpiled or disposed of to maintain stability of the site, and provide erosion control. Steep slopes would be graded properly to minimize erosion.

- Non-linear ROW clearing techniques (feathering) would be used to minimize visual impacts, where specified and feasible. ALL work must be conducted inside the 50 foot ROW.

- Cleared vegetation would be disposed of as requested by the surface owner and BLM.

- Cuts and fills would be minimized in order to reduce the amount of soil exposed to erosion.

- All available topsoil would be salvaged to 6 inches across the trenchline, only on level areas.

- Topsoil would be stripped from the full-width of the ROW in any areas requiring grading.

- Salvaged topsoil would be kept separate from subsoil.

- Topsoil would not be used to pad the trench or construct trench breakers.

- Dry drainages or washes that cross the ROW would not be blocked with topsoil piles. Topsoil would be placed on the banks of the drainage. Gaps would be left periodically in the topsoil windrow to avoid ponding and excess diversion of natural runoff during storm events.

- Erosion control measures would be implemented in accordance with the Environmental Protection Plan (Appendix L).

1.3 Trenching and Blasting

Construction methods used to excavate a trench would vary depending on soils, terrain, and related factors. In situations such as steep slopes, unstable soils, high water table, or deep or wide trench requirements, track-hoes generally be used.

Measures would be taken to ensure that access is provided for private landowners or tenants to move vehicles, equipment, and livestock across the ditch where necessary. Adequate precautions would also be taken to ensure that livestock are not prevented from reaching water sources because of the open ditch. Measures to be taken include contacting livestock operators, providing adequate crossing facilities, and other measures as needed.

The Contractor would take care to keep wildlife and livestock trails open and passable by adding soft plugs (areas where the trench is excavated and replaced with minimal compaction) during the construction phase. Soft plugs with ramps on either side would be left at all well-defined livestock and wildlife trails and at maximum 0.25-mile intervals to allow access across the trench and provide a means of escape for livestock and wildlife that may fall into the trench.

The depth and width of the ditch would vary depending upon pipe diameter and soil types. A typical ditch would be excavated approximately 4 feet wide at the bottom and the sides would be sloped to Occupational Safety and Health Administration (OSHA) specifications (up to approximately 8 feet wide). The depth of the ditch would be approximately 5 feet.

The cover from top of pipe to ground level as graded to the finished ROW would be in conformance with DOT regulations. The cover from the top of the pipe to ground level would generally be at least 36 inches deep, except in rocky areas, where the cover would be at least 18 to 24 inches. Burial depths would increase to a minimum 4 feet below channel bottom at dry wash or stream crossings.

Occasionally, the ditch would be excavated to depths greater than the minimum values specified. Greater depths of cover would be required at unpaved road crossings, foreign pipeline crossings, waterbodies, and other obstructions.

As a minimum, the ditch would be excavated to a depth to allow a clearance of 18 to 24 inches between GEC pipeline and other pipelines or underground facilities. Machine excavation would not be performed within 5 feet of any existing pipeline encountered in the ROW unless authorized by the pipeline owners/operators. Existing pipeline locations would be marked in the field and a 48-hour prior notification would be given to the operator of the underground utility.

The pipeline crossings would be made with a mechanical ditching machine or a track-hoe. Installation at this location, including cleanup and restoration of road surfaces, usually be completed within one day. In such cases, provisions would be made to detour or control passage of traffic during construction.

Where rock is encountered, tractor-mounted mechanical rippers or rock trenching equipment may be used to facilitate excavation. In areas where rippers or trenchers are not practical or sufficient, blasting may be used. Blasting would be used only where necessary.

Normally, the effects of blasting are confined to the pipeline ROW. Where rock formations are encountered and blasting is necessary, all necessary authorizations would be obtained and all safety precautions observed. All blasting work would be conducted in compliance with federal, state, and local laws, rules, and regulations. The Contractor would be responsible for obtaining permits to store blasting materials The BLM will not allow storage of blasting materials on BLM lands. After blasting has been completed, track-hoes would be used to clean the ditch for pipe installation. See the Blasting Plan (Appendix B) for additional blasting requirements.

Excavated subsoil would be stored separately from windrowed topsoil piles. Subsoil would not be stored in flowing waterbodies, dry drainages, or washes that cross the ROW. Subsoil would be placed on the

banks of the drainage. Gaps would be left periodically in the subsoil piles to avoid ponding and excess diversion of natural runoff during storm events.

1.3.1 Trenching Requirements

GEC's Construction Inspectors would ensure that the Contractor implements the following mitigation measures during trenching operations.

- Trenching would be performed to minimize disturbance to soils.

- No trench within 250 feet of a residence would be left open for more than three days.

- The amount of open trench and the duration the trench is left open would be determined in consultation with the BLM to allow for safe and efficient construction. Soft plugs, signage, and temporary fencing of public access points would be implemented as needed to protect the public, wildlife, and livestock. If there is a true concern about Health and Human Safety, a BLM Area Closure would be implemented.

- "Soft plugs" (i.e., backfilled areas across the trench) would be installed at obvious livestock or game trails and at 0.25-mile intervals to keep the trench line passable and to act as escape ramps for wildlife or livestock that might become trapped in the ditch.

1.4 Pipe Installation

Pipe installation would include stringing, bending for horizontal or vertical angles in the alignment, welding the pipe segments together, inspection, coating the joint areas to prevent corrosion, and then lowering-in and padding as described in greater detail below.

1.4.1 Stringing

Line pipe would be shipped directly from the manufacturer by rail to pipe yards and then hauled by stringing trucks to the pipeline ROW. Each individual joint of pipe would be unloaded with a sideboom or track-hoe and placed (strung) parallel to the ditch in a continuous line. Sufficient pipe for road or waterbody crossings would be stockpiled at staging areas near the crossings.

Stringing operations would be coordinated with trenching and installation activities in order to properly manage the construction time at a particular tract of land. Gaps would be left at access points across the ditch to allow crossing of the ROW.

1.4.2 Bending

After joints of pipe are strung along the ditch (but before the joints are welded or pressed together)) individual joints of pipe would be bent to accommodate horizontal and vertical changes in direction. Field bends would be made using a hydraulically operated bending machine. Where the deflection of a bend exceeds the allowable limits for a field-bent pipe, factory (induction) bends would be installed.

1.4.3 Welding or Coupling

After pipe joints are bent, the pipe joints would be lined up end-to-end and clamped into position. The natural gas pipelines would be Zap-Locked® together using belled and beveled pipe which is then hydraulically pressed together with 3000 psig and epoxy. Where welding is necessary, any pipe welded would be in conformance with 49 CFR Part 192, Subpart E, "Welding of Steel Pipelines" and API 1104, "Standard for Welding Pipelines and Related Facilities," latest edition approved by DOT.

1.4.4 Inspection

All welds would be visually inspected by an American Welding Society (AWS) certified inspector who would be part of the construction management staff. Non-destructive radiographic inspection methods would be conducted in accordance with DOT requirements. Percentage of welds radiographically inspected would be according to 49 CFR Chapter 1 (192.243 Nondestructive testing). A specialized contractor, AWS-certified to perform radiographic inspection, would be employed to perform this work. Any defects would be repaired or cut out as required under the specified regulations and standards. Documents that verify the integrity of the pipeline would be kept on file by GEC for inspection by the Gas Pipeline Safety Division of the Colorado Public Utilities Commission.

1.4.5 Coating

To prevent corrosion, the pipe would be externally coated with fusion bonded epoxy coating prior to delivery. After welding, field joints would be coated with a tape wrap, shrinkable sleeve wrap, or field-applied fusion bond epoxy. This is not necessary for pressure-fitted pipe. Before the pipe is lowered into the ditch, the pipeline coating would be visually inspected and tested with an electronic detector, and any faults or scratches (holidays) would be repaired.

1.4.6 Lowering-in and Padding

Before the pipe section is lowered into the ditch, inspection would be conducted to verify that the pipe is properly fitted and installed into the ditch, minimum cover is provided, and the trench bottom is free of rocks and other debris that could damage the external pipe coating. Dewatering may be necessary where water has accumulated in the trench, and would occur in accordance with the Environmental Protection Plan (Appendix L). Side-boom tractors would be used to simultaneously lift the pipe section, position it over the ditch, and lower it in place. Specialized padding machines may be used to sift soil fines from the excavated subsoils to provide rock-free pipeline padding and bedding. Sandbags may be used to pad the bottom of the ditch instead of, or in combination with, padding with soil fines. In rocky areas, padding material or a rock shield would be used to protect the pipe. No topsoil would be used to pad the pipe.

1.5 Backfilling

Backfilling would begin after a section of pipe has been successfully placed in the ditch. Prior to backfilling the trench, the equipment operator would check the trench for wildlife and/or livestock and would be sure any wildlife or livestock found in the trench is removed before backfilling begins. Backfill would be conducted using a bulldozer, rotary auger backfiller, padding machine, or other suitable equipment. Backfilling the trench would generally use the subsoil previously excavated from the trench, except in rocky areas where imported select fill material may be needed. Backfill would be graded and compacted, where necessary for ground stability, by tamping or walking with a wheeled or tracked vehicle. Compaction would be performed to the extent that there are no voids in the trench. Backfill of trenches would not be performed where the soil is frozen to the extent that large, consolidated masses are formed that would not break down. In irrigated agricultural areas, the backfill would be replaced at the same compaction density as the adjacent undisturbed soil. Any excavated materials or materials unfit for backfill would either be utilized elsewhere or properly disposed of in conformance with applicable laws or regulations.

1.5.1 Backfilling Requirements

GEC's Construction Inspectors would ensure that the Contractor implements the following mitigation measures during backfilling operations.

- Rock would not be used to backfill the trench above the top of the existing bedrock profile.

- Trench breakers would be constructed as defined in the Environmental Protection Plan (Appendix L).

- The Contractor would place a mound over the trench approximately 0.5 foot in height to account for subsidence. Written authorization from the private landowner would be required to eliminate the mound.

1.6 Pressure Testing

Each pipeline would be tested in compliance with DOT regulations (49 CFR Part 192 for natural gas pipelines). GEC intends to pneumatically test the pipeline rather than hydrostatically test the line. However, in the event that portions of the line may require hydrostatic testing, both methods are discussed.

Prior to filling the pipeline for a hydrostatic or pneumatic test, each section of the pipeline would be cleaned by passing reinforced poly pigs through the interior of the line. Incremental segments of the pipeline would then be filled with water or air, pressurized, and held for the duration of the test. The length of each segment tested would depend on topography.

Typically, the hydrostatic tests of individual segments would be conducted in sequence and the test water would be transferred from one segment to another. Test water would be obtained from approved sources. Sources for test water are included in the Pressure Testing Plan (Appendix H).

Water for hydrostatic testing would be appropriated from various sources using portable pumps driven by diesel engines. To prevent environmental damage from potential diesel fuel spills during the operation of the engine(s), additional measures would be implemented when the pumps are located within 200 feet of a waterbody or wetland as described in the Pressure Testing Plan (Appendix H).

Should hydrostatic testing be used, test water would be discharged to approved locations in accordance with applicable permit requirements.

Pneumatic testing would merely result in a rapid bleed off of air to the environment.

1.6.1 Hydrostatic Testing Requirements

GEC's Construction Inspectors would ensure that the Contractor implements the following mitigation measures during hydrostatic testing operations.

- Test water would be withdrawn from approved sources.

- Sufficient notice would be provided to the Environmental Inspector to sample water used for test purposes as required (during appropriation and discharge if applicable).

- Dewatering would be performed in accordance with the measures defined in the Pressure Testing Plan (Appendix H) and project permits.

1.7 Cleanup and Restoration

Cleanup and restoration of the surface along the ROW and any temporary use areas would be performed by removing any construction debris and by performing final grading to the finished contour. Steps would be taken to minimize erosion, restore the natural ground contour, and account for trench settling as described in the Environmental Protection Plan (Appendix L). The Contractor will be responsible for seeding the ROW, temporary use areas, and off-ROW ancillary sites using GEC-supplied BLM-approved

seed mixes, appropriate seeding methods, and approved application rates. The seeding requirements and scheduling of reclamation activities will be determined in coordination with BLM or fee-landowner. The seed will be randomly tested to ensure weed-free status is maintained. See Environmental Protection Plan (Appendix L)

1.7.1 Cleanup and Restoration Requirements

GEC's Construction Inspectors would ensure that the Contractor implements the following mitigation measures during cleanup and restoration activities.

- The ROW and other project-related areas where soil has been disturbed would be restored as close to pre-construction grades, compaction, and other conditions as possible.

- The Contractor would remove rocks larger than 4 inches in any dimension from the restored topsoil in all irrigated agricultural areas.

- Logs, limbs, and excess rock may be randomly distributed across the ROW to block use of the ROW by motor vehicles in selected areas, using reclamation materials and/or slope stabilizing devices as directed by the BLM. Any rocks removed from the ROW would be disposed of in an approved disposal site according to BLM mineral material disposal authorities. GEC would be responsible for payment of any rocks removed from the federal lands. GEC would coordinate with the BLM regarding the methods of disposal. Excess rock would not be "piled" to heights above 2 feet and areas where rocks cover the ground continuously, with little to no soil visible, would not exceed 15 feet in length by 15 feet wide.

- All irrigation ditches, cattle guards, fences, and artificial and natural livestock and wildlife water sources would be maintained and repaired to at least pre-construction conditions.

- The Contractor would randomly distribute any windrowed shrubs or other remaining vegetation debris over the ROW.

1.8 Livestock Barrier and Other Livestock Issues

Prior to construction, GEC would schedule meetings with the BLM, permittees, and private landowners to discuss their concerns and to explain pipeline construction activities that may impact livestock.

Fences crossing the ROW would be braced, cut, and temporarily fitted with gates to permit passage. During construction, the opening would be controlled as necessary to prevent the escape of livestock. Existing fences would be replaced and braces left in place upon completion of construction activities. Prior to cutting or replacing the fences, GEC would notify the BLM, their permittees, and private landowners in order to give them the opportunity to be present when the fence is cut. During construction, the Contractor would take care not to obstruct or damage gates or cattleguards. Those damaged or made inoperable would be repaired to BLM and/or private landowner satisfaction.

The ditch would be open several days until the pipe is placed and backfilling complete. Soft plugs would be installed at obvious livestock or game trails and at 0.25-mile intervals to keep the trench line passable and to act as escape ramps for wildlife or livestock that might become trapped in the ditch.

GEC would ensure that compensation or interim measures would be provided for any critical facilities (such as watering sites) that are disrupted during the construction or restoration process.

1.8.1 Livestock Related Requirements

GEC's Construction Inspectors would ensure that the Contractor implements the following mitigation measures relating to fencing.

- The Contractor would repair all damaged livestock facilities (corrals, fences, water sources, etc.) to BLM and/or private landowner satisfaction. These facilities would be left in as good as or better condition than the pre-construction condition. The Contractor would install temporary fences when necessary to prevent livestock movement across fences temporarily removed for construction.

- Fences, or other suitable barriers, as approved by the BLM would be built by the Contractor to replace natural livestock barriers that are altered or removed during construction. Replacement of natural livestock barriers as opposed to the installation of other barriers would be performed where feasible. GEC would make salvaged fences available to the BLM and/or the private landowner.

1.9 Health and Safety

GEC's Construction Inspectors would ensure that the Contractor implements the following health and safety measures.

- The Contractor would comply with requirements listed in the Safety Plan (Appendix J), Fire Prevention and Suppression Plan (Appendix E), Blasting Plan (Appendix B), Pressure Testing Plan (Appendix H), and the Hazardous Materials Management and Spill Prevention, Containment, and Countermeasure Plan (Appendix G).

- The Contractor would cease pipeline construction activities, with the exception of pneumatic or hydrostatic testing operations, by sunset. Nighttime construction (with the exception of pneumatic or hydrostatic testing) would not be permitted unless approved by GEC and the BLM.

- A closure order would be in effect for all areas under construction. All recreation activities, including hiking, camping, hunting, birding, horseback riding, etc., would be prohibited within the construction ROW. GEC would post and sign the boundaries of the areas under construction in accordance with BLM specifications. GEC would request prior authorization from the BLM if any campsites outside the ROW are to be used during pipeline construction.

No burning of brush or debris, and no campfires, lunch fires, or warming fires would be allowed on the ROW in accordance with the Fire Prevention and Suppression Plan (Appendix E) and AGENCY fire restrictions.

- The Contractor would comply with any agency fire restrictions (e.g., welding, torch cutting, blasting).

- The Contractor would control fugitive dust in accordance with the Fugitive Dust Control Plan (Appendix F) and any applicable county, state, or federal permit requirements.

- If the trench is left open overnight within 250 feet of a residence or public roadway, the Contractor would safety fence the area to mitigate safety concerns.

- The Contractor would ensure that equipment is properly maintained to reduce emissions.

1.10 Waste Disposal

GEC's Construction Inspectors would ensure that the Contractor implements the following waste disposal measures.

- No littering would be allowed on the ROW. Construction and operations sites would be maintained in a sanitary condition at all times and waste materials at these sites would be disposed of promptly at an appropriate waste disposal site. Waste is defined as all discarded matter including, but not limited to, human waste, discarded food, trash, garbage, refuse, oil drums, petroleum products, blasting boxes, and equipment.

- The Contractor would dispose of excess or unsuitable materials at commercial disposal sites, commercial recycling centers, and disposal sites approved by GEC.

- The Contractor would comply with the hazardous waste disposal requirements included in the Hazardous Materials Management and Spill Prevention, Containment, and Countermeasure Plan (Appendix G).

- Human wastes, temporarily located within self-contained facilities (portable toilets), would be removed from the ROW and disposed of in accordance with applicable laws and regulations.

2.0 Operation and Maintenance Activities

GEC's Delta Exploration and Production Office would be responsible for monitoring pipeline operations after construction is completed. Maintenance and operating personnel would be coordinated from that office so that any area can be reached within a short period in case of an emergency or malfunction. These personnel would be qualified and trained employees of GEC.

GEC's pipeline system would be operated and maintained in accordance with industry standard procedures to ensure safe operation and to maintain the integrity of its pipeline system. GEC's operating and maintenance procedures would be developed in accordance with the safety standards outlined in 49 CFR Parts 191 and 192, and the State of Colorado and other applicable regulations. These procedures would continue to be implemented during the operations and maintenance of the pipeline facilities.

2.1 Surveillance

Communications and detection systems for the project would be developed. The frequency of aerial patrols and ground inspections of the pipeline would be in compliance with Colorado Public Utilities Commission requirements and would occur at least yearly.

All buildings intended for human occupancy within 220 yards on either side of the pipeline would be identified as required by the appropriate regulations for natural gas pipelines. This information would be used to determine the class location that would be used in turn as criteria for selection frequencies of various inspection procedures, designing new pipeline facilities, and upgrading existing facilities.

The following inspection intervals may be used for pipeline systems.

• Aerial patrols: Aerial patrols may be conducted annually for evidence of leaks, erosion damage, and ROW encroachment. Intervals for aerial patrols would be in accordance with state regulations.

• Surface patrols: Facilities that cannot be observed properly by air patrol may be patrolled by surface patrol annually or more frequently if necessary. Corrosion control surveys would generally be performed

yearly or during a period not to exceed 15 months. A road would not be maintained on the ROW for these patrols.

2.2 Right-of-Way Access

Surface travel along the ROW would generally be limited to periodic valve inspections, leak surveys, ROW maintenance, and any pipeline repairs that may be needed. Travel would be by foot patrol or on horseback; motorized vehicles would only drive along the ROW for emergency repairs. In addition to the above activities, it would also be necessary to access the ROW for the following:

- corrosion control survey crews;
- noxious weed control surveys and maintenance (in conformance with the Noxious Weed Management Plan (Appendix I); and
- periodic monitoring of irrigation ditches and irrigated agricultural fields for two seasons after construction to ensure the integrity of the ditch and field flow characteristics.

2.3 Pipeline and Site Maintenance and Repair

GEC's pipelines would be built to current standards of engineering, inspection, and cathodic protection and would require minimal maintenance. Repairs required because of minor corrosion and slight external mechanical damage to pipe and coating material can be made without interruption or with minimum interruption of service. Repairs are usually made under a reduced pipeline pressure and require a minimum amount of excavation and heavy equipment. Other minor repairs include correction of erosion, repairs to waterbars, replacement of pipeline markers, and removal of debris from the ROW. These repairs may require earth-moving equipment and hand tools.

Some settling of the backfilled trench would occur, particularly after the first winter following construction. In this case, subsidence and potholes would be filled and the surface restored to normal grade and reseeded. If subsidence is discovered in subsequent years, the potholes would be filled and the surface restored to normal grade and reseeded. Motorized equipment would be required to access the part of the trench in need of filling if subsidence occurs. Any areas disturbed during this process would be reclaimed after trench maintenance.

GEC would also maintain the ROW in a safe, useable condition as directed by the BLM field representative. A regular maintenance program would include, but is not limited to, soil stabilization and noxious weed management and control. A 10-foot-wide area centered on the pipeline would be managed as herbaceous vegetation so that emergency maintenance can be accomplished if needed.

Pipeline failures or external mechanical damage needing major repairs may require shutdown of the pipeline. In these instances, the pipeline segment would be isolated between mainline valves and the natural gas in the segment needing repair would be vented to the atmosphere. To facilitate these repairs, equipment, tools, pre-tested pipe, and other materials for emergency use would be stored at existing operations facilities.

GEC would be responsible for noxious weed control on project-disturbed areas, temporary use ROWs, temporary use areas, and along BLM access roads. GEC would consult with the BLM Authorized Officer or field representative and local weed districts for acceptable weed control management techniques within the limits imposed in the grant stipulations. See the Noxious Weed Management Plan (Appendix I) for additional information.

2.4 Vehicle and Equipment Maintenance

GEC would ensure that all operations equipment is properly maintained to reduce emissions.

2.5 Wildlife Avoidance Periods

Pipeline maintenance would be scheduled to avoid wildlife construction closures as defined in the Biological Resources Protection Plan (Appendix A). Emergency maintenance in these areas during the wildlife construction windows would require notification to, and prior approval from, the BLM.

2.6 Survey Monuments

GEC would ensure that a registered land surveyor or a BLM cadastral surveyor restores any General Land Office or BLM cadastral survey corners/monuments obliterated during operations. Procedures to restore the monuments would be as described in the Manual of Surveying Instructions for the Survey of the Public Lands in the United States, latest edition. GEC would record these surveys in the appropriate county and send a copy to the Authorized Officer. If the BLM cadastral surveyors or other federal surveyors are used to restore the disturbed survey monument, GEC would be responsible for the survey cost.

3.0 Emergency Procedures

GEC and the Contractor have developed two Emergency Plans that would be followed by GEC employees in the event of an emergency at any pipeline facility associated with this project. First, a Construction Emergency Plan would be used during pipeline construction. The second plan (Operations Emergency Plan) has been written for situations that could occur during pipeline operations. The Operations Emergency Plan has been developed in accordance with applicable 49 CFR Part 192 requirements. Both Emergency Plans include written procedures used to minimize the hazards of natural gas pipeline emergencies. The Emergency Plans address topics such as administrative issues, emergency planning, assignment of responsibilities, handling and evaluating emergency calls, responding to and controlling emergency situations, news media communications, restoration of service, obtaining and reporting emergency information, employee training, liaison with public officials, general public information program, location/inventory of pipeline repair materials and equipment, and lists of emergency telephone numbers and key personnel. GEC's Emergency Plans have been updated and maintained in conformance with applicable DOT and State of Colorado requirements.

4.0 Termination and Abandonment of Right-of-Way and Facilities

Prior to termination of the Surface Use Plan, or any portion thereof, GEC would contact the BLM to arrange for a pre-termination meeting and joint inspection of the ROW. This meeting and inspection would take place a minimum of 30 days prior to termination. The meeting and inspection would be held so that an agreement on an acceptable termination and rehabilitation plan can be reached. This plan would include, but not be limited to, abandonment and/or removal of facilities, drainage structures, and/or surface material; recontouring; replacing of topsoil; seeding; and monitoring. The Authorized Officer must approve the plan in writing. GEC would relinquish all, or those specified portions, of the ROW in accordance with the termination plan.

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ATTACHMENT 1—CONSTRUCTION TYPICALS

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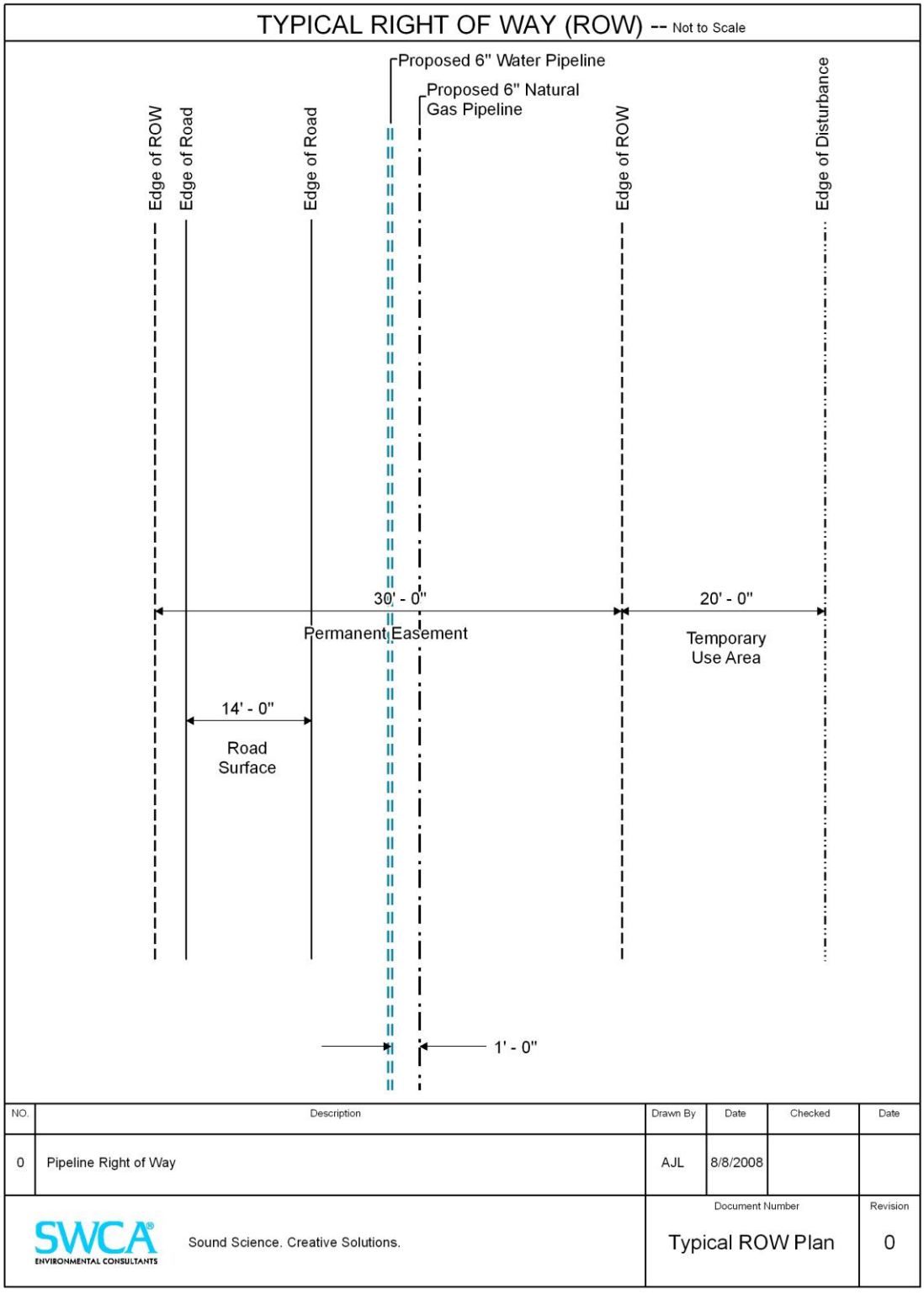
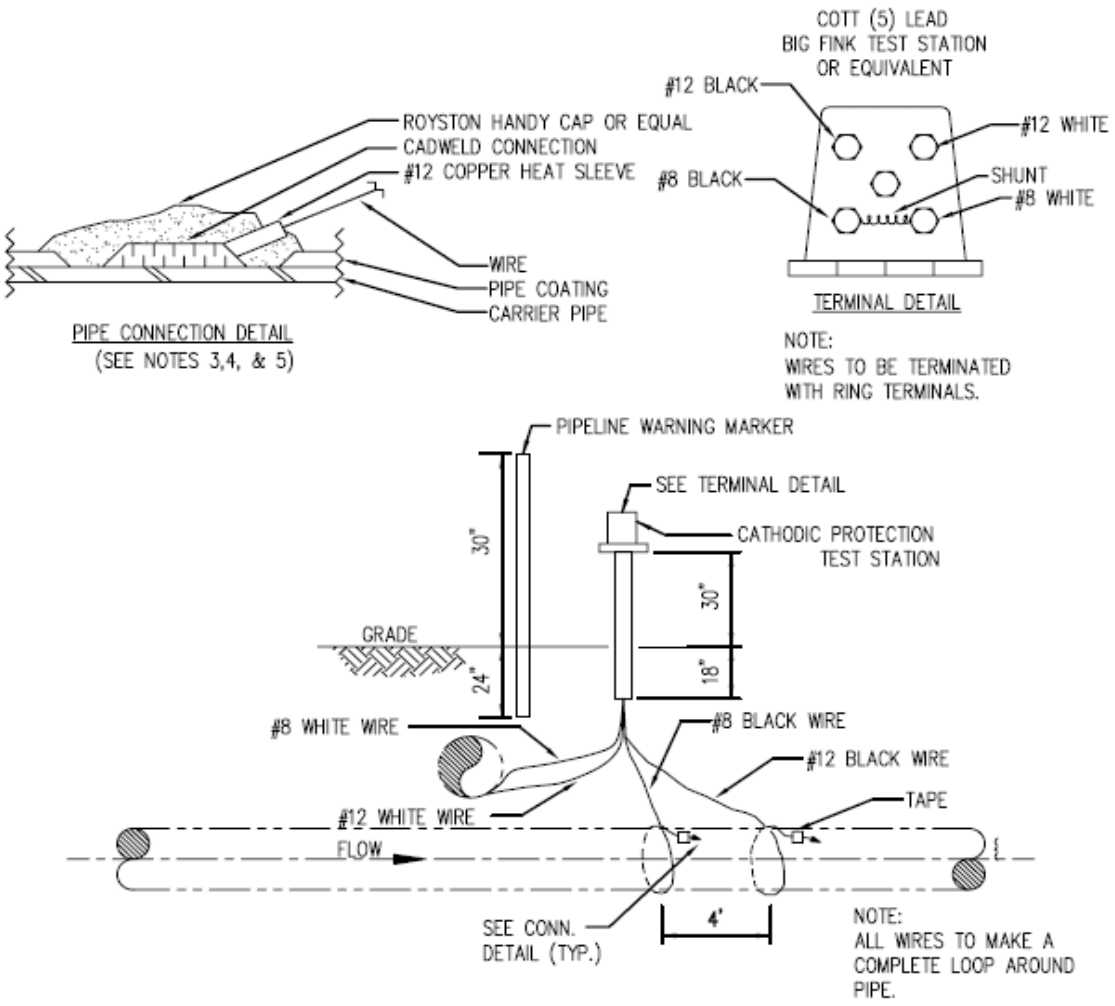

TYPICAL RIGHT OF WAY (ROW) -- Not to Scale
Proposed 6" Water Pipeline
Proposed 6" Natural Gas Pipeline
Edge of ROW
Edge of Road
Edge of Road
Edge of ROW
Edge of Disturbance
30' - 0"
Permanent Easement
20' - 0"
Temporary Use Area
14' - 0"
Road Surface
1' - 0"
NO.
Description
Drawn By
Date
Checked
Date
0
Pipeline Right of Way
AJL
8/8/2008
SWCA ENVIRONMENTAL CONSULTANTS
Sound Science. Creative Solutions.
Document Number
Typical ROW Plan
Revision
0

FOREIGN LINE CROSSING TEST POINT — DG4.5.10



NOTES:

1. ALL WIRES SHALL BE INSULATED COPPER STRANDED TW. TYPE. BLACK WIRE TO BE LOCATED ON PIPELINE AS SHOWN ABOVE.
2. TERMINAL BLOCK SHALL BE WIRED BY CONTRACTOR AS SHOWN IN TERMINAL DETAIL ABOVE.
3. ALL WIRE CONNECTIONS TO CARRIER PIPE SHALL BE MADE AS SHOWN IN DETAIL ABOVE. WIRE SHALL BE CONNECTED TO PIPE BY CADWELD PROCESS WITH COPPER HEAT SLEEVE.
4. CADWELD WIRE CONNECTIONS SHALL BE PRIMED WITH ROYSTON SPRAY PRIMER OR EQUAL AND ALLOWED TO DRY 3 TO 4 MINUTES OR UNTIL TACKY, AND COVERED WITH ROYSTON HANDY CAP OR EQUAL.
5. WIRE INSULATION SHALL BE PROTECTED FROM DAMAGE.
6. LAY WIRE ALONGSIDE PIPE. NOT OVER OR UNDER PIPE.
7. CATHODIC PROTECTION TEST STATION SHALL BE FURNISHED BY OWNER. CONTRACTOR SHALL FURNISH ALL OTHER MATERIALS.
8. INSTALL AT ALL LOCATIONS INDICATED ON ALIGNMENT SHEETS.

NO.	DESCRIPTION	CHECKED	DATE	APPROVED	DATE
0	ISSUED FOR DESIGN				

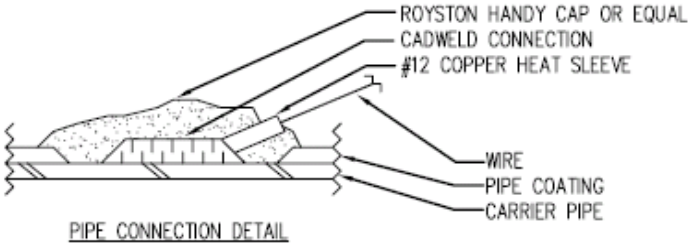
TRIGON EPC ENGINEERING • PROCUREMENT • CONSTRUCTION

DOCUMENT NUMBER: DESIGN GUIDE 4.5.10

REVISION: 0

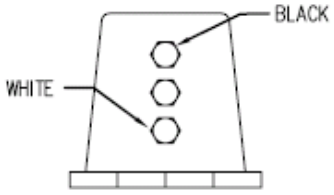
POTENTIAL TEST POINT

DG4.5.12



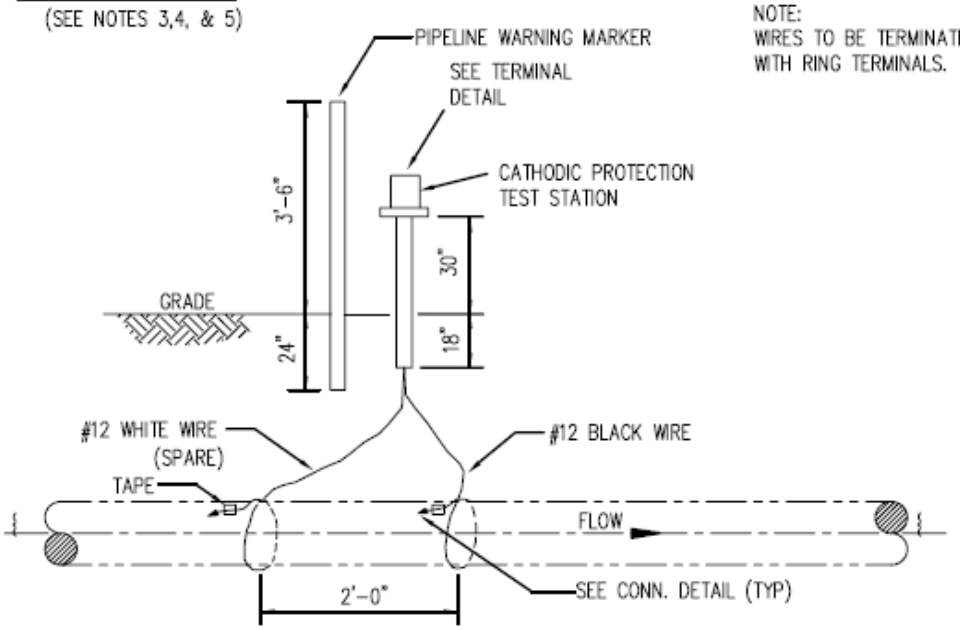
PIPE CONNECTION DETAIL
(SEE NOTES 3,4, & 5)

COTT (3) LEAD
BIG FINK TEST STATION
OR EQUIVALENT



TERMINAL DETAIL

NOTE:
WIRES TO BE TERMINATED
WITH RING TERMINALS.



NOTE:
ALL WIRES TO MAKE A
COMPLETE LOOP AROUND
PIPE.

NOTES:

1. ALL WIRE SHALL BE INSULATED STRANDED COPPER #12 TW AS SHOWN ABOVE.
2. TERMINAL BLOCK SHALL BE WIRED BY CONTRACTOR AS SHOWN IN TERMINAL DETAIL ABOVE.
3. ALL WIRE CONNECTIONS TO CARRIER PIPE SHALL BE MADE AS SHOWN IN DETAIL ABOVE. WIRE SHALL BE CONNECTED TO PIPE BY CADWELD PROCESS WITH COPPER HEAT SLEEVE.
4. CADWELD WIRE CONNECTIONS SHALL BE PRIMED WITH ROYSTON SPRAY PRIMER OR EQUAL AND ALLOWED TO DRY 3 TO 4 MINUTES OR UNTIL TACKY, AND COVERED WITH ROYSTON HANDY CAP OR EQUAL.
5. WIRE INSULATION SHALL BE PROTECTED FROM DAMAGE.
6. LAY WIRES ALONGSIDE PIPE. NOT OVER OR UNDER PIPE.
7. CATHODIC PROTECTION TEST STATION SHALL BE FURNISHED BY OWNER. CONTRACTOR SHALL FURNISH ALL OTHER MATERIALS.
8. INSTALL AT ALL LOCATIONS INDICATED ON ALIGNMENT SHEETS.

NO.	DESCRIPTION	CHECKED	DATE	APPROVED	DATE
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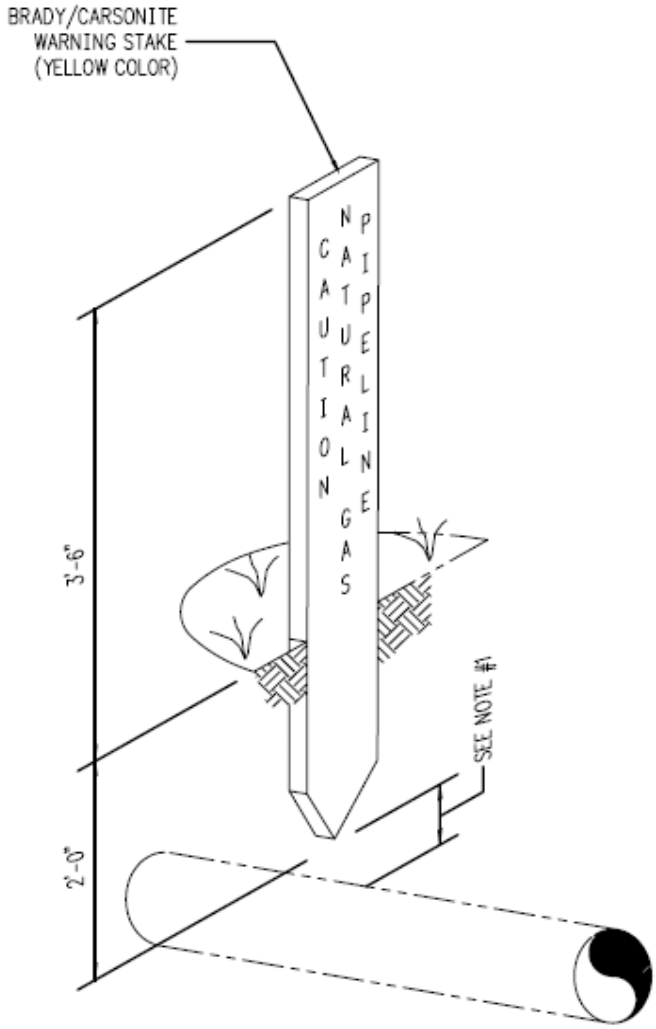
DOCUMENT NUMBER: DESIGN GUIDE 4.5.12

REVISION: 0

PIPELINE WARNING MARKER

DG 4.2.1



NOTES:

1. MARKERS SHALL BE PLACED DIRECTLY OVER THE PIPELINE WHEN THERE IS AT LEAST 1'-0" OF CLEARANCE BETWEEN THE TOP OF THE PIPE AND THE BOTTOM OF THE MARKER. MARKERS SHALL BE SLIGHTLY OFFSET IF THE CLEARANCE IS LESS THAN 1'-0", MARKERS WILL BE OFFSET IF THE PIPELINE IN IN A ROADWAY.
2. ONLY THE MARKERS SHALL BE SUPPLIED BY THE OWNER. ALL OTHER MATERIAL SHALL BE SUPPLIED BY THE CONTRACTOR.
3. MARKERS SHALL BE INSTALLED AT LOCATIONS REQUIRED BY THE OWNER AS SHOWN ON THE ALIGNMENT SHEETS AND AT FENCE LINES, PROPERTY LINES, AND ROAD CROSSINGS.

NO.	DESCRIPTION	CHECKED	DATE	APPROVED	DATE
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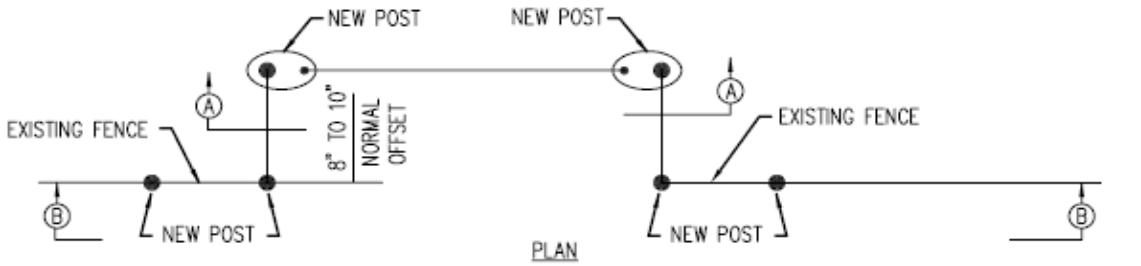
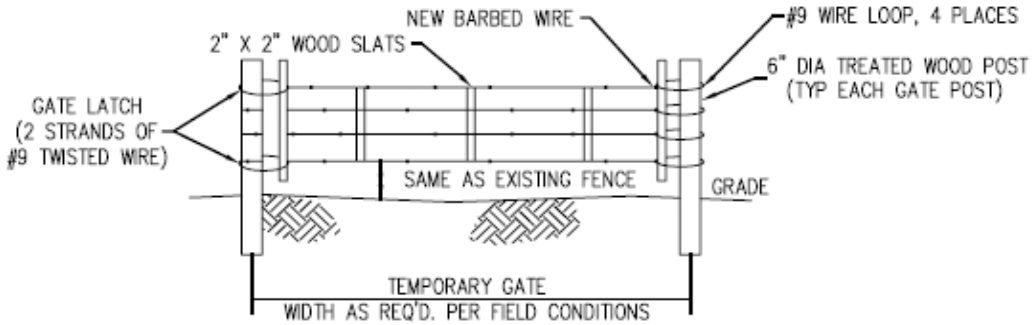
DOCUMENT NUMBER: DESIGN GUIDE 4.2.1

REVISION: 0

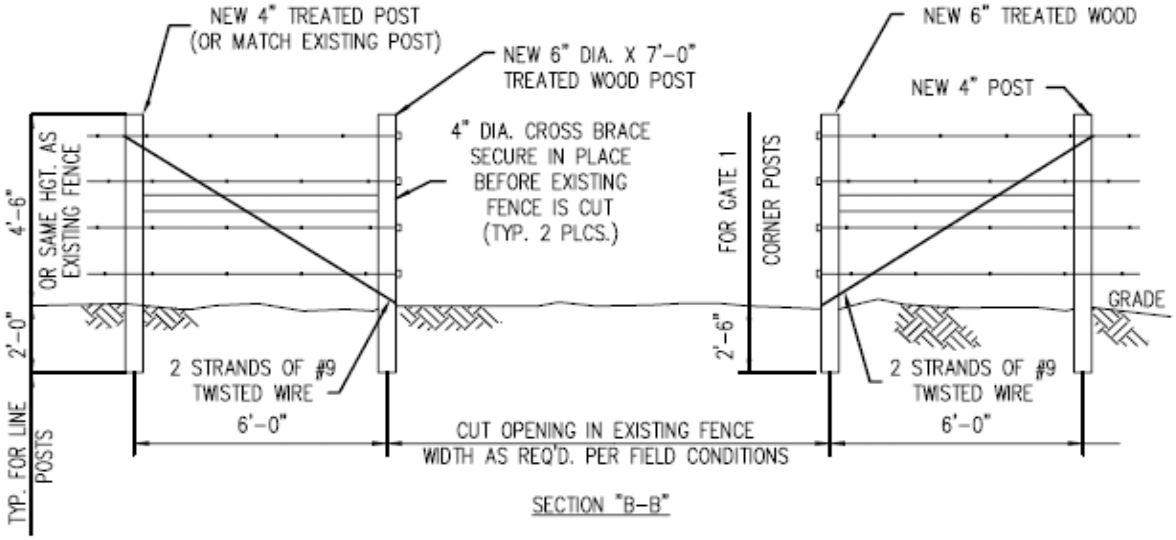
TEMPORARY FENCE GATE (OFFSET) — DG 4.2.5



PLAN



SECTION "A–A"



SECTION "B–B"

NOTES:

1. CONTRACTOR SHALL INSTALL AT ALL LOCATIONS DESIGNATED BY OWNER.
2. OFFSET MAY BE INCREASED TO ALLOW ROAD CLEARANCE FOR LARGER VEHICLES WHILE OPENING OR CLOSING GATES.

NO.	DESCRIPTION	CHECKED	DATE	APPROVED	DATE
0	ISSUED FOR DESIGN				

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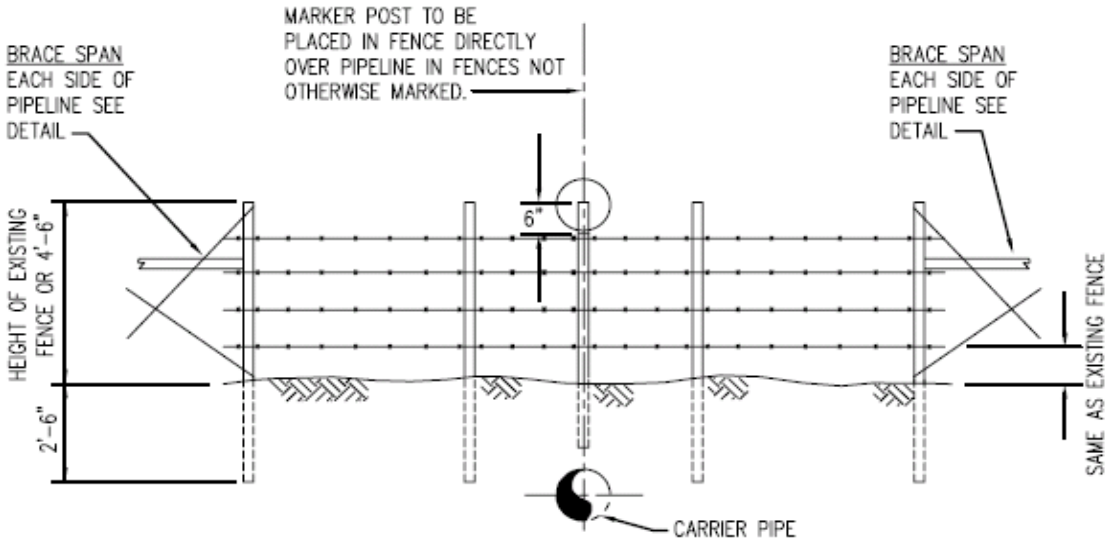
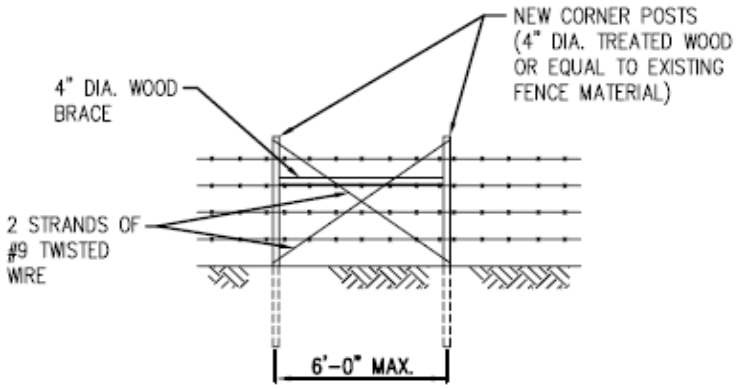
DOCUMENT NUMBER: DESIGN GUIDE 4.2.5

REVISION: 0

FENCE CUT AND RESTORATION | DG 4.2.6



ELEVATION



ELEVATION

BRACE SPAN DETAIL
SEE NOTE 2

NOTES:
1. POSTS, WIRE AND OTHER MATERIAL SHALL BE OF EQUAL OR NEW MATERIAL TO MATCH EXISTING FENCE.
2. BRACE SPAN TO BE CONSTRUCTED ON EACH SIDE OF PIPELINE CROSSING PRIOR TO INITIAL DISMANTLING OF FENCE.
3. MARKERS TO BE INSTALLED AT PROPERTY LINE FENCES ONLY. MARKERS TO BE INSTALLED AS SHOWN ON DWG. DG 4.2.1.

NO.	DESCRIPTION	CHECKED	DATE	APPROVED	DATE
0	ISSUED FOR DESIGN				

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DOCUMENT NUMBER: DESIGN GUIDE 4.2.6

REVISION: 0

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APPENDICES

BLM Uncompahgre Field Office
Gunnison Energy Corporation Plan of Development (POD)
Environmental Assessment CO-150-2008-35

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APPENDIX A
BIOLOGICAL RESOURCES PROTECTION PLAN

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1.0 Introduction

This Biological Resources Protection Plan (plan) describes protection measures to be taken by Gunnison Energy Corporation (GEC) and its contractors (Contractor) to avoid or minimize adverse impacts to biological resources during construction, operation, and maintenance activities.

Measures identified in this plan apply to work within the project area defined as the right-of-way (ROW), access roads, temporary use areas, and other areas used during construction of the project.

GEC and Contractor personnel are to be thoroughly familiar with this plan and its contents prior to initiating construction on the project.

1.1 Purpose

This plan was developed as the implementing document for relevant mitigation measures contained in the Environmental Assessment. This plan identifies protection measures that will be implemented to avoid and reduce short- and long-term impacts to biological resource habitats and wildlife populations within and adjacent to the construction workspace.

Due to the potential for additional surveys in the spring/early summer preceding construction, the list of construction timing restrictions is subject to revision, based on the results of surveys and agency coordination. This plan will be updated after surveys and prior to construction.

2.0 Responsibilities

2.1 GEC

GEC will be responsible for meeting the goals and objectives of this plan and for monitoring construction activities to ensure that the Contractor applies the measures and complies with the natural resources construction constraints. GEC will be responsible for all mandated pre-construction raptor and sensitive plant surveys, identifying and marking sensitive areas, and marking appropriate buffer areas. GEC is responsible for updating this plan prior to construction of the project.

2.2 Contractor

The Contractor will be responsible for adhering to biological resource construction timing restrictions described in Section 3.0.

3.0 Protection Measures

In order to avoid long-term impacts to key wildlife and plant species, protection measures have been developed in coordination with the Colorado Division of Wildlife and the Bureau of Land Management (BLM). If required, based on results of threatened, endangered, and sensitive plant surveys, protection measures will be developed with the U.S. Fish and Wildlife Service (USFWS).

3.1 Seasonal Limitations and Buffer Zones

The BLM, through NEPA, specifies seasonal limitations and required buffer zones for sensitive resources. A seasonal limitation is defined as the time of year when no construction disturbance is allowed in a particular sensitive area. These limitations are also referred to as seasonal closures or construction

constraints. Buffer zones are disturbance-free areas surrounding a sensitive location (e.g., raptor nest). These limitations and buffer zones will be provided by the BLM in Conditions of Approval.

3.2 Pre-Construction Surveys

Field surveys are required to ensure that the project does not jeopardize the continued existence of a listed or proposed plant or animal species. Surveys required prior to construction activities include those for threatened, endangered, and sensitive species; raptor nests; and habitat surveys. No construction activities will occur until approved in writing by the BLM Authorized Officer.

3.3 General Protection Measures

In addition to the site-specific seasonal limitations and buffer zones identified below, GEC will comply with the following plant and wildlife protection measures.

- Site-specific mitigation plans will be developed with the USFWS for any impacted threatened or endangered species.

- GEC will notify the BLM in the event of emergency maintenance.

- Construction will not proceed in restricted areas until final clearance is obtained by the applicable federal and state agencies. This restriction applies to areas identified for raptor, threatened, endangered, and sensitive species surveys scheduled for preconstruction.

- Install wildlife crossovers (trench plugs) with ramps on either side at maximum 0.25-mile intervals and at well-defined livestock and wildlife trails to facilitate passage of big game across the trench and to prevent big game from becoming trapped in the trench.

- Seed disturbed areas as discussed in the Environmental Protection Plan (Appendix L).

- Redistribute large, woody material and rock salvaged during clearing operations on BLM-administered lands. Disperse materials over the portion of the ROW from which the trees and brush were originally removed to provide wildlife habitat, seedling protection, and a deterrent to vehicular traffic.

- Waste food that could be an attractant for wildlife (e.g., black bears) will be disposed of at an appropriate waste disposal site.

3.4 Aquatic Wildlife Protection Measures

GEC will comply with the all aquatic wildlife protection measure that stipulated by the BLM and the U.S. Army Corp of Engineers.

- Instream work will occur during the FERC construction window for coldwater fisheries, which is from June 1 through September 30.

3.5 Big Game Protection Measures

GEC will comply with the following big game protection measures.

- Follow BLM seasonal stipulations for big game crucial winter range and production areas, including:

- avoid construction activities in crucial deer and elk winter ranges between December 1 and April 30; and
- avoid construction activities in elk production areas between April 15 and July 15.

3.6 Raptor Protection Measures

GEC will comply with the following raptor protection measures.

- Conduct pre-construction nesting raptor surveys. Contract biologists would be required to meet with BLM prior to initiating surveys and would conduct the surveys using BLM survey protocols.
- Surveys for the presence of nesting raptors will be conducted by a qualified biologist within at least a 0.5-mile radius around each proposed well pad, and within 50 feet of all access roads, ancillary facilities, and any other type of surface disturbance activity in potential habitat.
- Surveys for breeding raptors should be completed from March 1 through July 31 and prior to project construction activities that would take place during that breeding season. Drilling and/or surface disturbance shall not occur from May 15 through July 15 within 0.5 mile of active raptor nests.

• Timing restrictions and buffer zones for raptors in Colorado are species-specific and may be adjusted after surveys are completed.

3.7 Threatened, Endangered, and Sensitive Plant Protection Measures

GEC will comply with the following sensitive plant protection measures.

• Complete threatened, endangered, and sensitive plant presence and habitat surveys prior to construction, if potential habitat is determined to be present. Contract biologists will be required to meet with BLM prior to initiating surveys, and will conduct the surveys using BLM survey protocols.

• Consult with the BLM to determine measures for BLM sensitive species and consult with the USFWS to determine measures for federal listed threatened, endangered, or candidate species.

• Avoid plants that occur along the outside edge of the ROW and install exclusion fencing to prevent disturbance from construction activities.

• Conduct source population surveys in areas where plants cannot be avoided (i.e., within or across the ROW) to determine the magnitude of impact on the entire population.

• Consider the effectiveness of relocating or transplanting individual plants or collecting seed from mature plants to be replanted following construction.

• Evaluate the potential for route realignment in areas where plants occur within or across the ROW. The potential for a reroute will depend on constructability and site-specific conditions such as rugged terrain and slope steepness.

3.8 Discovery During Construction

If a species of concern is discovered during construction that was not discovered during pre-construction surveys, the site will be flagged and avoided, BLM will be notified immediately, and the necessary procedures will be implemented.

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APPENDIX B
BLASTING PLAN

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1.0 Introduction

This Blasting Plan (plan) identifies measures to be taken by Gunnison Energy Corporation (GEC) and its contractors (Contractor) to ensure that blasting operations are conducted in accordance with federal, state, and local regulations and restrictions.

Measures identified in this plan apply to work within the project area defined as the right-of-way (ROW), access roads, temporary use areas, and other areas used during construction of the project. These measures minimize sound, dust, and flying rock from the blasting process.

GEC and Contractor personnel are to be thoroughly familiar with this plan and its contents prior to initiating construction on the project.

1.1 Purpose

The project crosses numerous areas of surface and subsurface rock where mechanical equipment may be unable to rip or excavate rock from the ROW or trenchline to allow construction of the pipeline. In these areas, blasting will be used to shatter the rock to allow grading of the ROW for access to or excavation of the trenchline to provide an adequate depth of cover to protect the pipeline. It is not known in advance of construction if or how often blasting will have to be used. Blasting will be used as a last resort measure when mechanical equipment is unable to excavate as needed for pipeline construction.

This plan describes safety standards and practices that will be implemented during construction to minimize health, safety, and environmental concerns related to blasting on the project. This plan was developed as the implementing document for relevant mitigation measures contained in the Environmental Assessment.

2.0 Blasting Procedures

The following procedures will be implemented by the Contractor during blasting operations on the project. This section of the plan describes pre-blasting requirements, the typical sequence of activities associated with blasting operations, notifications required by the Contractor and GEC, and areas where blasting is restricted or where special mitigation measures will be required.

2.1 Pre-Blasting Requirements

2.1.1 Regulations and Restrictions

The Contractor will obtain all necessary permits for the use, storage, transportation, and handling of explosive materials, and will comply with the rules and regulations of the Occupational Safety and Health Administration (OSHA) and all federal, state, county, and local regulations. The Contractor will provide GEC with copies of all required permits prior to commencing blasting operations.

Federal regulations that apply include, but are not limited to, the following:

- Bureau of Alcohol, Tobacco and Firearms Publication P5400.7 (1990) Organized Crime Control Act of 1970, Title XI (Public Law 91-452)
- 27 CFR 55—Storage of Explosives
- 27 CFR 181—Commerce in Explosives
- 49 CFR 177—Carriage by Public Highway

- 29 CFR 1926.900 et seq. Sub-Part U—Safety and Health Regulations for Construction—Blasting and Use of Explosives
- 29 CFR 1910.109—Explosives and Blasting Agents OSHA

2.1.2 Explosives Storage

The Contractor will obtain necessary permits and comply with all conditions of 27 CFR 55 governing the storage of explosives. All powder magazines will be located in a secure, remote area and will be kept locked. Powder and detonators will never be stored together in the magazine, and any vehicle used to transport explosives from the magazine to the blast site will conform to applicable federal and state regulations. Magazines located on Bureau of Land Management (BLM) lands must be approved by the Authorized Officer. As required by federal statutes, the Contractor will maintain an inventory and use-record for all explosives and detonating caps that will be reconciled at the end of each working day, and will include the number of misfires and their disposition. The inventory and use-record will be available for inspection by GEC and jurisdictional authorities at all times. GEC will provide to BLM and local law enforcement personnel the location, including GPS coordinates, of the explosive storage areas.

2.1.3 Contractor Blasting Procedure Qualification

Only workmen thoroughly experienced in handling explosives will be permitted to supervise, handle, haul, or detonate explosives. In jurisdictions where the licensing of blasters is mandatory, the Contractor will provide GEC with proof of the required certification for every person directing or conducting blasting operations. In no instance will the Contractor allow a person to conduct or direct a blasting operation unless that person is the holder of a valid Blaster's Certificate, where required by the authority having jurisdiction. GEC will provide the BLM with copies of the Blaster's Certificates.

The Contractor will utilize a qualified engineer to assist in the preparation of site-specific blasting procedures and to provide an engineering report showing recommended charges and blasting methods to be used at specific locations. The Contractor's written blasting procedures must be submitted and approved by GEC before commencing blasting.

The Contractor will qualify its blasting procedure with GEC prior to commencing blasting operations. The procedure qualification will include a minimum of five test shots not exceeding 20 feet each in length, monitored with three-channel seismographs. Data from the test shots will be used by the Contractor to establish standard shot in terms of pounds of explosive per delay. Test shots are required for each major change in geology, explosive manufacturer, or explosive grade, as determined by GEC. Production shot procedures and delays will be identical to the test shot procedures and delays.

2.1.4 Notifications

The Contractor must notify GEC and appropriate federal, state, county, and local agencies at least 48 hours prior to storing or using explosives on the ROW. In addition, the following notifications will be needed throughout the project.

- Prior to any detonation of explosives in the vicinity of existing facilities (such as pipelines, dwellings, structures, overhead or underground utilities, farm operations, or public crossings), a minimum of 48 hours notice will be given to GEC, the appropriate authorities, and the owners or operators of any facilities that may be affected by the blasting. The Contractor will also comply with the "One Call" notification requirements, if available.

- Nearby fee-landowners will be notified by GEC 24 hours (the Contractor will give GEC 48 hour's notice) in advance of blasting to ensure that all persons, livestock, and equipment are out of the danger zone. Blasting will not be used where there are identifiable risks due to the proximity of residences or other structures.

2.2 Blasting Process

The following section provides a brief overview of the typical sequence of activities associated with blasting operations.

- Trenchline Stripping—The trenchline or ROW where blasting will be required is stripped of soil to expose the rock that cannot be excavated.

- Drilling—Holes are drilled in the rock with pneumatic drills to allow insertion of the explosive charge. Holes are drilled in a pre-determined pattern in order to control the blast and fly-rock as appropriate. Signs are installed at the limits of the blast area noting blasting signals, access, and radio restrictions.

- Loading—The holes are loaded with explosives and are filled with sand or soil to contain the blast within the trenchline. (Previously conducted tests on charges and drill patterns determine the appropriate combination of explosive charge and drill pattern for a particular geologic area that will provide adequate fracturing of the rock, and appropriate control of air blast, vibrations, and fly-rock.)

- Padding/Matting—Soil padding or blasting mats will be placed over the blast area to control fly-rock/debris when in close proximity to structures. The Contractor's blasting procedure and test shots will adequately address and confirm acceptable fly-rock parameters. Topsoil will not be used as padding.

- Warning—The blaster examines the blast area to ensure that vehicles and personnel have withdrawn to a safe distance. Access through the area is restricted and a series of "blast imminent" warning signals are sounded.

- Blast—Following the warning signals, the explosives will be detonated.

- Clearance—The Contractor's blasting foreman or blaster will conduct a thorough post-blast inspection of the blast area for cut-offs or misfires and will ensure that any undetonated explosives are properly destroyed by detonation prior to any other work proceeding. Once the area is verified clear of unexploded charges and hazards such as falling rock, the "all clear" signal is given.

2.3 Restrictions

No blasting will be done without prior approval of GEC. GEC will secure any approvals from the BLM prior to authorizing the Contractor to conduct blasting activities. The Contractor will be liable for any and all damages resulting from blasting operations.

Special blasting controls will be required in the vicinity of power lines, telephone lines, fiber optic lines, existing pipeline facilities, structures, water wells, springs, or buildings, or where directed by GEC to preclude the possibility of damage due to fly-rock, shock waves, vibrations, or changes to hydraulic conductivity of the bedrock near important springs and wells. This will be accomplished by a combination

of blast design, adequate collaring, and matting. Matting to control fly-rock includes, but is not limited to, fabricated mats, overburden, and sand-pad matting.

Fly-rock leaving the ROW will be collected immediately and either returned to the ROW or disposed of at disposal sites approved by GEC, BLM, or fee-landowners.

Blasting will be restricted during periods of high fire danger as directed by GEC in consultation with the BLM.

3.0 Safety Measures

Standard safety measures will be followed during blasting operations to prevent damage to adjacent resources, residences, utilities, and roadways. As discussed above, these measures will include blasting controls to limit fly-rock, air blast, and vibrations near sensitive areas. Warning signals, signage, and procedures to protect human health and safety are discussed below.

3.1 General Safety Requirements

The Contractor will at all times protect its workers and the public from any injury or harm that might arise from drilling dust and the use of explosives. Only workers thoroughly experienced in handling explosives will be permitted to supervise, handle, haul, load, or shoot explosives. In those jurisdictions where the licensing of blasters is mandatory, the Contractor will provide GEC, before any crew assignment, proof of the necessary certification for every person so required.

The Contractor will not leave loaded holes overnight, unattended, or unprotected. Explosives will only be primed immediately before use. Loading and blasting will be concluded by 4:00 p.m. each work day, unless prior approval is received from GEC. No explosives or blasting agents will be abandoned on the ROW.

During the blasting procedure, all personnel not involved in the actual detonation will stand back at least 1,000 feet and workers involved with the detonation will stand back at least 650 feet from the time the "blast imminent" signal is given until the "all clear" has been sounded. The Contractor will post flagmen on all roadways passing within 1,000 feet of the blast area to stop all traffic during blasting operations.

The Contractor will ensure that no members of the general public using public BLM lands are in the area when a blast occurs.

3.2 Warning Signs and Signals

3.2.1 Signs and Access Control

The Contractor will post warning signs and guards at all points of access to the blasting area, including trails. The warning signs will comply with the requirements of the jurisdictional authorities and will have lettering a minimum of 4 inches in height on a contrasting background. Signs will be installed at the limits of the blast area noting warning signals and access and radio restrictions.

All access roads to blasting sites will be blocked off and signed while blasting operations are taking place. Flagmen and/or guards will be posted at all roadways, trails, construction roads, or other access points to the blast area within 1,000 feet from the blast site in every direction.

3.2.2 Blast Site Clearance

Prior to initiating the blast warning system, the blaster will:

- complete the blast inspection;
- clear all personnel not involved with blasting operations from the blast area for a distance of at least 1,000 feet;
- ensure that all ROW traffic and, if applicable, road and access road traffic is halted;
- confirm that the guards are posted and the controlled area is secure; and
- retreat to a safe firing distance.

3.2.3 Blast Signals

The Contractor will use an acceptable air horn or siren to give the proper blasting warning and "all clear" signals. The warning system used for blast signals will produce a sound (air horn or siren) that is distinct from any other signals used on construction. Use of vehicle horns as blast signals is not permitted. The following audible blast warning system will be used.

- Blast Imminent—Three minutes before the blast is to be detonated, the blaster will give three short blasts of the air horn or siren. If there is an interruption to the blast routine once the "Blast Imminent" signal has been given, the entire blast signal procedure will begin again.

- Blast Signal—Three minutes after the "blast imminent" signal has been given, the blaster will give one short blast of his air horn or siren, followed by detonation of the explosives.

- All Clear Signal—The blaster will check the blast site to ensure that all charges have detonated. Once this assessment has been confirmed, the blaster will give one long blast of the air horn or siren.

3.3 Fire Safety

The presence of explosive materials on the project site could potentially increase the risk of fire during construction. To reduce this risk, the Contractor will strictly adhere to all requirements of the Fire Prevention and Suppression Plan (Appendix E). In addition, special precautions related to blasting operations include the following.

- Prohibit ignition devices or sources within 50 feet of an explosives storage area.

- Maintain magazine sites so that they are clear of fuels and combustible materials, and that the structures are well-ventilated and fire resistant.

- Protect magazines from wildfires that could occur in the immediate area (this will be accomplished by removing all vegetation within 50 feet of the storage container).

- Remove empty explosive storage boxes from the ROW and dispose of at a project-approved disposal site.

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APPENDIX C
CULTURAL RESOURCES PROTECTION PLAN

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Attachment 1—Monitoring Locations

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1.0 Introduction

This Cultural Resources Protection Plan (plan) describes protection measures to be taken by Gunnison Energy Corporation (GEC) and its contractors (Contractor) to avoid or minimize adverse impacts to cultural resources during construction and subsequent reclamation, restoration, and maintenance activities.

Measures identified in this plan apply to work within the project area defined as the right-of-way (ROW), access roads, temporary use areas, and other areas used during construction of the project.

GEC and Contractor personnel are to be thoroughly familiar with this plan and its contents prior to initiating construction on the project.

1.1 Purpose

The purpose of this plan is to provide for the identification, evaluation, and treatment of cultural resources that may be impacted as a result of construction of the project. This plan also defines the responsibilities and measures to preserve and protect cultural resources during construction of the project. This plan was developed as the implementing document for relevant mitigation measures contained in the Environmental Assessment.

2.0 Responsibilities

2.1 GEC

GEC will follow standard operating procedures during construction to protect cultural resources. GEC will:

- provide cultural resources monitoring by professional archaeologists during construction for project areas determined to be sensitive for cultural resources;

- include specific language in the Contractor's specifications regarding trespass on sites and procedures to be followed during unexpected discovery; and

- use procedures described in Sections 4.0 and 5.0 to address the inadvertent exposure of cultural resources during construction.

2.2 Contractor

The Contractor will be responsible for following the project procedures and requirements defined in this plan during and after the exposure of cultural resources. The Contractor will be responsible for providing GEC's Environmental Inspector with adequate advance notification of construction activities so that archaeological monitors can be deployed where required.

If, in its operations, the Contractor damages, or is found to have damaged, any previously documented or undocumented historic or prehistoric cultural resources, GEC agrees to have a permitted cultural resources consultant prepare and execute a Bureau of Land Management (BLM)-approved data recovery plan.

2.3 Environmental Inspector

GEC's Environmental Inspector will monitor daily construction activities, and is responsible for ensuring pipeline construction activities comply with all applicable mitigation requirements, permit conditions, and environmental specifications relating to cultural resource protection. This includes keeping track of construction activities and ensuring that monitors will be onsite when construction activities require cultural monitoring.

3.0 Pre-Construction Activities

3.1 Inventory and Testing

A cultural resources survey will be conducted along the pipeline route and on any temporary use areas affected by the project. Any sites field evaluated and recommended for listing on the National Register of Historic Places (NRHP) will be avoided through preapproved reroutes or tested prior to construction. Testing plans will be approved by the BLM Authorized Officer prior to surface disturbance.

3.2 Training

The Contractor will inform all crews of requirements relating to cultural resource protection. All construction personnel who operate ground-disturbing equipment will receive special instruction on the types of archaeological remains that may be encountered and the procedures to be followed if they encounter buried archaeological deposits or features. All construction and other employees present on the ROW will be informed of both the Environmental Inspector's and Cultural Monitor's authority to halt work. All personnel will be informed that they are subject to prosecution for knowingly disturbing historic or prehistoric sites or for collecting artifacts. Violation may result in removal from the project and/or may result in civil or criminal penalties in accordance with the Archaeological Resources Protection Act of 1979 (as amended).

4.0 Monitoring and Reporting Requirements

Cultural resource monitoring will be conducted by Cultural Monitors (certified professional archaeologists approved by the BLM) to ensure that aboriginal and historic cultural materials are preserved and to ascertain whether construction may continue after the unexpected discovery of any cultural materials.

4.1 Monitoring

Cultural Monitors will monitor project construction through all significant sites and at sites identified by BLM archaeologists. No ground-disturbing construction activities (topsoiling, grading, or ditching) will begin prior to their arrival. The Contractor is responsible for notifying GEC's Environmental Inspector at least 72 hours in advance of areas requiring monitoring would be identified prior to construction, so that archaeological monitors can be deployed where required. The Contractor will be responsible for all construction delays due to insufficient notification. Areas requiring cultural monitoring are included in Attachment 1.

Archaeological monitoring will consist of the examination of all heavy equipment ground disturbances (clearing, grading, and trenching) within 100 feet of a significant site, especially trench walls and the surfaces of graded areas. Cultural monitoring will be conducted in two phases.

- Phase One—The first phase will involve monitoring of the construction zone after vegetation clearing has occurred but prior to grading (including topsoiling) activities. The Cultural Monitor will follow the grading equipment looking for indications of shallowly buried cultural materials.

- Phase Two—The second monitoring phase will occur during pipeline trenching. The Cultural Monitor will follow the ditching equipment at a cautionary distance, allowing time for construction dust to settle and for visible detection of buried cultural features.

4.2 Reporting

Cultural Monitors will document daily monitoring activities on daily monitoring report forms that will be delivered to the Environmental Inspector on a daily basis.

Cultural monitoring results will be reported on a bi-weekly basis to the BLM Authorized Officer in a short letter report.

5.0 Discovery Requirements

5.1 Cultural Resources

If cultural resources (artifacts, hearths, rock art, etc.) are discovered during construction, the Contractor will immediately stop all work near the discovery. The following steps will be implemented when cultural resources are discovered.

- Cease all ground-disturbing activity within 100 feet of the discovery. The area will be secured until notified to proceed by the BLM Authorized Officer. Work could resume outside of that 100-foot buffer, unless additional resources are discovered in this area as well.

- Contact the BLM Authorized Officer, Environmental Inspector, and Cultural Monitor immediately. At the direction of the BLM, the Cultural Monitor will assess the nature of the discovery and determine the necessary course of action. If necessary, the Cultural Monitor will mark the area and recommend procedures to be implemented to avoid further site damage. GEC will protect the discovery until proper mitigation procedures are completed.

The BLM Authorized Officer will, within five working days, inform GEC as to:

  - whether the materials appear eligible for the NRHP,

  - mitigation measures required before the site can be used (assuming in situ preservation is not practicable), and

  - a time frame for the BLM Authorized Officer to complete an expedited review to confirm, through the State Historic Preservation Officer (SHPO), that the findings of the BLM Authorized Officer are correct and mitigation is appropriate.

5.2 Human Remains

If human remains are discovered during construction, the Contractor will be responsible for immediately stopping all work near the discovery. Specific cultural monitoring sites provided by the BLM will be monitored by GEC. The following steps will be implemented when human remains are discovered.

- Cease all ground-disturbing activity within 100 feet of the discovery. The area will be secured until notified to proceed by the BLM Authorized Officer.

- Contact the BLM Authorized Officer, Environmental Inspector, and Cultural Monitor, along with the relevant county coroner or sheriff, immediately. The BLM will notify the SHPO, as appropriate.

- Allow the Cultural Monitor to assess the nature of the discovery and determine the necessary course of action. If necessary, the Cultural Monitor will mark the area and recommend procedures to be implemented to avoid further site damage. GEC will protect Native American remains and objects until removal. It may be necessary for GEC to provide 24-hour, onsite security as determined by the BLM.

- Report any funerary or associated funerary objects encountered during construction activities immediately to the BLM. Activities will cease in the immediate area of the discovery and the discovery will be protected for 30 days or until notified to proceed by the BLM Authorized Officer.

ATTACHMENT 1—MONITORING LOCATIONS

(To be determined prior to construction.)

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APPENDIX D
ENVIRONMENTAL COMPLIANCE MANAGEMENT PLAN

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1.0 Introduction

This Environmental Compliance Management Plan (plan) describes measures that Gunnison Energy Corporation (GEC) and its contractors (Contractor) will implement to construct and operate the project in compliance with all federal, state, and local permits and requirements.

Measures identified in this plan apply to work within the project area defined as the right-of-way (ROW), access roads, temporary use areas, and other areas used during construction of the project.

GEC and Contractor personnel are to be thoroughly familiar with this plan and its contents prior to initiating construction on the project.

1.1 Purpose

GEC is committed to designing, constructing, and operating the project in an environmentally sound manner and in compliance with all local, state, and federal regulations. The project will be designed and planned to protect environmental resources to the greatest extent practicable.
The primary purpose of this plan is to outline procedures and protocols for managing environmental compliance during construction of the project. The environmental compliance program will be implemented under the direction of the Bureau of Land Management (BLM). The purpose of the environmental compliance program is to monitor and document the implementation of mitigation measures included in the Environmental Assessment and ROW Grant.

The following strategies have been adopted as the framework of the environmental compliance management program.

Environmental Training: Environmental training programs will be conducted prior to construction to support compliance with environmental requirements. All project personnel working on the ROW will attend environmental training.

Environmental Inspection: GEC's Environmental Inspector will have a visible presence on the project. During construction, the Environmental Inspector will observe and document environmental compliance, as well as actively identify and anticipate potential environmental compliance concerns ahead of construction.

Clear and Responsive Communication: Environmental and construction representatives will interact daily and will ensure that all verbal discussions and written documentation are professional and responsive at all times. All project personnel will interact as frequently as necessary to ensure that environmental information, concerns, and issues requiring resolution are communicated in a timely manner.

Teamwork: In the event of a reoccurring or significant environmental non-compliance, relevant project representatives (construction, engineering, lands, environmental) will work jointly to develop and implement responsive resolutions as efficiently as possible.

2.0 Responsibilities

The environmental compliance management roles and responsibilities are summarized below.

2.1 GEC

2.1.1 Project Manager

The Project Manager will be responsible for the following items.

- Coordinate among the Chief Construction Inspector and Environmental Manager.

- Consult with the appropriate agencies on changes of project work that affect the mitigation program or sensitive resources.

- Act as the arbitrator between construction and environmental considerations if an internal conflict arises.

2.1.2 Environmental Manager

The Environmental Manager is the ultimate authority for project environmental compliance and successful implementation of the environmental compliance management program. Responsibilities include policy and management level communications with GEC management, and federal, state, and local regulatory agencies. The Environmental Manager will be responsible for the following items.

- Communicate frequently with the Environmental Inspector, Chief Construction Inspector, and the Contractor regarding environmental inspection and compliance activities.

- Maintain communication with regulatory agencies.

- Ensure that spring biological surveys are completed and the Biological Resources Protection Plan (Appendix A) has been updated and approved by the BLM prior to construction.

- Interface with and advise project management regarding environmental compliance.

- Report hazardous material spills in accordance with the Hazardous Materials Management and Spill Prevention, Containment, and Countermeasure Plan (Appendix G).

- Coordinate with various project representatives, as necessary, to resolve issues when performing project troubleshooting on environmental compliance issues.

2.1.3 Environmental Inspector

An Environmental Inspector will be assigned to oversee the environmental compliance inspection process. In addition to performing inspection duties, the Environmental Inspector will be responsible for the following items.

- Communicate with the Environmental Manager and the Chief Construction Inspector on a daily basis.

- Provide key liaison role in coordinating attendees and facilitating agreements in the field, as appropriate, with agency representatives.

- Coordinate daily with construction inspectors, the Contractor, and biological and cultural monitors to ensure that required monitors are present when construction activities are scheduled in all areas requiring monitors.

The Environmental Inspector will directly represent the BLM and will have authority to enforce the environmental requirements of the Plan of Development and any environmental permits. The Environmental Inspector will be on a peer status with other project construction inspection staff. The Environmental Inspector will act as a liaison between the Contractor and agency field representatives and will coordinate regularly with the various construction inspectors to ensure that the construction inspectors are apprised of the status of environmental issues in their respective areas.

The Environmental Inspector will be responsible for determining non-compliance activities and anticipating activities and situations that could result in non-compliance to Plan of Development, environmental permits, and project stipulations contained in the ROW Grant. The Environmental Inspector will play a significant role suggesting methods to bring construction activity into compliance and/or to temporarily halt certain activities that may cause damage to sensitive environmental resources. In this capacity, the Environmental Inspector will work in conjunction with the Construction Inspector as applicable. The Environmental Inspector will use sound professional judgment in exercising these authorities and will not stop work unless there is a situation that could:

- cause serious injury or harm to persons or property;

- harm threatened, endangered, or sensitive species or protected cultural resources; or

- violate certain federal or state codes.

2.1.4 Chief Construction Inspector

The Chief Construction Inspector will have the following responsibilities.

- Notify the Environmental Manager of changes in the project work so that appropriate environmental reviews can take place.

- Work with the Environmental Inspector to evaluate and improve the implementation of the environmental compliance management program, as construction progresses.

- Coordinate with the Contractor, Environmental Inspector, and construction inspectors for all construction-related issues.

- Supervise compliance with construction, safety, and environmental mitigation measures identified in the Plan of Development.

2.1.5 Construction Inspectors

Construction inspectors will have the following responsibilities.

- Conduct quality control construction inspections within area of expertise.

- Provide support in monitoring and reporting compliance with the environmental compliance management program.

2.1.6 Threatened, Endangered, and/or Sensitive Species Monitors

At this time there are no requirements for Threatened, Endangered, or Sensitive Species (biological) Monitors on the project. If biological monitors are required as a result of survey findings, the biological

monitors will be present in areas requiring biological monitors as listed in the Biological Resources Protection Plan (Appendix A) and in the ROW Grant stipulations.

Biological monitors will:

- monitor biological resources; and

- observe construction activities, document work, and submit reports to the Environmental Inspector.

2.1.7 Cultural Resource Monitors

Cultural and paleontological resource monitors will be present in areas requiring monitors as listed in the Cultural Resources Protection Plan and in the ROW Grant stipulations.

Cultural monitors will:

- monitor cultural resource protection areas; and

- observe construction activities, documenting work, and submitting reports to the Environmental Inspector.

2.2 Contractor

The Contractor will have the prime responsibility for ensuring that the project is constructed in accordance and in compliance with all federal, state, and local environmental permits, requirements, and stipulations. During construction of the project, it will be the responsibility of the Contractor to train all workers engaged on the project and keep them up-to-date regarding environmental requirements.

3.0 Orientation and Training

Training is an integral tool for achieving environmental compliance. An environmental training program will be developed to target every level of the organization (management and workforce). Topics to be addressed during training will include biological resources, cultural resources, erosion control, fire prevention, hazardous materials spill prevention and control measures, and other project requirements.

4.0 Reporting

The Environmental Inspector will document Contractor conformance with project mitigation requirements, permit conditions, and environmental specifications on a daily and weekly basis.

Daily reports should document project-related activities inspected, milepost and station number, approximate time of day, ownership (BLM or private-lands), sensitive sites present (i.e., cultural sites, paleontological sites, waterbodies, wetlands, etc.), and a brief description of the activities observed. The Environmental Inspector will assign a level of compliance to each report.

The compliance level will be determined by comparing the activity observed with the mitigation measures included in the Plan of Development and stipulations attached to the ROW grant. The following compliance levels will be used.

- Acceptable—issued when the activities observed are in compliance with the project environmental requirements.

- Minor problem—issued when there is a minor deviation from the project requirements, but the deviation does not place sensitive resources at risk. An example of a minor problem would be if a small amount of soil is placed outside the approved workspace boundaries, but has no effect on biological or cultural resources. If the minor problem is not corrected within a reasonable timeframe or multiple occurrences of a similar nature occur, the situation might be elevated to a noncompliance.

- Noncompliance—issued when an activity is observed that violates the project environmental requirements and places a sensitive resource at risk. Examples would include failure to install or maintain erosion control devices or lack of cultural or paleontological monitors at required locations.

Reports that include noncompliance ratings will be submitted to the BLM Authorized Officer that same day. Otherwise, compliance results will be reported on a weekly basis to the BLM Authorized Officer and GEC representatives in a short letter report.

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APPENDIX E
FIRE PREVENTION AND SUPPRESSION PLAN

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1.0 Introduction

The Fire Prevention and Suppression Plan (plan) identifies measures to be taken by Gunnison Energy Corporation (GEC) and its contractors (Contractor) to ensure that fire prevention and suppression techniques are carried out in accordance with federal, state, and local regulations.

The purpose of this fire prevention and suppression plan is to prepare a plan that will be followed in order to avoid fire and ensure public safety. Measures identified in this plan apply to work within the project area defined as the right-of-way (ROW), access roads, temporary use areas, and other areas used during construction of the project.

GEC and Contractor personnel are to be thoroughly familiar with this plan and its contents prior to initiating construction on the project.

1.1 Purpose

The risk of fire danger during pipeline construction is related to smoking, refueling activities, operating vehicles and other equipment off roadways, welding activities, and the use of flammable liquids. During pipeline operation, risk of fire is primarily from unauthorized entry onto the ROW. During maintenance operations, risk of fire is from smoking, use of flammable liquids, operation of vehicles, and pipeline maintenance activities that require welding.

This plan establishes standards and practices that will minimize the risk of fire danger and, in case of fire, provide for immediate suppression. This plan was developed as the implementing document for relevant mitigation measures contained in the Environmental Assessment.

2.0 Responsibilities and Coordination

GEC and the Contractor are responsible for providing all necessary fire-fighting equipment on the project site to their respective employees and operating under the requirements of this plan. Prior to construction, GEC will contact the appropriate authorities to establish communications, obtain permits (if applicable), and/or fulfill other obligations as directed by fire control authorities. In addition to the above, GEC will:

- File with the Bureau of Land Management (BLM) prior to initiating operations and during Fire Precautionary Period, a plan providing for the prevention and control of fires on construction and ROW areas and on other areas of operations. Such plan will include a detailed list of personnel and equipment at GEC's and the Contractor's disposal for implementing the plan. BLM may change the dates of the Fire Precautionary Period by advance written notice if justified by unusual weather or other conditions. Required tools and equipment shall be kept in serviceable condition and immediately available for fire fighting at all times during operations in the Fire Precautionary Period.

- Ensure prevention, detection, pre-suppression, and suppression activities are in accordance with this fire plan and federal, state, and county laws, ordinances, and regulations pertaining to fire.

- Accompany agencies' representatives on fire tool and equipment inspections and take corrective action upon notification of any fire protection requirements that are not in compliance.
- The fire prevention and suppression measures described in this plan shall be in effect from June 1st to the end of construction. These dates may change by advance written notice from fire control authorities. However, required tools and equipment shall be kept in serviceable condition and be immediately available for fire suppression at all times.

• Both independently and in cooperation with BLM, take all reasonable and practicable actions to prevent and suppress fires resulting from GEC's and the Contractor's operations and to suppress any forest fire on the construction and ROW areas. GEC's and the Contractor's independent initial fire suppression action on such fires will be immediate and will include the use of all necessary manpower and equipment at the Contractor's disposal in the area.

3.0 Fire Prevention Measures

3.1 Pre-Construction and Construction

Methods and procedures that will be implemented prior to and during the construction period to minimize the risk of fire are described below.

3.1.1 Training

The Contractor will train all personnel about the measures to take in the event of a fire and will inform each construction crew member of fire dangers, locations of extinguishers and equipment, and individual responsibilities for fire prevention and suppression. Smoking and fire rules will also be discussed with the Contractor and all field personnel during the safety training program.

3.1.2 Smoking and Fires

Smoking is prohibited except inside a building, developed recreation site, vehicle, or while seated in an area of at least 3 feet in diameter that is barren or cleared of all flammable materials. All burning tobacco and matches will be extinguished before discarding. Smoking is also prohibited while operating equipment or vehicles, except in enclosed cabs or vehicles (36 CFR 261.52([d]).

The building of camp, lunch, warming, and other fires within the construction and ROW areas and their vicinity is prohibited, with the exception of fires at established camps or at other safe places where all flammable material has been cleared away sufficiently to prevent the start and spread of wildfires. BLM may, upon written request from GEC and the Contractors, designate specific places where campfires may be built for purposes of heating lunches. GEC and Contractors will abide by all BLM fire restrictions.

3.1.3 Spark Arresters and Mufflers

During construction, operation, and maintenance of the ROW, all Contractor and GEC equipment operating with an internal combustion engine shall be equipped with federally approved spark arresters. Spark arresters are not required on trucks, buses, and passenger vehicles (excluding motorcycles) that are equipped with an unaltered muffler or on diesel engines equipped with a turbocharger. The BLM Construction Inspector will have full authority to inspect spark arresters on project equipment prior to its use on the project on federal lands and periodically during the construction project.

Operating or using any internal combustion engine, on any timber, brush, or grass covered land, including trails and roads traversing such land, without a spark arrester, maintained in effective working order, meeting either (I) Department of Agriculture, Forest Service standard 5100, "SPARK ARRESTERS FOR INTERNAL COMBUSTION ENGINES," (current edition); or (II) the Society of Automotive Engineers (SAE) recommended Practices J335, "MULTIPOSITION SMALL ENGINE EXHAUST SYSTEM FIRE IGNITION SUPPRESSION," (current revision) and J350, 36 CFR 261.52(j), is prohibited.

Passenger carrying vehicles, pickups, and medium and large highway trucks (80,000 Gross Vehicle Weight) will be equipped with a factory designed muffler system that is specified for the make and model of the respective vehicle/truck or with a muffler system that is equivalent to or exceeds factory specifications.

Exhaust systems shall be properly installed and continually maintained in serviceable condition.

3.1.4 Power Saws

Each gasoline engine power saw shall be provided with one chemical-pressurized fire extinguisher of not less than 8-ounce capacity by weight, and one size O or larger, round-pointed shovel with an overall length of at least 48 inches. The extinguisher and shovel shall be maintained in good working order. The extinguisher shall be with the power saw operator and immediately available for use at all times. The extinguisher shall not be affixed to the saw. The shovel shall be readily available to the operator of the saw at all times. If the shovel is kept with the gas can that is used to refuel the saw, the shovel may be considered "readily available" as long as it is not more than 200 feet from the saw. During periods of critical fire danger, BLM may prescribe other precautionary measures.

Any fueling or refueling of a power saw shall be done in an area that has first been cleared of material that can carry fire. The power saw shall be moved at least 10 feet from the place of fueling or refueling before starting.

3.1.5 Parking, Vehicle Operation, and Storage Areas

In no case will motorized equipment, including worker transportation vehicles, be driven or parked outside of the designated and approved construction workspace. Equipment parking areas, the ROW, temporary use areas, and small stationary engine sites, where permitted, will be cleared of all flammable material.

Gasoline, oil, grease, and other highly flammable material shall be stored either in a separate building, at a site where all debris is cleared within a 25-foot radius, or in a specially designed fuel truck or tank within a truck. Storage buildings or sites shall be a minimum distance of 50 feet from other structures. Storage buildings shall be adequately posted to warn of the flammables and to prohibit smoking in or around the building. Glass containers shall not be used to store gasoline or other flammables. OSHA-approved containers would be used to store and transport gasoline and other flammables.

3.1.6 Equipment

While in use, each internal combustion engine including tractors, trucks, yarders, loaders, welders, generators, stationary engines, or comparable powered equipment will be provided with at least the following:

- One fire extinguisher, at least 5#ABC with an Underwriters Laboratory (UL) rating of 3A - 40BC, or greater.

- One shovel, sharp, size O or larger, round-pointed with an overall length of at least 48 inches.

- One axe, sharp, double bit 3-1/2#, or one sharp pulaski.

- Extinguishers, shovels, axes, and pulaskis shall be mounted so as to be readily available from the ground. All tools shall be maintained in a serviceable condition.

3.1.7 Road Closures

The Contractor will notify the appropriate fire suppression agency and BLM Construction Inspector of the scheduled closures prior to the open-cut crossing of a road. If required, the Contractor will construct a bypass prior to the open-cut installation of a road crossing, unless a convenient detour can be established on existing approved roads or within approved work limits. All bypasses will be clearly marked by the Contractor. During road closures the Contractor will designate one person, who knows the bypass, to direct traffic. The Contractor will minimize, to the extent possible, the duration of road closures. Additional information is provided in the Transportation Management Plan (Appendix K).

3.1.8 Refueling

Fuel trucks shall have a large fire extinguisher charged with the appropriate chemical to control electrical and gas fires. The extinguisher shall be a minimum size 35-pound capacity with 40 BC or higher rating.

3.1.9 Burning

No burning of slash, brush, stumps, trash, or other project debris will be permitted on the project. No campfires, lunch fires, or warming fires will be allowed within the ROW.

3.1.10 Welding and Blasting

All equipment shall be kept in a serviceable condition and readily available.

The use of fuses in blasting shall not be permitted except near power lines where the danger of accidental detonation is present, and then only by special written permission of the BLM. Whenever the relative humidity falls below 50 percent, GEC and Contractors shall place a watchman at each blasting point who shall remain on duty for at least one hour after blasting is finished, and who shall be equipped with a shovel and a water-filled backpack can equipped with a hand pump. During periods when the relative humidity falls below 20 percent, blasting shall be discontinued unless authorized, with special provisions, in writing by the BLM. Blasting shall not be permitted in any area not cleared to mineral soil without advance written approval of BLM and with such special precautions as may be required.

Prima Cord shall not be used in clearing operations, and in other areas where timber has been felled and slash was not burned.

Unless otherwise directed in writing by BLM, all flammable material shall be cleared for 10 feet around any piece of equipment being welded. In addition, GEC and Contractors shall provide a fire extinguisher of a size and type designed to extinguish a fire in the flammable materials surrounding the spot being welded.

In order to determine the relative humidity, GEC and Contractor will either (a) provide and maintain weather instruments, that will measure relative humidity, in the area where blasting will occur; or (b) provide communications to obtain weather data from BLM.

Explosives shall be stored at all times in a locked box marked "Explosives." Powder and blasting caps shall be stored in separate boxes.

3.1.11 Monitoring

Construction and Environmental Inspectors for GEC shall inspect the construction workspace and the Contractor's operations for compliance with all provisions of this plan. In addition, federal, state, and local fire control agencies shall perform inspections in areas under their jurisdiction at their discretion.

3.2 Pipeline Operation and Maintenance

During pipeline operation, the risk of fire danger is minimal. The primary causes of fire on the ROW result from unauthorized entry by individuals using the ROW for recreational purposes and from fires started outside of the ROW. In the latter case, the ROW can be used by authorities as a potential fire break. During maintenance operations, GEC or the Contractor shall equip personnel with basic fire-fighting equipment including fire extinguishers and shovels as described in Section 3.1.6. Maintenance crews shall also carry fire suppression contacts as described in Section 4.1

3.3 Aboveground Appurtenances

Defensible space will be created around any aboveground appurtenances in accordance with Colorado Firewise guidelines (www.firewise.com).

3.4 Camp Fire Protection

The grounds around all trailers, buildings, and other facilities constructed or placed on or near other improvements shall be kept free of flammable material for a distance of at least 20 feet from the wall of such structure. Burning of such flammable material will be as prescribed by BLM in writing.

Stovepipes of all wood burning stoves shall be equipped with suitable roof jacks and serviceable spark arresters. Stovepipes shall be no closer than 2 feet from any wood or other flammables unless adequately protected by metal or asbestos shield.

4.0 Fire Suppression

4.1 Suppression

The Contractor will take the following actions should a fire occur within the project area during construction.

- Report fire to Upper Colorado River Interagency Fire Management Unit (800-972-4526).
- Take immediate action to suppress fires using all available manpower and equipment.

- Immediately notify the nearest fire suppression agency of the fire location, action taken, and status (refer to Table 4-1 Fire Suppression Contacts).

- Immediately notify GEC's Construction Inspector, Chief Construction Inspector, BLM Construction Inspector, and Environmental Inspector of the fire location and action taken.

Table 4-1 Fire Suppression Contacts

Contact	Phone Number	Office Location
General Fire Reporting (on any landownership)		
Upper Colorado River Interagency Fire Management Unit	800-972-4526	Interagency Dispatch Office, Grand Junction
USFS Lands		
GMUGNF	970-874-6600	Delta, CO
Private Lands		
Delta County Office of Emergency Management	911 or 970-874-2004	Delta, CO
Gunnison County Office of Emergency Management	911 or 970-641-2481	Gunnison, CO

4.2 Monitoring

The Contractor shall mark the location and boundaries of all extinguished fires. Extinguished fire sites shall be monitored by the Contractor for a minimum of 24 hours.

5.0 Notification

5.1 Notification Procedures

Construction personnel shall report all fires, whether extinguished or uncontrolled, to GEC's Chief Construction Inspector, GEC's Environmental Inspector, and the BLM Construction Inspector. If the fire is uncontrolled, the Contractor shall call the nearest fire suppression agency (refer to Table 4-1 Fire Suppression Contacts). Information regarding the location of the fire, property ownership, and closest access roads should be provided to the dispatch office and GEC. If a reported fire is controlled, but not extinguished, the Contractor shall call to notify the nearest fire suppression agency to alert them of the situation. The status of the fire shall be monitored by the Contractor and, when extinguished, the nearest fire suppression agency shall be notified.

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APPENDIX F
FUGITIVE DUST CONTROL PLAN

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1.0 Introduction

This Fugitive Dust Control Plan (plan) describes the general control measures to be taken by Gunnison Energy Corporation (GEC) and its contractors (Contractor) to ensure that dust suppression techniques are implemented to control fugitive dust sources during construction operations.

Measures identified in this plan apply to work within the project area defined as the right-of-way (ROW), access roads, temporary use areas, and other areas used during construction of the project. Additional mitigation measures may be required and will be listed as conditions in the Colorado Department of Public Health and Environment (CDPHE) Air Pollution Control Division (APCD) Construction Emission Permit.

GEC and Contractor personnel are to be thoroughly familiar with this plan and its contents prior to initiating construction on the project.

1.1 Purpose

The purpose of this plan is to identify measures to be taken by GEC and the Contractor to control fugitive dust sources during construction operations. This plan was developed as the implementing document for relevant mitigation measures contained in the Environmental Assessment.

2.0 Requirements for Dust Control

2.1 General Requirements

The Contractor is required to provide dust control measures for all areas disturbed by construction, and on Bureau of Land Management (BLM) roads as directed. The measures listed below will be required, as necessary, to control fugitive dust. Additional measures, if required, will be listed in the CDPHE APCD Construction Emission Permit.

Dust control will be implemented by the Contractor in areas of active construction within 500 feet of highways, residences, and power transmission ROWs (unless waived by the owner/operator). Dust control is required near major roadways, access roads, and construction ROWs any time dust stays in the air for 5 minutes or reaches 20 feet in height. Dust control is required on the construction ROW and access roads when dust plumes exceed 20 percent visual opacity. Dust control will also be implemented on access roads, as determined by GEC or as directed by the BLM, and as required by the Contractor for the health and safety of employees.

Dust control will be achieved primarily through application of water or an approved dust palliative. Water for dust abatement will not be appropriated from surface waters unless GEC has appropriate water rights. The source of this water may be Oxbow LLC's (parent company of GEC) existing water rights. Water obtained from wells is permitted, but written approval from the fee-landowner is required prior to appropriation. Application rates for dust palliative will follow the manufacturer's recommendations. All dust palliatives used will be biodegradable. Use of salts with water as a suppressant is limited to magnesium chloride (MC70).

2.2 Control of Unpaved Roads On-Site

During construction, operation, and maintenance of the project, the Contractor will suppress dust with application of water or other approved suppressant as needed and will control vehicle speed to 35 miles per hour (mph) on graveled roads and 25 mph on native surface roads. These speeds may be adjusted by the BLM authorized agent or by the Environmental Inspector as needed, or as specified in the Road Use Permit for BLM Roads and the Transportation Management Plan (Appendix K).

The Contractor will apply dust suppressants to the construction work area and access roads at the request of GEC, BLM, and county or state representatives.

2.3 Control of Paved Roads

The Contractor will implement the following requirements on paved roads:

- Construction entrances will be installed to prevent tracking mud and soil onto paved roads. Construction entrances will be constructed as required by county and state permits.

- Any soil tracked onto a paved road that extends more than 50 feet from the point of origin will be cleaned up by the Contractor within one hour of discovery. Any soil tracked onto a paved road that extends less than 50 feet will be cleaned up by the end of the working day.

2.4 Control of Disturbed Areas On-Site

During construction, operation, and maintenance of the project, the Contractor will suppress dust with application of water or other approved suppressant as needed, and will control vehicle speed to 15 mph along the construction ROW. All areas disturbed by construction will be revegetated in accordance with GEC's Environmental Protection Plan (Appendix L).

The Contractor will apply dust suppressants to the construction work area and access roads at the request of GEC, BLM, and county or state representatives.

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APPENDIX G
HAZARDOUS MATERIALS MANAGEMENT AND SPILL PREVENTION, CONTAINMENT, AND COUNTERMEASURE PLAN

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1.0 Introduction

This Hazardous Materials Management and Spill Prevention, Containment, and Countermeasure Plan (plan) describes measures to be taken by Gunnison Energy Corporation (GEC) and its contractors (Contractor) to reduce the risks associated with the use, storage, transportation, production, and disposal of hazardous materials (including hazardous substances and wastes) and petroleum products. In addition, this plan outlines the required spill prevention and response (cleanup) procedures for the project.

In general, hazardous materials and cleanup equipment will be stored at contractor yards. Yards will be primarily located on private land and on land that has been previously used for similar purposes. Material Safety Data Sheets (MSDS) will be maintained at contractor yards throughout the construction period.

The Contractor will prepare and have GEC review and approve a Hazardous Materials Management and Spill Prevention, Containment, and Countermeasure Plan prior to any storage of hazardous substances or petroleum products. GEC will have 10 days to review submitted plans.

Measures identified in this plan apply to work within the project area defined as the right-of-way (ROW), access roads, temporary use areas, and other areas used during construction of the project.

GEC and Contractor personnel are to be thoroughly familiar with this plan and its contents prior to initiating construction on the project.

1.1 Purpose

The purpose of this plan is to provide a description of hazardous materials management, spill prevention, and spill response/cleanup measures associated with the construction, operation, and maintenance of the project. In addition this plan provides the Contractor with requirements and guidance for the creation of its Hazardous Materials Management and Spill Prevention, Containment, and Countermeasure Plan. This plan was developed as the implementing document for relevant mitigation measures contained in the Environmental Assessment.

1.2 General Overview

This plan includes the following components:

1.0 introduction;
2.0 description of the spill prevention procedures related to vehicle refueling and servicing and the transportation, storage, and disposal of hazardous materials;
3.0 guidelines for developing the Contractor's Hazardous Materials Management and Spill Prevention, Containment, and Countermeasure Plan;
4.0 description of the physical and procedural methods for spill control and cleanup; and
5.0 overview of the notification and documentation procedures to be followed in the event of a spill.

1.3 Regulatory Overview

Major legislation pertaining to hazardous materials includes the Comprehensive Environmental Response, Compliance, and Liability Act (CERCLA); the Resource Conservation and Recovery Act (RCRA); the Clean Air Act; and the Clean Water Act.

Numerous other federal, state, and local regulations also govern the use, storage, transport, production, and disposal of hazardous materials. Some of the key requirements of these laws are outlined in the following:

- Title 29 CFR Part 1910.1200—Hazard Communication Standard
- Title 27 CFR Part 55—Storage and Use of Explosives
- Title 40 CFR, Parts 112, 260 to 263, and 279—Hazardous Wastes Definitions, Standards for Hazardous Waste Generators, and Requirements for Spill Prevention, Containment and Countermeasure Plans
- Title 49 CFR Parts 171 to 180—Hazardous Materials Transportation
- Title 29 CFR Parts 1910.101 to 1910.110 and Part 1910.120—Occupational Safety and Health (OSHA) Regulations
- Superfund Amendments and Reauthorization Act (SARA) Title IH, Sections 301 to 303, Section 304, Section 311 and Section 312—Emergency Planning, Emergency Release Notification, Community Right-to-Know Reporting Requirements

This plan is intended to comply with and compliment existing regulations pertaining to the safe use of hazardous materials. Persons responsible for handling hazardous materials for this project will be trained in the proper use and management of the materials and will be familiar with all applicable laws, policies, procedures, and best management practices (BMPs) related to them.

2.0 Contractor Guidelines

The following sections provide specific guidelines for the preparation of the Hazardous Materials Management and Spill Prevention, Containment, and Countermeasure Plan by the Contractor. In all cases, the Contractor will provide all information requested in Attachment 1, Required Contractor Submittals. In addition, the Contractor will complete the relevant documentation for the counties in which they are working and in which the contractor yards are located.

2.1 Certifications, Acknowledgements, and Designations

2.1.1 Certifications

As required on page A1-1 of Attachment 1 and the applicable county forms, the Contractor will certify that all of the information provided in the Hazardous Materials Management and Spill Prevention, Containment, and Countermeasure Plan is accurate and complete to the best of their knowledge. The Contractor will also certify that they are committed to implementing the Hazardous Materials Management and Spill Prevention, Containment, and Countermeasure Plan as written. As per the requirements of 40 CFR Part 112, the Contractor will have the Hazardous Materials Management and Spill Prevention, Containment, and Countermeasure Plan reviewed and certified by a registered Professional Engineer or Certified Industrial Hygienist.

2.1.2 Amendments

In completing this certification, the Contractor will agree to make all necessary and appropriate amendments to the Hazardous Materials Management and Spill Prevention, Containment, and Countermeasure Plan and submit any such amendment to GEC and the appropriate county, state, and/or federal authorities within 7 days of determining an amendment is necessary. Amendments to the Hazardous Materials Management and Spill Prevention, Containment, and Countermeasure Plan will be necessary under any of the following circumstances:

- 100 percent or more increase of a previously disclosed material.

- Any handling of a previously undisclosed hazardous material subject to inventory requirements (as defined on the "Contractor's Potential Spill Sources" and "Contractor's Hazardous Substances Inventory" forms included in Attachment 1).
- A change in formulation of a previously disclosed material (e.g., solid to liquid).
- A change of business address, name, or ownership.

2.1.3 Responsible Person(s)

The Contractor is responsible for contacting county representatives to determine county requirements for Hazardous Materials Management Plans. Generally, counties will provide guidelines and forms for completion and submittal to the county. As required in Attachment 1 and on the applicable county forms that the Contractor will obtain, the Contractor will designate a primary emergency coordinator for hazardous materials management and emergency response. Two alternates will also be identified. Business, residential, and cellular or pager telephone numbers will be provided for all three persons as necessary, to allow for contact on a 24-hour basis. Primary and alternate emergency coordinators will be knowledgeable of the chemicals and processes involved in the Contractor's operation. They will have full access to all facilities, including locked areas, and must have the authority to commit GEC resources. They will also have stop work authority to prevent impacts (potential or actual) to environmental resources.

2.2 Facilities Description and Inventory of Materials

The Contractor's submittals will be provided to GEC. GEC will provide submitted information to the jurisdictional agencies as appropriate.

2.2.1 Site Map

The Contractor is required to provide a site/facility map for each contractor yard indicating storage and safety precautions for hazardous materials and hazardous wastes. The Contractor's site map will, at a minimum, indicate the following:

- orientation and scale;
- total land area in square feet;
- access and egress points;
- buildings and/or temporary trailers;
- parking lots;
- adjacent land uses;
- surrounding roads, storm drains, and waterways (including waterbodies and wetlands);
- locations of hazardous materials and hazardous waste storage;
- aboveground tanks;
- containment or diversion structures (dikes, berms, retention ponds);
- shutoff valves and/or circuit breakers;
- location of emergency response materials and equipment;
- location of Hazardous Materials Management and Spill Prevention, Containment, and Countermeasure Plan and MSDS;
- location of emergency assembly area; and
- location of clean up equipment within the yard.

All maps must be provided on standard 8½- by 11-inch weather-proofed paper.

2.2.2 Inventory

The Contractor will provide a complete inventory to GEC of all hazardous substances that will be used (refer to Title 40, CFR, Parts 116 and 302). All inventory forms required by the relevant county will be provided by the Contractor as part of their Hazardous Materials Management and Spill Prevention, Containment, and Countermeasure Plan. This inventory will be provided to GEC's Environmental Manager prior to construction and updated as necessary during construction of the project as required in Section 2.1.2.

3.0 Hazardous Materials Management

Construction, operation, and maintenance of the project will require the use of certain potentially hazardous materials such as fuels, explosives, and herbicides. By definition, hazardous materials (substances and wastes) have the potential to pose a significant threat to human health and the environment based upon quantity, concentration, or chemical composition. Generally, hazardous materials will be stored in contractor yards and not on the ROW. When stored, used, transported, and disposed of properly as described below, the risks associated with these materials can be reduced substantially.

3.1 Overview of the Hazardous Materials Proposed for Use

The following project-specific measures pertain to all vehicle refueling and servicing activities as well as the storage, transportation, production, and disposal of hazardous materials (substances and wastes). These measures are intended to prevent the discharge of fuels, oils, gasoline, and other harmful substances to waterbodies, groundwater aquifers, and/or other sensitive resource areas during project construction.

Hazardous materials (substances) used during project construction may include solvents, explosives, and other substances. In addition, petroleum products such as gasoline, diesel fuel, lubricating oils, and hydraulic fluid will be used. Some of these materials will be used in relatively large quantities in contractor yards and on the ROW to operate and maintain equipment during construction. Explosives may be used for blasting rock on portions of the ROW. The use of explosives for this project is discussed in detail in the Blasting Plan (Appendix B). Smaller quantities of other materials such as herbicides, paints, and other chemicals will be used during project operation and maintenance. These materials will be used to control noxious weeds and facilitate revegetation on the ROW, and to operate and maintain processing and meter stations during the life of the project.

Additional materials may be necessary at other locations along the ROW (e.g., wide waterbody crossings, hydrostatic test stations) and at off-ROW contractor yards. Listings of other hazardous materials that will be used during construction, operation, and maintenance of the project will be identified on the Hazardous Substances Inventory form included in Attachment 1. GEC will compile and update the inventory of hazardous materials used or stored on the project as needed throughout the life of the project. This information will be provided to the appropriate regulatory agencies as required.

3.2 Training

All project personnel will receive basic spill prevention training as part of the environmental training class. GEC is required to maintain a record of those workers who have received environmental training and ensure that only trained employees are allowed to work on the project. In addition, all Contractor personnel who will be involved with the transportation and storage of fuels or hazardous substances,

equipment maintenance, or spill response will be required to attend a higher level training class given by the Contractor as described in Section 5.2.

3.3 Vehicle Refueling and Services

Construction vehicles (e.g., trucks, bulldozers, etc.) and stationary equipment (e.g., pumps, generators, etc.) will be fueled and serviced in upland areas at least 100 feet from waterbodies and wetlands. All stationary equipment will be contained within secondary containment structures to prevent the spill or release of hazardous materials into a waterway. Fueling will not occur within 200 feet of private wells or 400 feet of municipal wells. When selecting refueling areas, consideration will be given to slopes and other topographic conditions. Refueling locations generally will be flat to minimize the chance of spilled substance reaching a waterbody. In most cases, rubber-tired vehicles will be refueled and serviced at local gas stations or contractor yards off the ROW. Tracked vehicles typically will be refueled and serviced by fuel and service vehicles on the ROW.

Every effort will be made to minimize the threat of a fuel spill during refueling and servicing. Fuel and service vehicles will carry a minimum of 20 pounds of suitable absorbent material to handle potential spills. In addition, all vehicles will be inspected for leaks prior to being brought on-site and regularly throughout the construction period. In the event that a leak is found, equipment will not be allowed to operate until all leaks have been repaired. Vehicles also will be equipped with fire-fighting equipment as specified in the Fire Prevention and Suppression Plan (Appendix E).

Construction equipment requiring maintenance that might result in the draining or leaking of fluids will be serviced only after a 12 mil plastic liner has been installed between the equipment and the soil. This liner must be placed in such a manner that all fluid is contained.

Washing of construction vehicles (such as concrete trucks) will be allowed only in upland areas at least 200 feet from waterbodies and wetlands. Washing areas will be contained with berms or barriers to prevent migration of wastewater and sediments into waterbodies. Waste concrete material will be removed and properly disposed of once it has hardened.

3.4 Equipment Inspection and Decontamination

Prior to moving equipment onto the ROW, all equipment will be checked for leaks and drips, and any necessary repairs will be completed prior to removal from the contractor yard.

3.5 Transportation of Hazardous Materials

Procedures for loading and transporting fuels and other hazardous materials will meet the minimum requirements established by the Department of Transportation (DOT) and other pertinent requirements. At all times, hazardous materials will be transported in DOT-approved containers. Prior to transporting hazardous materials, appropriate shipping papers will be completed. Transportation of hazardous materials will be allowed only on approved access roads. Vehicles carrying hazardous materials will be equipped with shovels, barrier tape, 4 to 6 mil plastic bags, personal protective clothing, and spill pads to contain a small spill should one occur during transport. In addition, vehicles transporting such materials will be properly signed (placarded) and marked. Prior to transporting hazardous materials, vehicles will be inspected for leakage and other potential safety problems. The Contractor will ensure that vehicle drivers are properly trained to respond to and report spills, leakage, and/or accidents involving hazardous materials (see Section 5.2 of this plan).

All hazardous materials used for the project will be properly containerized and labeled at all times, including during transportation. Smaller DOT-approved containers will be used on-site to transport needed amounts of hazardous materials to a specific location. Transfer of materials from large to small containers will not be done by hand pouring, but will be accomplished using appropriate equipment including pumps, hoses, and safety equipment. These smaller service containers will also be clearly labeled. Special provisions apply to the transportation of explosives and are discussed in the Blasting Plan (Appendix B).

3.6 Storage of Hazardous Materials

Hazardous materials will be stored in contractor yards and designated temporary use areas located at least 100 feet from the edge of waterbodies and wetlands. All stationary equipment (pumps, diesel powered generators, etc.) will be located at least 100 feet from the edge of waterbodies and wetlands and configured with secondary containment equipment. If storage areas cannot be located at least 100 feet from waterbodies and wetlands due to topographic conditions or space limitations, special precautions will be taken to prevent the spill or release of hazardous materials into the waterway. These precautions will include limiting the quantity and amount of time such materials are stored near the waterbody or wetland, providing secondary containment, and using trained personnel to monitor activities at the storage site. Storage of greater than 55 gallons of hazardous materials will not be permitted within 100 feet of waterbodies or wetlands. Cleanup materials, including absorbent spill pads and plastic bags, will also be stored in these areas. Hazardous materials will not be stored in areas subject to flooding or inundation.

3.6.1 Physical Storage Requirements

Security: Hazardous materials will be stored in secure areas to prevent damage, vandalism, or theft. During construction hours, hazardous materials may be stored temporarily on the ROW but overnight storage on the ROW will be prohibited. All storage containers will remain sealed when not in use and storage areas will be secured (gated, locked, or guarded) at night and during non-construction periods.

Storage Containers: Containers will be compatible with the hazardous materials or wastes stored. If the container leaks or becomes damaged, the substance must be transferred to a container in good condition. A supply of DOT-approved overpack drums will be maintained at storage locations. The Contractor will inspect containers at least weekly to discover any leaks in the containers or the containment systems. Containers used for transportation must comply with the DOT requirements, including those in Title 49 CFR Part 173.

Secondary Containment: Secondary containment will consist of bermed or diked areas that are lined and capable of holding 110 percent of the volume of the stored material plus any potential precipitation accumulation, and will be provided for fuel and oil tanks stored on-site (i.e., in contractor yards).

Container Management: Containers holding hazardous substances will be kept closed during transfer and storage, except when it is necessary to add or remove the substance.

Incompatible Wastes: Wastes that are incompatible with other wastes will not be placed in the same container, nor in an unwashed container that previously held an incompatible material.

Ignitable or Reactive Substances: Substances that may ignite or are reactive must be located at least 50 feet outside of the construction yard boundary. "NO SMOKING" signs will be conspicuously placed wherever there is a hazard from ignitable or reactive waste. Examples of ignitable wastes are paint wastes, certain degreasers, thinners and solvents (petroleum distillates), epoxy resins, and adhesives. An example

of reactive waste that may be found at construction yards is permanganate and manganese wastes from dry cell batteries.

Stormwater: It may be necessary to drain accumulated stormwater from within the secondary containment areas that contain the fuel storage tanks. If the stormwater has been contaminated, absorbent pads or booms will be used to remove floating petroleum products. After the contamination has been removed, the stormwater will be left to evaporate, if possible; otherwise it will be disposed of in an appropriate manner. Prior to disposal, the Environmental Inspector will check for sheen or other evidence of contamination.

3.6.2 Container Labeling Requirements for Hazardous Wastes

The Contractor will comply with the following labeling requirements for any on-site container (including tanks) used to store accumulated hazardous wastes. The containers will be labeled as required in Title 40 CFR Part 262 and will contain at least the following information:

- chemical name (oil, diesel, etc.);
- the accumulation start date and/or the date the 90-day storage period began; and
- the words "Hazardous Waste" and warning words indicating the particular hazards of the waste, such as "flammable," "corrosive," or "reactive."

3.7 Disposal of Hazardous Wastes

The Contractor will be responsible for ensuring that all hazardous wastes generated during their operations are collected regularly and disposed of in accordance with all applicable laws. If state laws pertaining to waste disposal are more stringent than federal laws, state laws will take precedence. The Contractor will determine details on the proper handling and disposal of hazardous waste, and will assign responsibility to specific individuals prior to construction of the project.

Hazardous wastes typically include chemicals, spent batteries, and other items. The Contractor will ensure that every effort will be made to minimize the production of hazardous waste during the project including, but not limited to, minimizing the amount of hazardous materials needed for the project; using alternative non-hazardous substances when available; recycling usable materials such as waste oil, paints, and batteries to the maximum extent; and filtering and reusing solvents and thinners whenever possible.

Any Contractor (generator) producing more that 100 kilograms per month of hazardous waste must apply for an EPA Identification Number. Contractors (generators) producing less than 100 kilograms per month are considered conditionally exempt small quantity generators. A generator can store hazardous wastes on-site for a period of up to 90 days without having to obtain a permit as a storage facility, or as a small quantity generator up to a total of 1,000 kilograms.

3.8 Contaminated Containers

Containers that once held hazardous materials or products or which held hazardous wastes must be considered as potential hazardous wastes due to the residues of hazardous contents that may persist. In order for the container to be handled as non-hazardous waste, regulations require that the container be essentially empty and that certain handling requirements for the empty container be followed, including the following.

- The containers must be empty, which means as much of the contents have been removed as possible so that none will pour out in any orientation.

- Empty containers less than 5 gallons will be disposed of as a non-hazardous solid waste.

- Empty containers greater than 5 gallons will be:
    - returned to the vendor for re-use,
    - sent to a drum recycler for reconditioning, or
    - used or recycled on-site.

3.9 Waste Oil Filters

Used, metal canister oil filters can be managed as solid waste as long as they are thoroughly drained of free-flowing oil (oil exiting drop-by-drop is not considered free-flowing). The filters will be accumulated, stored, and transferred in a closed, rainproof container. Waste oil filters are best drained by puncturing and gravity draining while the filter is still hot.

3.10 Used Lubricating Oils

Waste lubrication oil, including contaminated soil and rags, have specific requirements for storage, transportation, and disposal. The Contractor is considered a "Used Oil Generator" and as such must meet the following requirements.

- Have a Hazardous Materials Management and Spill Prevention, Containment, and Countermeasure Plan certified by a registered Professional Engineer and approved by GEC.

- Conduct spill prevention briefings to ensure adequate understanding by all workers.

- Label all used oil storage containers "Used Oil."

- Ensure storage containers do not have visible leaks and have secondary containment equal to 110 percent, plus potential precipitation.

- Designate an individual who is accountable for managing oil spills.

- Hire a subcontractor with an EPA identification number for the transportation of used oil or limit transported quantities to 55 gallons.

- Dispose of used oil in a manner consistent with state and federal regulations.

- Provide documentation if required.

3.11 Inspection and Recordkeeping

The Contractor will inspect all storage facilities on a regular basis, but not less than weekly. The Weekly Hazardous Materials Inspection Log in Attachment 2 will be used to record the condition of the facility. The Contractor will provide a copy of the weekly inspection log to GEC's Environmental Inspector. In addition to the weekly log, the Contractor will maintain records for hazardous materials and hazardous wastes as required by all applicable federal, state, and local regulations and permit conditions. Record keeping requirements include:

- hazardous material/waste inspection log;
- transportation documents (e.g., bills of lading, manifests, shipping papers, etc.);
- training records; and
- spill report forms.

GEC's Environmental Inspector will monitor, inspect, document, and report on the Contractor's compliance with all hazardous materials and hazardous waste management practices.

4.0 CONTAMINATED SITES

This general procedure is included as a contingency in the event that unexpected or unknown (pre-existing) contaminated sites are encountered during the course of construction. During the course of construction, some potential exists for encountering contaminated soils, groundwater, or other materials. Should such a situation develop where there is a reasonable basis for believing that contaminated materials have been encountered (where contamination is suggested by visible indications or unusual odors), the Contractor will stop work and immediately notify the Environmental Inspector. The Environmental Inspector will complete notifications as required in Section 6.1. Contaminated sites will be cleaned up as discussed in Section 5.1.

5.0 SPILL CONTROL AND COUNTERMEASURES

The measures described in Section 3.0 of this plan are intended to prevent the spill of hazardous materials during normal project construction, operation, and maintenance activities. However, not all potential spill situations can be reasonably foreseen or prevented. The following section outlines the physical and procedural steps to be taken in the event of a spill. In general, the Contractor will perform all cleanup activities including:

- specifying in their Hazardous Materials Management and Spill Prevention, Containment, and Countermeasure Plan specific containment and cleanup procedures;

- providing necessary materials and labor; and

- performing all reporting and documentation, as required. Notification and documentation of spills is discussed in greater detail in Section 6.0 of this plan.

5.1 Training

The Contractor will provide spill prevention and response training to appropriate construction and operation personnel. Persons accountable for enforcing the procedures specified herein will be designated prior to construction and informed of their specific duties and responsibilities with respect to environmental compliance and hazardous materials. The Contractor is required to maintain a record of those workers who have received training. Note that this training is in addition to the general environmental training that will be conducted by the Contractor. The Contractor's training will be provided to inform appropriate personnel of site-specific environmental compliance procedures. At a minimum, this training will include the following:

- a review of GEC and Contractor Hazardous Materials Management and Spill Prevention, Containment, and Countermeasure Plans, and discussion of individual responsibilities;
- an overview of all regulatory requirements;

- methods for the safe handling/storage of hazardous materials and petroleum products;
- spill prevention procedures;
- operation and location of spill control materials;
- inspection procedures for spill containment equipment and materials;
- emergency response procedures;
- use of personal protective equipment (PPE);
- procedures for coordinating with emergency response teams; and
- standard information regarding a spill to be provided to GEC for agency notification (see Section 6.1.1).

5.2 Physical and Procedural Response Methods

Physical response actions are intended to ensure that all spills are promptly and thoroughly cleaned up. However, the first priority in responding to any spill is personnel and public safety. Construction personnel will be notified of evacuation procedures to be used in event of a spill emergency. In general, the first person on the scene will:

- attempt to identify the source, composition, and hazard of the spill or stain;

- isolate and stop the spill and begin clean up of the spill or stain, if possible (i.e., if it is safe);
    - contain spills or stains of unknown substances in a barrel or plastic to prevent migration if rain occurs
    - properly store
    - obtain a sample of the unknown substance for laboratory analysis

- notify appropriate personnel and initiate reporting actions; and

- initiate evacuation of the area if necessary.

Persons should only attempt to clean up or control a spill if they have received proper training. Untrained individuals will immediately notify the Contractor's primary or alternate emergency coordinators.

In general, expert advice will be sought to properly clean up major spills. For spills on land, berms will be constructed to contain the spilled material and prevent migration of hazardous materials or petroleum products toward waterways. Dry materials will not be cleaned up with water nor buried. Contaminated soils will be collected using appropriate machinery, stored in suitable containers, and properly disposed of in appropriately designated areas off-site. After contaminated soil is recovered, all machinery used will be decontaminated, and recovered soil will be treated as used oil if contaminated with petroleum products (refer to Section 3.10) or hazardous waste if contaminated with hazardous waste (refer to Section 3.7). Contaminated cleanup materials (absorbent pads, etc.) and vegetation will be disposed of in a similar manner. For major spills, cleanup will be verified by sampling and laboratory analysis.

If spilled materials reach water, booms and skimmers will be used to contain and remove contaminants. Other actions will be taken as necessary to clean up contaminated waters. Cleanup materials including absorbent spill pads and plastic bags will be placed on-site at waterbodies and wetlands when construction is occurring within 200 feet of these areas.

5.2.1 On-Site Equipment

The following equipment will be maintained on-site with each crew using heavy equipment for use in cleanup situations.

- shovels
- absorbent pads/materials
- personal protective gear
- fire-fighting equipment
- medical first-aid supplies
- phone list with emergency contact numbers
- storage containers
- personal decontamination equipment

6.0 Notification and Documentation of Spill Procedures

Notification and documentation procedures for all spills that occur during project construction, operation, or maintenance will conform to applicable federal, state, and local laws. Adherence to such procedures will be the top priority once initial safety and spill response actions have been taken. The following sections describe the notification and documentation procedures, and should be implemented in conjunction with the response procedures listed in other sections of this plan.

6.1 Required Notification

Notification will begin as soon as possible after discovery of a release. The individual who discovers the spill will contact GEC's Environmental Inspector. If the Environmental Inspector determines that the spill meets the criteria for immediate verbal notification of government agencies (see Section 6.1.4, Reporting Criteria) and/or determines that the spill may threaten human health or the environment, he/she will immediately notify GEC's Environmental Manager who will make the required agency notifications as described below. *On BLM lands, all spills greater than 1 gallon and any spill that threatens or enters a waterbody or wetland will be reported.* Prior to beginning the notification process, the individual initiating notification should obtain as much information as possible to clearly document and communicate the situation. See Section 6.1.1 for standard information that will be requested by agencies.

The following mandatory notifications will be made by the Environmental Manager. The appropriate government agencies will be selected based on the geographic location of the spill site.

- *911 will be called if the spill is deemed to be an emergency* (Other means of reaching emergency personnel will be developed prior to construction start if dialing 911 is not available at the job site.)
- BLM Uncompahgre Field Office— (970) 240-5300
- National Response Center (NRC)—(800) 424-8802 for amounts exceeding the federal reportable quantity for that material (Reportable Amounts are included in Attachment 3)
- Colorado Department of Health and Environment—(303) 692-3500 non-emergency
- Colorado Department of Health and Environment—(303) 756-4455 **emergency**
- Colorado State Patrol (Grand Junction)—(970) 248-7278
- Colorado State Patrol (Craig)—(970) 824-6501

6.1.1 Agency Notification

When notifying a regulatory agency, GEC's Environmental Manager will provide the following information:

- Current threats to human health and safety, including known injuries, if any.
- Spill location, including landmarks and nearest access route.
- Reporter's name and phone number.
- Time and date the spill occurred.
- Type and estimated amount of hazardous materials involved.
- Potential threat to property and environmental resources, especially waterbodies and wetlands.
- Status of response actions.

On-site personnel should always consult the Environmental Inspector to clarify regulatory requirements.

6.1.2 Fee-Landowner Notification

When a spill poses a direct and immediate threat to health and safety and/or property, the fee-landowners potentially affected by the spill will be directly notified by GEC. The Alignment Sheets included as Attachment 1 of the Plan of Development delineate land ownership along the entire ROW and will be used to determine affected fee-landowners. Immediate notification of fee-landowners is required for all situations in which the spill poses a direct and immediate threat to health and safety and/or property.

6.1.3 Reporting Criteria

The Contractor will report to GEC's Environmental Inspector all hazardous substance releases regardless of size; any spill that threatens or enters any waterbody; any petroleum spill larger than 25 gallons; and spills of any substance that are over 1 gallon in size on BLM lands. Verbal reports are required immediately following a major spill when doing so would not delay clean up or administration of urgent medical care. GEC's Environmental Inspector will determine if the spill meets the following criteria for immediate agency notification:

- any release of hazardous material over the applicable reportable quantities (refer to Attachment 3—List of Reportable Quantities);
- a spill which threatens or enters a waterbody or wetland;
- a petroleum spill over 25 gallons; or
- any spills greater than 1 gallon on BLM lands.

6.2 Documentation

The Contractor will maintain records for all spills. Colorado agencies that GEC verbally notified of a release will be provided written notification by GEC within 30 days. The Contractor will provide a written report (see Attachment 2) of all reportable spills requiring agency notification within 24 hours.

The Contractor will record spill information in a daily log. The following is a list of items that should be included in the daily log (as appropriate, based on the spill incident).

- time and date of each log entry
- name of individual recording log entry
- list of all individuals notified, including time and date

- type and amount of material spilled
- resources affected by spill
- list of response actions taken, including relative success
- copies of letters, permits, or other communications received from government agencies throughout the duration of the spill response
- copies of all outgoing correspondence related to the spill
- photographs of the response effort (and surrounding baseline photographs if relevant)

Maintaining detailed and organized records during a spill incident is an important and prudent task. One Contractor representative should be designated to manage the records for an incident. If extensive spill response and cleanup operations are required, the Contractor may choose to assign a bookkeeper to assist in the documentation process. The Contractor's on-site bookkeeper will track and manage all expenditures (i.e., equipment, personnel/labor hours, and associated resources) and will help supplement the information provided in the daily log book.

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ATTACHMENT 1—REQUIRED CONTRACTOR SUBMITTALS

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CERTIFICATIONS, ACKNOWLEDGEMENTS, AND DESIGNATION OF EMERGENCY COORDINATORS FORM

In addition to all relevant county forms, Contractor will complete and submit the following information:

GENERAL INFORMATION

_____
Business Name

_____
Facility Street Address

_____
City County Zip Code Phone

_____
Mailing Address (if different)

_____
City Zip Code

EMERGENCY COORDINATOR

_____
Primary Emergency Coordinator Business Phone Pager/Cellular Phone

_____
1st Alternate Business Phone Pager/Cellular Phone

_____
2nd Alternate Business Phone Pager/Cellular Phone

OWNER/OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in the Hazardous Material Management and Spill Prevention, Containment, and Countermeasure Plan and believe the information is true, accurate, and complete.

_____ _____ _____
Print Name of Owner/Operator Signature of Owner/Operator Date

REGISTERED PROFESSIONAL ENGINEER CERTIFICATION

Having examined the facility and being familiar with 40 CFR, Part 112, I attest that the Hazardous Material Management and Spill Prevention, Containment and Countermeasure Plan has been prepared in accordance with good engineering practices.

_____ _____ _____
Print Name of Registered PE Signature of Registered PE Date

EMERGENCY CHECKLIST
**** * DIAL 911 FOR EMERGENCY RESPONSE * ****

Emergency Coordinator: _____(___)_____(___)_____

First Alternate: _____(___)_____(___)_____

Second Alternate: _____(___)_____(___)_____

_____
Contractor Telephone Number

_____
Address

EMERGENCY NUMBERS

Emergency Response	**911**
Colorado State Patrol (Grand Junction)	**(970) 248-7278**
Colorado State Patrol (Craig)	**(970) 824-6501**
Poison Control Center	**(800) 342-9293**
Toxic Information Center	**(800) 233-3360**
Nearest Hospitals _____	**Phone:** _____
_____	**Phone:** _____

AGENCY NOTIFICATIONS (To be made by GEC Environmental Manager)

National Response Center (NRC)	**(800) 424-8802**
BLM Uncompahgre Field Office	**(970) 240-5300**
Colorado Department of Health and Environment (non-emergency)	**(303) 692-3500**
Colorado Department of Health and Environment (emergency)	**(303) 756-4455**

CONTRACTOR'S SITE MAP

Contractor site map will, at a minimum, indicate the following:

- **orientation and scale**
- **total land area in square feet**
- **access and egress points**
- **buildings and/or temporary trailers**
- **parking lots**
- **adjacent land uses**
- **surrounding roads, storm drains, and waterways (including waterbodies and wetlands)**
- **locations of hazardous materials and hazardous waste storage**
- **aboveground tanks**
- **containment or diversion structures (dikes, berms, retention ponds)**
- **shutoff valves and/or circuit breakers**
- **location of emergency response materials and equipment**
- **location of Hazardous Materials Management and Spill Prevention, Containment, and Countermeasure Plan and MSDS**
- **location of emergency assembly area**
- **location of clean up equipment within the yard**

All maps must be provided on standard 8½- by 11-inch weather-proofed paper.

CONTRACTOR'S POTENTIAL SPILL SOURCES

Contractor will identify all sources of potential spills, including tank overflow, rupture or leakage. Spill Prevention, Control, and Countermeasure information must be included for all containers larger than 660 gallons, or that have a total capacity of 1,320 gallons at one location that contain oil, including petroleum, fuel oil, sludge, oil refuse, and oil mixed with waste, as required in 40 CFR Part 112.

(1) Material:_____ Total Quantity_____

Location of use: _____

Potential direction of flow:_____ Maximum rate of flow:_____

Structures or equipment to contain spills:_____

_____

(2) Material:_____ Total Quantity_____

Location of use: _____

Potential direction of flow:_____ Maximum rate of flow:_____

Structures or equipment to contain spills:_____
_____

(3) Material:_____ Total Quantity_____

Location of use: _____

Potential direction of flow:_____ Maximum rate of flow:_____

Structures or equipment to contain spills:_____

_____

(4) Material:_____ Total Quantity_____

Location of use: _____

Potential direction of flow:_____ Maximum rate of flow:_____

Structures or equipment to contain spills:_____

_____

CONTRACTOR'S HAZARDOUS SUBSTANCES INVENTORY

Contractor will identify all hazardous substances which will be used or stored on the project to GEC.

(1) Material:_____

Location of use: _____

Storage location:_____

Expected quantity on hand: _____

(2) Material: _____

Location of use: _____

Storage location:_____

Expected quantity on hand: _____

(3) Material:_____

Location of use: _____

Storage location:_____

Expected quantity on hand: _____

(4) Material:_____

Location of use: _____

Storage location:_____

Expected quantity on hand: _____

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ATTACHMENT 2—INSPECTION LOGS AND SPILL REPORT FORMS

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HAZARDOUS MATERIALS AND WASTES INSPECTION LOG

For each item listed below, Contractor will indicate whether existing conditions are acceptable (A) or unacceptable (U). Contractor will inspect all storage facilities on a regular basis, but not less than weekly. Contractor will keep records of all inspections on file. Contractor will provide a copy of the completed form to the Environmental Inspector on a weekly basis.

STORAGE AREAS FOR FUELS, LUBRICANTS AND CHEMICALS

General

____Construction yard or storage areas secured

____Storage areas properly prepared and signed

____Material Safety Data Sheets available

____Hazardous Materials Management and Spill Prevention, Containment, and Countermeasure Plan available

____Emergency response equipment available on-site

Hazardous Materials Management

____No evidence of spilled or leaking materials

____Incompatible materials separated

____All containers labeled properly and securely closed

____All containers upright

____No evidence of container bulging, damage, rust or corrosion

Secondary Containment Areas

____Containment berm intact and capable of holding 110% of material stored plus precipitation

____Lining intact

____No materials overhanging berms

____No materials stored on berms

____No flammable materials used for berms

Compressed Gases

____Cylinders labeled with contents

____Cylinders secured from falling

____Oxygen stored at least 25 feet away from fuel

HAZARDOUS MATERIALS AND WASTES INSPECTION LOG

HAZARDOUS WASTE MANAGEMENT

Waste Container Storage

____No evidence of spilled or leaking wastes

____Adequate secondary containment for all wastes

____Separate containers for each waste stream—no piles

____Waste area not adjacent to combustibles or compressed gases

____All containers securely closed

____Bungs secured tightly

____Open-top drum hoops secured

____All containers upright

____No evidence of container bulging, corrosion

____No severe container damage or rust

____Containers are compatible with waste

____No smoking and general danger/warning signs posted

Waste Container Labeling

____Containers properly labeled

____Name, address, and EPA ID number or ID Number of generator listed (Not required if Contractor is an exempt small quantity generator.)

____Accumulation start date listed

____Storage start date listed

____Chemical and physical composition of waste listed

____Hazardous property listed

Non-Hazardous Waste Areas

____No litter in yard

____No hazardous wastes or used oil mixed with trash

____Empty oil and aerosol containers for disposal are completely emptied

HAZARDOUS MATERIALS AND WASTES INSPECTION LOG

CORRECTIVE ACTIONS TAKEN (Required for all unacceptable conditions)

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Date: _____ Contractor: _____

Inspected by: _____

Signature: _____

SPILL REPORT FORM

The Contractor must complete this form for any hazardous material spill regardless of size, any spill that enters waterbodies or wetlands, any petroleum spill greater than 25 gallons. The form must be submitted to the GEC Environmental Inspector within 24 hours of the occurrence.

Responsible Party or Company	
Company Name:	
Company Field Address:	
Company Field Contact/Title:	
Company Field Contact Phone:	
Reporting Party	
Name:	
Title:	
Phone:	
Location of Spill	
County and Legal Description:	
Nearest Pipeline Milepost:	
Nearest Landmark(s):	
Nearest Access Road:	
Nearest Waterbody:	
Name of Landowner:	
Spill Information	
Date and Time of Spill (if known):	
Date and Time of Discovery:	
Spill Material and Amount:	
Area of Impact (length x width x depth):	
Cause of spill:	
Response Information	
Containment, Cleanup, and Disposal Procedures Undertaken :	
Further Response Actions Needed:	
Notifications	
Date of Landowner Notification:	
Dates and Names of Agencies Notified:	

ATTACHMENT 3—REPORTABLE QUANTITIES

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REPORTABLE QUANTITIES

This table lists the substances that may be used during construction and the Federal reportable quantity. If the Contractor is using substances not listed on this table, the Contractor shall provide an updated table that lists the substance and reportable quantity.

Substance	Federal Reportable Quantity[1]
Diesel Fuel	None listed
Gasoline	None listed
Engine Oil	None listed
Cutting Oil	None listed
Hydraulic Oil	None listed
Pipe Dope	None listed
Solvents	None listed
Grease	None listed
Acetone Solvent	5,000 pounds
Paint	None listed

[1]Per 40 CFR 302.4

Specific state requirements are listed below:

Colorado

2.0 Any quantity of pollutant or contaminant discharged to surface or groundwater.
3.0 Any release of petroleum products 25 gallons or greater.
4.0 Any quantity of hazardous substance that exceeds the reportable quantity in 40 CFR 302.4.

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APPENDIX H
PRESSURE
TESTING PLAN

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1.0 Introduction

This Pressure Testing Plan (plan) identifies measures to be taken by Gunnison Energy Corporation (GEC) and its contractors (Contractor) to ensure internal cleanliness, strength of pipeline and facilities, and ensure that no leaks exist. The plan will be implemented in accordance with the following:

- United States Department of Transportation (DOT), 49 CFR Part 192, Sub-Part J—Test Requirements
- Colorado Department of Public Health (CDPHE)—Water Quality Control Division (WQCD)
- CDPHE—Division of Water Resources (DWR)

Measures identified in this plan apply to work within the project area defined as the right-of-way (ROW) and other areas used during hydrostatic and pneumatic pressure testing of the pipeline and facilities.

GEC and Contractor personnel are to be thoroughly familiar with this plan and its contents prior to initiating strength testing operations on the project.

1.1 Purpose

The purpose of this plan is to define the necessary measures that are to be implemented during strength testing to ensure the safety of all pipeline construction personnel and the general public.

This plan describes safety standards and practices that will be implemented during construction of the project to minimize health, safety, and environmental concerns related to strength testing on the project. This plan also identifies measures relating to water quality that would be implemented if strength testing is performed using water.

This plan was developed as the implementing document for relevant mitigation measures contained in the Environmental Assessment.

2.0 Hydrostatic Testing Procedures

GEC plans to test the pipeline using air, but if water is used in strength testing, the following procedures would be implemented by the Contractor during hydrostatic testing operations. This section of the plan describes pre-testing requirements, the typical sequence of activities associated with the pressure testing operations, and notifications required by GEC and the Contractor.

GEC would be responsible for securing the necessary permits from the governing authorities for the use and disposal of test water. GEC would also comply with the rules and regulations of the DOT, and CDPHE WQCD. GEC would provide the Contractor with a copy of the withdrawal/discharge permits and the Contractor would keep copies onsite at all times during the testing operations.

The test water withdrawn and discharged by the Contractor would be in compliance with regulatory notification requirements and sufficient notice would be provided to GEC to make water sampling arrangements as necessary.

2.1 Water Sampling

Hydrostatic test water sampling would be performed in accordance with CDPHE WQCD Minimal Industry Discharge (MINDI) permit requirements. Prior to any filling operations, GEC's Environmental Inspector would obtain any required water samples from each source to allow time for laboratory

analysis.

Whenever water sampling is required, sample bottles will be obtained from a certified testing laboratory. Analysis of the samples would be in accordance with permit requirements. Each bottle would be marked with:

- source of water with pipeline station number,
- date collected,
- laboratory order number, and
- name of person collecting sample.

GEC's Environmental Inspector will be notified at least 72 hours prior to obtaining water and/or discharging water and the Contractor will provide the Environmental Inspector access for sampling.

2.2 Water Sources

If the pipeline is tested with water, all water used for the hydrostatic testing would be obtained from approved sources. If surface water sources are to be used, GEC will use screens on the intake hoses to prevent the entrapment of fish or other aquatic species. Common industry practice is to cover the end of the intake hose with ¼-inch mesh hardware cloth, secured with a pipe clamp to prevent uptake of debris. GEC would monitor the appropriation rate to ensure that an adequate downstream flow is maintained to support aquatic life.

Quantity of water used would be reported to the Bureau of Land Management (BLM) to comply with the terms of the U.S. Fish and Wildlife Service consultation for water depletions in the Colorado River Basin.

2.3 Discharge Locations

Hydrostatic test water discharge would comply with all requirements of the CDPHE WQCD MINDI requirements. Discharge locations would be agreed upon in consultation with private landowners and BLM. Once potential sites have been accepted, a letter of approval will be signed by both private landowners and as stipulated in the CDPHE WQCD MINDI permit.

2.4 Pumps

If pumps for hydrostatic testing were to be used within 200 feet of any waterbody or wetland, secondary containment measures (such as bermed depressions lined with visquene plastic, plastic troughs, or other containment structure) would be implemented to prevent any spilled fuels or oils from reaching the waterbody or wetland.

2.5 Safety Measures

The Contractor would provide for the safety of all pipeline construction personnel and the general public during hydrostatic test. The Contractor would:

- Place warning signs in or near populated areas.

- Restrict access to the area involving the hydrostatic test (i.e., test shelter, manifolds, pressure pumps, instruments, etc.) to only those personnel engaged in the testing operations.

- Prohibit major pipeline work not directly associated with the test operations around the pipeline sections being tested. While the pipeline facilities are being pressurized and during the test all personnel not required for direct operations (checking for leaks, tightening gaskets, checking valve status, operating pumps, recording data, etc.) will be restricted from the area where the pipeline is being tested.

- Provide and maintain a reliable transportation and communication system during the test operations whereby all personnel directly involved in the test will be able to communicate test status or problems that develop during the test.

- Check all hoses, fittings, connectors, and valves for proper pressure rating.

- Restrain and secure fill and discharge lines/hoses.

2.6 Test Sections and Pressures

Each pipeline will be strength tested to prove its integrity and substantiate the Maximum Allowable Operating Pressure (MAOP). All pressure tests will meet the requirements of 49 CFR 192, Subpart J.

Due to the test water pressure gradient caused by the difference in elevation along the proposed routes, the pipelines would have to be tested in sections to maintain hydrostatic tests within the established test pressures. To ensure test integrity, leak determination, and repair capability, the maximum allowable test pressure of each section would not exceed 100% of specified minimum yield strength or 1.5 times the pressure rating of the lowest American National Standard Institute rated valve or flange in the system. The hydrostatic tests would normally be performed in sequence, transferring water from one test section to another as practical.

2.7 Cleaning the Pipeline

Upon completion of the pipe lowering and backfilling operations and prior to filling the pipeline for a hydrostatic test, each section of the pipe to be tested would be cleaned.

The Contractor cleans the pipeline by air blowing a wire brush type pig(s) through the interior of the line a sufficient number of times to clean any rust, scale, slag, dirt, or other debris that may be in the pipeline. Next, the pipeline would be cleaned using a compressed air-propelled reinforced poly type pig. The cleaning pig will be run through each test section until each section has been cleaned before filling the pipeline with water for testing. GEC's Test Inspector will be present for the first and last brush pig run to compare their respective conditions and will be present to approve the cleanliness of the line.

2.8 Filling the Pipeline

Prior to filling a test section with water, the Contractor would make a final check to verify the following:

- valve body drain plugs have been removed, carefully cleaned, taped (Teflon) and replaced;
- all mainline valves are in open position;
- valves have been greased, stroked, and the packing tightened; valve stops are properly set; all pipe and bolt connections are tight;
- test manifolds are properly fabricated and tested;
- pumps and compressors are in good working condition;

- instruments are ready for use (proper charts installed, clocks wound, correct calibration, etc.); and
- pigs are properly installed.

A pipeline pig would be placed ahead of the water to separate the remaining air in the line from the hydrostatic test water.

After completion of the filling operation, the pipeline water temperature and turbulence would be allowed to stabilize. The Contractor would check the pressure on each end of the test section and compare with calculated pressures to confirm the specified test pressure for the section.

2.9 Testing the Pipeline

The duration of the test will be not less than 8 hours, with the pressure maintained at or above the minimum test pressure at all points in the pipeline section. The test will be accepted upon proof of no leakage.

In the event of a leak during testing, the leak would be repaired as directed by GEC's Test Inspector and the above test repeated until a satisfactory test is obtained on the section.

2.10 Depressurizing the Pipeline

After the test has been presented by the Contractor as a successful test and accepted by GEC's Test Inspector, the pipeline would be depressurized as soon as practical.

2.11 Dewatering the Pipeline

The Contractor would be responsible for discharging the test water in accordance with CDPHE WQCD Minimal Industry Discharge.

The Contractor would utilize an energy-dissipating device (straw bale structure) to prevent scour, erosion, and damage to vegetation and the rate of discharge will be monitored to prevent the device from being ineffective. Discharge lines would be sufficient in strength and would be securely supported and constrained at the discharge end to prevent whipping during the dewatering operation. Water must be disposed of using good engineering judgment so that all federal, state, and local environmental requirements are met. When required, test water would be sampled during discharge in accordance with CDPHE WQCD Minimal Industry Discharge.

2.12 Drying the Pipeline

Following the dewatering of individual pipeline sections, these sections would be cleaned of loosely adhered mill scale, rust, dirt, and other debris by the use of air propelled pigs.

To facilitate drying, several sections of pipeline may be welded together, cleaned, and dried in one continuous section.

3.0 Pneumatic Testing Procedures

Due to the topography of the area, GEC plans to strength test the pipelines using pressurized air.

The following procedures will be implemented by the Contractor during nitrogen or air testing operations.

This section of the plan describes pre-testing requirements, the typical sequence of activities associated with the pressure testing operations, and notifications required by GEC and the Contractor.

3.1 Air Source

A compressor will be brought to the location to provide the pressurized air for testing. If nitrogen is used, it will be trucked to the location and converted from its liquid state to a gaseous state.

3.2 Discharge Locations

After successful testing, nitrogen or air will be vented to the atmosphere. Venting of nitrogen or air will occur at a mainline valve that is not near occupied dwellings.

3.3 Safety Measures

Pneumatic testing involves additional hazard due to the possibility of release of stored energy from the compressed gas in the event of a failure. The Contractor shall exercise extreme care in the planning and implementation of pneumatic tests to provide for the safety of all pipeline construction personnel and the general public. In addition to the above, the Contractor will:

Place warning signs in or near populated areas.

Restrict access to the immediate area involving the pneumatic test (i.e., test shelter, manifolds, compressors, instruments, etc.) to only those personnel engaged in the testing operations.

Prohibit major pipeline work not directly associated with the test operations around the pipeline sections being tested. While the pipeline facilities are being pressurized and during the test all personnel not required for direct operations (checking for leaks, tightening gaskets, checking valve status, operating pumps, recording data, etc.) will be restricted from the area where the pipeline is being tested.

Provide and maintain a reliable transportation and communication system during the test operations whereby all personnel directly involved in the test will be able to communicate test status or problems that develop during the test.

Check all hoses, fittings, connectors, and valves for proper pressure rating.

Restrain and secure fill and discharge lines and hoses.

3.4 Test Sections and Pressures

Each pipeline will be strength tested to prove its integrity and substantiate the MAOP. All pressure tests will meet the requirements of 49 CFR 192, Subpart J.

All pipelines will be strength tested to a minimum test pressure as noted in Section 2.6 above. To ensure test integrity, leak determination and repair capability, the maximum allowable pressure, during a pneumatic test, will not exceed:

Class 1 location - 80% of SMYS or 1.1 times the pressure rating of the lowest ANSI rated valve or flange in the system
Class 2 location – 75% of SMYS or 1.25 times the pressure rating of the lowest ANSI rated valve or flange in the system

Class 3 location – 50% of SMYS or 1.5 times the pressure rating of the lowest ANSI rated valve or flange in the system

In no case will the pressure be allowed to exceed a pressure equivalent to 100% of SMYS.

3.5 Cleaning the Pipeline

Upon completion of the pipe lowering and backfilling operations for each test section of the pipeline and prior to filling the pipeline for a pneumatic test, each section of the pipe to be tested will be cleaned.

The Contractor will clean the pipeline by blowing with air, a wire brush type pig(s) through the interior of the line a sufficient number of times to clean any rust, scale, slag, dirt, or other debris that may be in the pipeline. Following, the pipeline will be cleaned using compressed air to propel a reinforced poly type pig. The cleaning pig will be run through each test section until each section has been cleaned before filling the pipeline with nitrogen or air for testing. GEC's Test Inspector will be present to approve the cleanliness of the line and will be present for the first and last brush pig run to compare their respective conditions.

3.6 Filling the Pipeline

Prior to filling a test section with nitrogen or air, the Contractor will make a final check to verify the following:

- valve body drain plugs have been removed, carefully cleaned, taped (Teflon) and replaced;
- all mainline valves are in open position;
- valves have been greased, stroked, and the packing tightened; valve stops are properly set; all pipe and bolt connections are tight;
- test manifolds are properly fabricated and tested;
- pumps and compressors are in good working condition;
- instruments are ready for use (proper charts installed, clocks wound, correct calibration, etc.); and
- pigs are properly installed.

The pressure will be increased gradually to the minimum test pressure in steps, providing sufficient time between steps to allow piping to stabilize. The Contractor will check the pressure on each end of the test section and compare with calculated pressures to confirm the specified test pressure for the section.

3.7 Testing the Pipeline

The official test duration will be not less than 8 hours, with the pressure maintained at or above the minimum test pressure, specified at all points in the pipeline section. The test will be accepted upon proof of no leakage.

In the event of a leak during testing, the leak will be repaired as directed by GEC's Test Inspector and the above test repeated until a satisfactory test is obtained on the section.

3.8 Depressurizing the Pipeline

After the test has been presented by the Contractor as a successful test and accepted by GEC's Test Inspector, the pipeline will be depressurized as soon as practical. The nitrogen or air will be vented to atmosphere.

3.9 Cleaning the Pipeline

Following the depressurizing of pipeline sections, these sections will be cleaned of loosely adhered mill scale, rust, dirt, and other debris by the use of air propelled pigs.

To facilitate drying, several sections of pipeline may be welded together, cleaned, and dried in one continuous section.

4.0 Records

In accordance with applicable regulations, the Contractor will maintain complete and comprehensive records of all hydrostatic and pneumatic tests and of related activities such as filling, pressuring, stabilizing, dewatering, etc.

All records will be clearly identified with respect to the specific piping systems to which they apply and all records will be accurately dated. In addition to the general requirements above, such forms will at a minimum include:

- a description of the facility tested and the test apparatus;
- logs showing dead weight pressure readings and ambient temperature readings, with the date and time of each reading. Any other activities or events pertinent to the test will be noted on the log sheets, including the following:
- date and time of test,
- identification of piping system,
- test medium, pressure, and duration,
- automatic 24-hour pressure-time and temperature-time recording chart, including manual recording of pressure gauge readings at each additional station,
- test medium temperature at definite time intervals,
- a summary of leaks and repair methods, and
- the names and company affiliation of persons recording the test data;
- pressure and temperature recorder charts showing the date and time stop and start of recording;
- weather conditions during testing;
- elevation variations, whenever significant for the particular test (over 100 feet for liquids line);
- calibration certificates for dead weight gauges and records of field calibrations of pressure and temperature instruments;
- make, style number, and condition of all pigs used in filling and dewatering; and
- any remarks pertinent to any phase of the test.

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APPENDIX I
NOXIOUS WEED MANAGEMENT PLAN

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LIST OF ATTACHMENTS

Attachment 1—Noxious Weed Infestations
Attachment 2—Wash Station Typical

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1.0 Introduction

This Noxious Weed Management Plan (plan) identifies measures to be taken by Gunnison Energy Corporation (GEC) and its contractors (Contractor) to minimize the spread and establishment of noxious weeds and non-native invasive species.

Measures identified in this plan apply to work within the project area defined as the right-of-way (ROW), access roads, temporary use areas, and other areas used during construction of the project.

GEC and Contractor personnel are to be thoroughly familiar with this plan and its contents prior to initiating construction on the project.

1.1 Purpose

GEC is committed to preventing the introduction of noxious weeds during construction and controlling the expansion of existing noxious weed populations over the life of the project. The purpose of this plan is to prescribe methods to treat existing weed infestations, prevent introduction and spread of infestations during construction, and monitor and treat infestations after construction is complete. This plan was developed as the implementing document for relevant mitigation measures contained in the Environmental Assessment and the ROW Grant.

2.0 Noxious Weed Management

2.1 Identification and Treatment of Problem Areas

Field surveys will be conducted prior to construction to identify existing noxious weed infestations along the pipeline ROWs and temporary use areas. Infestation locations will be provided in Attachment 1.

Noxious weed infestations will be flagged in the field to alert construction personnel to the infestation and prevent significant ground disturbance until noxious weed preventative measures have been implemented.

GEC will consult with the Bureau of Land Management (BLM) and local weed control districts to determine pre-treatment for noxious weed infestations identified during surveys. Depending upon the species and the time of construction, methods of pre-treatment may include the following.

- Mechanical—mowing or pulling by hand.

- Chemical—application of an approved herbicide by a licensed applicator. Herbicides will be selected based on recommendations by each local weed control district or BLM and subject to fee-landowner approval. All herbicides will be applied in accordance with all applicable laws and regulations on BLM and fee-lands. Prior to the use of herbicides or pesticides on BLM lands, a Pesticide Use Proposal (PUP) must be submitted to and approved by the BLM.

Potential sites for equipment and vehicle wash stations will be identified in consultation with local weed control districts and the BLM to minimize the potential for the transport of seeds or viable plant materials from infested areas. Signs will be posted along the ROW to alert approaching construction crews to wash station locations.

A portion of the environmental training required for construction personnel prior to commencing work will be devoted to a discussion of noxious weed control issues and applicable project requirements.

2.2 Preventative Measures

The following preventative measures will be implemented to prevent the spread of noxious weeds.

- Vehicles and equipment will be required to arrive at the work site clean, power-washed, and free of soil and vegetative debris capable of transporting weed seeds or other propagules.

- Wash stations will be required at designated infestation areas. Equipment will be power-washed to remove soil and propagules prior to leaving the infested area. Wash stations will be constructed in accordance with the typical drawing in Attachment 2.

- Materials used for erosion control and reclamation (i.e., straw bales and seed mixes) will be obtained from sources that are certified weed-free (see Environmental Protection Plan, Appendix L). Seed mixes must be certified "All States" weed-free.

- Disturbed areas will be reseeded in accordance with the Environmental Protection Plan (Appendix L) and ROW Grant as soon as possible after construction activities have been completed.

2.3 Monitoring

GEC will continue to monitor the distribution and density of noxious weeds on the ROW for the life of the pipeline. Surveys will be conducted concurrently with reclamation monitoring and will occur as early in the year as feasible to identify and control noxious weeds before they produce seed. Monitoring data collected will include the noxious weed species, location, and extent of infestation. At those locations where new populations have been identified or pre-existing populations have expanded, GEC will take action to eradicate the population or control their spread. The selection of control methods will be based on the available technology and information of the weed species. Methods of control may include those listed in Section 2.1.

Noxious weed problems identified after reclamation criteria have been met (refer to the Environmental Protection Plan [Appendix L]) will be addressed in a joint endeavor between GEC, the fee-landowner, or BLM, and the local weed control district. Weed management coordination will commence within one year following reclamation completion.

ATTACHMENT 1—NOXIOUS WEED INFESTATIONS

(Will be provided prior to construction.)

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ATTACHMENT 2—WASH STATION TYPICAL

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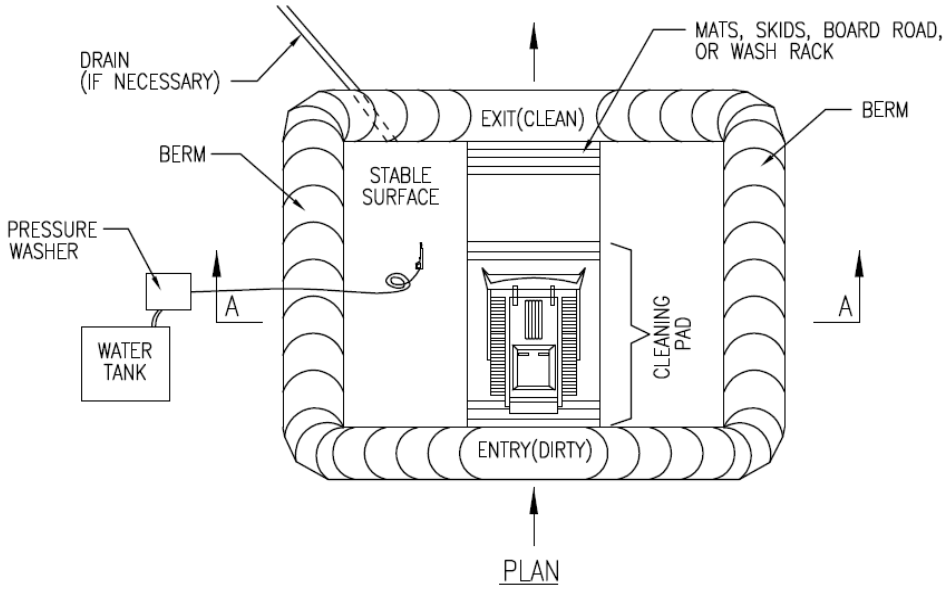
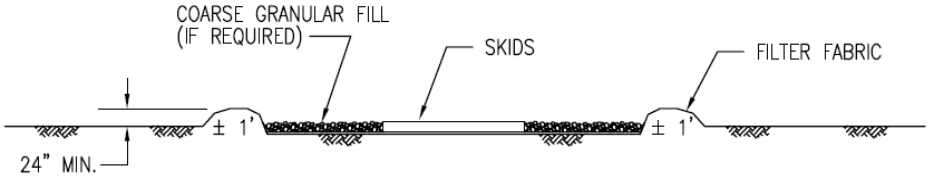


PLAN



SECTION A–A

NOTES:

1. ALL EQUIPMENT AND VEHICLES SHALL BE REQUIRED TO BE WASHED AT WASH STATIONS LOCATED AS SHOWN ON THE CONSTRUCTION DRAWINGS OR AS DIRECTED IN THE NOXIOUS WEED MANAGEMENT PLAN. WASH STATIONS SHALL BE CONSTRUCTED BY THE CONTRACTOR. WASHINGS SHALL BE CARRIED OUT UNDER THE SUPERVISION AND TO THE SATISFACTION OF THE COMPANY REPRESENTATIVE.
2. WASH WATER USED FOR CLEANING SHALL NOT BE ALLOWED TO ENTER ANY WATERBODY, WETLAND, OR IRRIGATION CANAL/DITCH. ANY SOILS CONTAMINATED BY PETROLIUM–BASED OR OTHER UNDESIRABLE MATERIALS FROM WASH STATIONS SHALL BE REMOVED IN ACCORDANCE WITH APPLICABLE REQUIREMENTS.
3. SIZE OF STATION TO BE ADEQUATE TO ACCOMMODATE MAXIMUM SIZE OF EQUIPMENT EXPECTED AND REQUIRED WORK.
4. EQUIPMENT TO ENTER A "DIRTY END" AND EXIT A "CLEAN END".
5. STABLE DRAINAGE FROM SITE (IF NECESSARY) TO BE PROVIDED. DO NOT DISCHARGE TO A STREAM OR WETLAND.
6. GRAVEL FILL (IF REQUIRED) AND FILTER FABRIC WILL BE REMOVED AND DISPOSED OF IN AN ACCEPTABLE LAND FILL.
7. WASH STATIONS ARE TO BE EQUIPPED WITH SKID PADS OR WASH RACKS TO PREVENT SOIL FROM BEING CARRIED ON TRACKS OR TIRES AS EQUIPMENT AND VEHICLES EXIT THE WASH STATION.
7. DEPRESSION TO BE BACKFILLED WITH BERMED MATERIAL.

REVISIONS					
NO.	DATE	DESCRIPTION	BY	CHKD.	APPR.

TRIGON EPC
ENGINEERING • PROCUREMENT • CONSTRUCTION

EQUIPMENT WASH STATION

DATE: 10/14/04		APPROVED BY: –
SCALE: N.T.S.	CST–P–1000–XXX2	SH. 1 OF 1

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APPENDIX J OF GEC POD SAFETY PLAN

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1.0 Introduction

This Safety Plan (plan) identifies measures to be taken by Gunnison Energy Corporation (GEC) and its contractors (Contractor) to minimize hazards to persons working on and visiting the project and to comply with all applicable safety requirements and regulations.

Measures identified in this plan apply to work within the project area defined as the right-of-way (ROW), access roads, temporary use areas, and other areas used during construction of the project.

GEC and Contractor personnel are to be thoroughly familiar with this plan and its contents prior to initiating construction on the project. This plan will be stored on site for reference by GEC and Contractor personnel.

1.1 Purpose

The purpose of this plan is to describe safety standards and practices that will be implemented to minimize health and safety concerns related to construction of the project with the goal of elimination of accidents.

2.0 Responsibilities

2.1 GEC

GEC will comply and ensure compliance by it employees, suppliers, and visitors with all applicable occupational safety and health laws and regulations. GEC will observe and monitor the Contractor's practices and procedures and will inform the Contractor of violations to the aforementioned regulations. If GEC becomes aware of a violation that presents immediate danger to human life or property, GEC will order an immediate stoppage of work until unsafe conditions or practices are corrected.

2.2 Contractor

The Contractor has the prime responsibility for the safe construction of the pipeline and associated facilities. The Contractor has the responsibility to provide GEC with its comprehensive safety plan, which will, at a minimum, comply with all regulatory and state-of-the-art industry safety practices. The Contractor's safety plan must be approved by GEC before construction begins. The Contractor is responsible for providing safety orientation to all Contractor personnel.

2.3 Construction Inspector

GEC's Construction Inspectors will not be responsible for ensuring a safe, incident-free project or for ensuring Contractor compliance with its safety plan or any other regulatory requirements regarding safety. However, it is the Construction Inspector's responsibility to be an attentive, willing, and proactive monitor and observer of the Contractor's work practices and to record and report all seemingly unsafe work practices. The Construction Inspectors will be OSHA competent for ditch inspections. Construction Inspectors will have "Stop Work" authority during construction.

3.0 Health and Safety Requirements

3.1 Safety Training

Prior to initiating construction activities, GEC will arrange a meeting between the Contractor and GEC's Construction Inspection Staff to discuss safety aspects of the work, safety hazards particular to the work site, and to outline safety responsibility and authority of GEC and Contractor personnel.

During construction of the project, it will be the responsibility of the Contractor to train workers (and visitors) and keep them up-to-date regarding safety matters. The Contractor will provide pre-job orientation to all workers engaged on the project and ensure all workers are competent to perform any job requested. The Contractor will also make all of its workers available for any required GEC orientation or safety training.

3.2 General Requirements

The Contractor will ensure that the following measures are implemented.

- Adhere to procedures presented in the Contractor's approved safety plan and to applicable federal, state, and local statutory requirements.
- Report all accidents and injuries to the Construction Inspector.
- Remedy any unsafe conditions or situations as requested by the Construction Inspector.
- Work safely so other employees are not placed at risk.
- Use specified and required personal safety equipment in performance of all duties.
- Maintain all construction sites in a sanitary condition.
- Cease normal pipeline construction activities, except hydrostatic testing activities, by sunset.
- Provide fugitive dust control in accordance with federal, state, or local requirements. Refer to the Fugitive Dust Control Plan (Appendix F).
- Ensure that equipment is properly maintained to reduce emissions and comply with federal, state, and local air quality emission standards and regulations.
- Prohibit firearms, hunting, alcohol, and drugs on Bureau of Land Management (BLM) property, the construction ROW, temporary use areas, access roads, and off-ROW project facilities.
- Ensure, when radiographic equipment is to be used, that the area is clear and that all personnel are at a safe distance from the radiation source. Radiation warning signs will be placed at the edges of the safe area.
- Heed all OSHA, federal, state, and local trenching regulations, and implement measures to ensure the safety of workers working in the trench by using sheet piling, sloping, etc.

- Comply with all federal, state, county, and local fire regulations pertaining to the prevention of uncontrolled fires. Refer to the Fire Prevention and Suppression Plan (Appendix E) for additional information.

- Ensure that all hazardous and potentially hazardous materials are transported, stored, and handled in accordance with all applicable legislation. Refer to the Hazardous Materials Management and Spill Prevention, Containment, and Countermeasure Plan (Appendix G) for additional information.

- Implement safety precautions during static testing as described in the Pressure Testing Plan (Appendix H).

- Comply with requirements in the Transportation Management Plan (Appendix K) where personnel or equipment are working at or near road crossings.

- Work Supervisors are accountable for assuring elements of the Safety Plan are being implemented. Work Supervisors will place emphasis on safety supervision to ensure the health and safety of their employees.

- GEC's and Contractor's operations will facilitate BLM's safe and practical inspection of Contractor's operations and conduct of other official duties on construction and ROW areas.

- When road construction/reconstruction, timber cutting, or yarding is in progress within or adjacent to recreation areas, safety zones as shown on a map will be established and designated on the ground by BLM. GEC and Contractors will, unless relieved in writing by BLM, post signs, erect and maintain barricades, provide flagmen, guards, construction signs, warning signs, and detour signs as necessary to warn and protect the public at all times from injury or damage as a result of GEC/Contractors' operations. In addition, GEC/Contractors will provide a watchman where necessary, whose sole duty will be to warn and advise the public of any hazards present in the area as a result of the operations.

- For road construction/reconstruction, all flagging of traffic, all furnishing, placing, and maintaining of barricades, danger signs, detour signs, warning signs, and lighting devices will conform to the requirements within the Manual of Uniform Traffic Control Devices (MUTCD). Specifics will be described in the Traffic Control Plan, which will be developed by the Contractor. Work will not proceed on the project until all required signs are in place and have been approved in writing. GEC, Contractor, and the BLM Authority will agree upon the Traffic Control Plan prior to commencing operations.

3.3 Working Hours

With the exception of strength testing, working hours generally will be from sunrise to sunset Monday through Saturday.

3.4 Incident Reporting

All injuries, fires, and accidents will be recorded and reported to GEC and the required regulatory agencies within the required time frames.

3.5 Mechanical Damage to Underground Facilities

The Contractor will give adequate advance notification of all work that will be performed within existing pipeline easements, ROWs, or property so that site preparation and supervision can be provided. Before

commencing any excavation, the Contractor will receive authorization to proceed from GEC's Construction Inspector.

The Contractor will utilize the "One Call" system to locate and stake the centerline and limits of all underground facilities in the area of proposed excavation. The Contractor will provide 48-hour notification to the owner/operator of any foreign pipeline prior to performing any work within 10 feet of buried or aboveground pressurized gas piping. Machine excavation will not be performed closer than 5 feet from any existing pipeline encountered in the ROW unless authorized by the pipeline owners/operators. At a minimum, the ditch will be excavated to allow 24 inches of clearance (unless otherwise specified by the foreign pipeline owner/operators) between GEC's pipelines and other pipelines or underground facilities. Equipment that can detect gas will be used on site to monitor the air when work is being performed near foreign pipelines. If a leak is detected, the Contractor will notify the pipeline owner.

3.6 Damaged Pipe

Any dents, gouges, scratches, or other similar defects will be brought to the attention of GEC's Construction Inspector as soon as they are detected. Detrimental defects will not be accepted and will be repaired or cut out of the line as directed by the GEC Construction Inspector, regardless as to when or how they may have occurred. Grinding to remove defects within dented areas will not be permitted.

Gouges, grooves, scratches, or tears may be removed by grinding provided that the wall thickness is not reduced to less than 95 percent of the specified nominal wall thickness. Dents other than those described above will be permitted provided they do not exceed the following maximum levels specified for each case.

- As delivered from the pipe mill—maximum depth of 0.5 percent of the pipe diameter and 25 percent of the pipe diameter in any other dimension.

- Allowable damage in the field prior to backfill—maximum depth of 1 percent of the pipe diameter and 50 percent of the pipe diameter in any other dimensions.

- Allowable damage in the field after backfill—maximum depth of 2 percent of the pipe diameter and 75 percent for the pipe diameter in any other dimension. Pounding or jacking to remove dents is prohibited.

Defects greater than those noted above will be cut out as a cylinder and replaced by welding a pup joint to the line.

3.7 Accident Prevention

A systematic training program will be implemented to ensure that employees have the knowledge to recognize and effectively react to hazardous situations, and to perform tasks in a manner that minimizes the total hazard. It is the responsibility of the Unit Manger and the Work Supervisor to ensure that personnel meet the training requirements.

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APPENDIX K OF GEC POD TRANSPORTATION MANAGEMENT PLAN

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Attachment 1—Access Roads, Road Crossings, and Roads Paralleled
Attachment 2—Description of Vehicles Used on Access Roads

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1.0 Introduction

This Transportation Management Plan (plan) describes measures to be taken by Gunnison Energy Corporation (GEC) and its contractors (Contractor) to access the right-of-way (ROW) and maintain public access around construction areas. The plan also describes pipeline construction procedures for road crossings.

Measures identified in this plan apply to work within the project area defined as the ROW, access roads, temporary use areas, and other areas used during construction of the project.

GEC and Contractor personnel are to be thoroughly familiar with this plan and its contents prior to initiating construction on the project.

1.1 Purpose

The purpose of this plan is to provide project personnel and agencies with a description of the access- and transportation-related activities associated with construction. The management practices and activities in this plan are intended to minimize transportation-related impacts. This plan was developed as the implementing document for relevant mitigation measures contained in the Environmental Assessment.

2.0 Responsibilities

2.1 GEC

GEC will ensure that project personnel understand the requirements for travel to and from the ROW on approved access roads as discussed below in Section 3.0. GEC's Environmental Inspector will install signs or flagging on approved access roads.

2.2 Contractor

The Contractor is responsible for maintenance on all access roads, while ensuring that all stipulations on the use, maintenance, and/or improvements on these roads are met. All access roads will be maintained in accordance with fee-landowner agreements, Bureau of Land Management (BLM) requirements, and road use permits, county requirements, and GEC directives. No damage to the subsurface of approved surface (dirt or graveled) access roads will be allowed on BLM roads and use of such access roads will cease when rutting is greater than 6 inches.

Where pipeline construction crosses roads, the Contractor will ensure that public access is maintained by providing safe access through or around construction.

The Contractor will return all disturbed roads and appurtenances to equal or greater than pre-construction conditions.

3.0 Access to the Project ROW

Existing roads will be used to access the construction ROW. GEC will not construct any new access roads on BLM lands. GEC will identify access roads in the field with signs. Signs will be installed on their own post and will not be attached to trees. Sign specifications will be included in the contractor's Traffic Control Plan. Attachment 1 lists approved access roads for the project. Vehicle type, weight, and number of each vehicle as well as the roads used by vehicles accessing the project ROW are listed in Attachment 2.

3.1 Access Roads

3.1.1 Federal, State, and County

GEC will acquire any required BLM, state, and county road use permits. The Contractor will be responsible for following any maintenance or improvement requirements associated with the road use permits.

3.1.2 Private

GEC will obtain written landowner agreements for any use of private roads. All conditions agreed to with the landowner must be met by the Contactor for continued use of the road.

3.2 Access Road Maintenance

Improvements to access roads will be needed in some areas to accommodate oversize and heavy construction equipment. In general, roadway improvements will involve the least amount of site disturbance and earthwork necessary to make the roads functional for project use. GEC in consultation with the BLM Authorized Officer may direct the Contractor to realign or relocate a road if the change will result in a safer, more environmentally sound road. Road improvements may include grading, straightening, widening, adding drainage controls (e.g., crown and ditch, waterbars, rolling dips, etc.), adding culverts, cut and fills, and resurfacing. All maintenance will conform to landowner and BLM requirements. No maintenance or improvements will be allowed on any road not approved for improvements. All maintenance and improvements will be completed in accordance with project requirements. GEC will ensure that all required cultural resource surveys and agency authorizations are obtained prior to any surface-disturbing activities. Attachment 1 lists the access roads that have been requested for use approval as of December 2006.

3.2.1 Maintenance

Grading will be the primary method of maintenance on most roads. Roads will be maintained at pre-construction conditions or improved in accordance with permit requirements. Some roads may also be returned to a primitive condition if the BLM Authorized Officer so directs.

3.2.2 Straightening, Widening, Cut and Fill, and Culverts

Due to the size of vehicles that will use access roads, some improvements beyond grading may be required. These improvements will only be accomplished with GEC approval followed by BLM approval on BLM lands or landowner approval on fee-lands.

GEC will identify areas where straightening, widening, cut and fill, and/or culverts may be required on BLM lands. These areas will be flagged for field review by BLM. No improvements will be made until agency approval is received and cultural resource surveys are completed.

3.2.3 Resurfacing

If a paved road must be crossed by pipeline installation, it will be resurfaced within 24 hours unless a shorter or longer time frame has been stipulated in the permit that authorizes the work.

The Contractor will protect the road surface with used tires or suitable equivalent prior to crossing paved roads with tracked equipment.

3.3 Wet Weather Access

All activity will cease when soil or road surfaces become saturated to a depth determined by level of road and permit or by direction of the BLM Authorized Officer or field representative. There will be no mud blading of roads. Vehicles may be towed through the mud providing they stay within the original roadway and do not rut deeper than allowed by permit or BLM Authorized Officer's direction.

3.4 Controlling Off-Road Vehicle Uses of the ROW

Measures will be provided to control the use of the ROW and prevent unauthorized travel along the ROW by off-road vehicles. These measures will be determined in the field and may include constructing earthen berms and scattering large boulders and vegetative debris.

GEC will coordinate with the BLM and fee-landowners to determine measures to be implemented to control off-road vehicle use. Efforts to control unauthorized off-road vehicle use will continue throughout the life of the permitted ROW.

GEC is responsible for replacing, repairing, and/or reinforcing barriers if they are breached. This responsibility will last through out the life of the permitted ROW.

4.0 Transportation Management Practices

GEC will acquire all necessary permits for road crossings. Attachment 1 lists the roads crossed by the pipeline routes.

4.1 Notifications

The Contractor will be responsible for notifications to the county and state highway departments as needed. The Contractor will notify GEC at least 48 hours in advance of all BLM and private road crossings so that GEC can notify the BLM and private landowners 24 hours in advance of planned road crossings.

4.2 Construction Methods

4.2.1 Open-Cut

The majority of road crossings will use the open-cut method if approved by the BLM. Where open-cut crossings are conducted, the Contractor will detour or control traffic during construction to minimize delays at these locations. If reasonable delays are not feasible, at least one lane of traffic will be left open. Most open-cut road crossings will be completed within 24 hours. All roads will be maintained in such a way to allow access for emergency vehicles.

4.3 Safety and Traffic Flow Management

Appropriate traffic control signs shall be used any time there is construction within 20 feet of any road, at all equipment crossings of improved roads (paved or gravel), and when a high volume of traffic will be entering or existing an improved road from the ROW. Flag persons, signs, barricades, guard rails, safety fence, and signals shall be placed and maintained at road crossings as required in BLM permit stipulations. In the absence of such regulations, GEC shall place signs 500 feet in each direction of a crossing identifying construction or flagmen that are ahead. Flagmen shall be used on each side of the road crossing whenever equipment is working in or crossing over any improved road. Flagmen shall be equipped in compliance with Manual on Uniform Traffic Control Devices (MUTCD).

GEC shall provide for the safety of the public using State Highway 133 during construction of the right-of-way. This includes, but is not limited to, posting of appropriate signs to alert traffic on the highway of potential stops or delays when construction equipment is either using the highway or turning off or onto the highway to access the project area.

Posted speed limits shall be observed on highways, county roads, BLM roads, and posted private roads. Speed limits may not be posted; the Operator should comply with Colorado statutes if the road has not been posted. Colorado state statute CRS 42-4-1101 states that no person shall drive a vehicle on a highway at a speed greater than is reasonable and prudent under the conditions then existing. Exception 2 (a) of CRS 42-4-1101 is relevant to this plan and states that 20 miles per hour shall be the lawful speed limit on narrow, winding mountain highways, on blind curves, or when any other special hazard requires a lower speed.

Car pooling of equipment operators and other construction personnel will be used as much as possible to reduce traffic impacts, including reduction of fugitive dust from unpaved roadways.

4.4 Fugitive Dust Control

Fugitive dust control will be implemented by the Contractor in all areas of active construction and within 500 feet of highways, residences, and power transmission lines.

Whenever vehicles or equipment will access a paved road directly from the ROW, a construction entrance to the paved structure will be used. Construction entrances will be constructed in accordance with permit stipulations. The Contractor will keep all paved roadways free of accumulated mud and dirt. Unpaved roads will be treated for dust as indicated in the Fugitive Dust Control Plan (Appendix F). Additional mitigation measures are detailed in this plan (Appendix F).

4.5 Erosion Control

Waterbars will be placed up slope of all improved roads to keep sediments from reaching the road. Spacing and construction requirements are detailed in the Environmental Protection Plan (Appendix L).

ATTACHMENT 1—ACCESS ROADS AND ROAD CROSSINGS

GEC's Hotchkiss Ranch Project would include construction of three lateral gathering lines (North, South, and West Laterals) and road improvements along existing ranch roads. Access roads and associated improvements are shown in the table below.

ACCESS ROADS

Access Road Designation	Agency/ Jurisdiction	Access Road Description	Modifications
State Highway 133	CDOT	Paved	Maintain
West Lateral Ranch Road	Private	Gravel	Upgrade
Other Ranch roads	Private	Gravel	Maintain

Construction activities would include 3.9 miles of pipeline, 1.7 miles of road improvement, and 0.1 mile of new road. Approximately 89 percent of the gathering lines would be placed immediately adjacent to or within the edge of a road. The pipeline will cross existing ranch roads at multiple locations. All crossings will be buried underground.

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ATTACHMENT 2—DESCRIPTION OF VEHICLES USED ON ACCESS ROADS PER WELL PAD.

Equipment	Quantity	Weight	Round Trips
Caterpillar Track-Hoe	2	72,000 lbs	1
Caterpillar D-7 Side Boom	1	65,000 lbs	1
Caterpillar 140	1	37,000 lbs	1
Motor-grader Tractor Trailer	1	25,000 lbs	1
Stinging Truck Trailer	1	25,000 lbs	1
Pipe Splicing Machine	2	10,000 lbs	1
Fuel/Supply Trucks	2	35,000 lbs	Multiple
Fuel Tanker	1	15,000 lbs	Multiple
Water Tanker	1	20,000 lbs	Multiple
Lube Truck	2	10,000 lbs	Multiple
Crew Trucks	4	6,000 lbs	Multiple
Welding Trucks	1	8,000 lbs	Multiple
6" Pipe Transport	1	80,000 lbs	Multiple
Caterpillar 725 Haul Truck	2	50,000 lbs	1
Reclamation Seeder	1	28,000 lbs	1

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APPENDIX L OF GEC POD ENVIRONMENTAL PROTECTION PLAN

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Attachment 4—Seed Mix

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1.0 INTRODUCTION

This Environmental Protection Plan (plan) describes measures to be taken by Gunnison Energy Corporation (GEC) and its contractors (Contractor) to salvage and restore topsoil and to minimize erosion during construction, operation, and maintenance of the pipeline. Measures for construction activities in and around dry drainages, waterbodies, and wetlands are also covered in this plan. These methods and procedures have been included in United States Army Corps of Engineers (Corps) Nationwide Permit 12 Pre-Construction Notification. Methods for reseeding and reclaiming disturbed areas following construction are also covered in this plan.

Measures identified in this plan apply to work within the defined project right-of-way (ROW), access roads, temporary use areas, and other areas used during construction, operation, and maintenance of the project.

GEC and Contractor personnel are to be thoroughly familiar with this plan and its contents prior to initiating construction on the project.

1.1 Purpose

The purpose of this plan is to describe prescribed methods to protect and replace topsoil; control and minimize soil erosion and resulting sedimentation; protect water resources, encourage revegetation, restoration, and stabilization of disturbed soils on the project; limit introduction and spread of noxious weeds; and return the disturbed area to pre-existing conditions. This plan has been designed to minimize the environmental impacts to wetlands, waterbodies, and dry drainages during crossings. Its purpose is to maintain the integrity of hydrologic function, riparian and wetland function, soil productivity, and water purity during this proposed action. This plan was developed as the implementing document for relevant mitigation measures contained in the Environmental Assessment and in the ROW Grant.

1.2 Goals and Objectives

Overall, one objective of this plan is to comply with environmental stipulations required by the Bureau of Land Management (BLM). Short-term objectives of this plan are to conserve and protect topsoil, to control erosion and sedimentation, to protect water quality and aquatic resources, to encourage reclamation success, and to minimize impacts to adjacent land uses and ecological resources. Properly executed construction practices, and ongoing evaluation by GEC, Contractor, and BLM personnel will ensure both reclamation success and the continued functioning of erosion and sediment control measures, which will mitigate short-term impacts.

Long-term objectives include control of erosion and sedimentation, as well as protection, followed by restoration, of environmental resources including water, soils, topography, and vegetation to a condition similar to that which existed prior to disturbance. Monitoring activities during the construction, operations, and maintenance phases will be designed to evaluate the success of the erosion control and revegetation efforts. As described in the Plan of Development, a long-term monitoring program over the life of the pipeline will occur as part of GEC's pipeline operations activities to ensure that ROW stabilization and revegetation is successfully achieved.

2.0 Responsibilities

2.1 GEC

GEC will be responsible for ensuring that the Contractor meets the standards defined in this plan to retain topsoil where required, to install and maintain sediment and erosion control measures, to restore all disturbed areas to pre-construction conditions, and to monitor restoration progress and erosion control measures. GEC will also ensure that environmental oversight of the project includes pre-construction marking and flagging of all waterbodies and wetlands. GEC will, prior to any ROW clearing and grading, ensure that the Contractor has sufficient environmental protection supplies and materials on hand to initiate installation of erosion control devices. This includes straw bales, silt fencing, and other materials. GEC will provide the Contractor with the appropriate blended seed mixes developed through consultation with the BLM and fee-landowners. Additionally, GEC will be responsible for meeting long-term restoration and soil stabilization standards after the project is completed. GEC is responsible for reclaiming the entire ROW after construction.

2.2 Contractor

The Contractor will be responsible for ordering and maintaining an inventory of environmental control supplies and materials sufficient not only to meet daily construction requirements, but also for use in emergency conditions. The Contractor will be responsible for conducting grading and topsoil separation activities, installing and maintaining temporary and permanent erosion control measures, and restoring original contours on the ROW. The Contractor is responsible for monitoring the effectiveness of the installed devices and correcting any conditions that do not meet the specifications of this plan. GEC's Environmental and Construction Inspectors will ensure that the Contractor properly installs and maintains erosion control measures according to attached typical specifications.

Installation of most erosion control devices will be performed during the construction phase. Erosion control measures implemented during construction may include waterbars, trench breakers, silt fence sediment barriers, and straw bale sediment barriers. Permanent erosion control measures implemented during restoration may include seedbed preparation, seeding, waterbars, trench breakers, permanent mulching, erosion control matting, silt fence sediment barriers, and straw bale sediment barriers.

The Contractor will be responsible for seeding the ROW, temporary use areas, temporary access roads, and other off-ROW sites following their construction activities. The Contractor will conduct reclamation activities according to this plan. The Contractor is responsible for long-term monitoring of reclamation activities following construction and for any adjustments necessary for successful reclamation.

2.3 Environmental Inspector

GEC's Environmental Inspector will have the responsibility to ensure field activities are performed in accordance with this plan by the Contractor and in compliance with all other permits and agreements. The Environmental Inspector will ensure that the Contractor constructs through sensitive resources as required in this plan and will also ensure that all marking and flagging remains in place and is visible throughout construction. The Environmental Inspector

will have the authority to make site-specific field changes in certain reclamation procedures within the guidelines of this plan in consultation with the fee-landowner or BLM.

3.0 CLEARING

Vegetation will be cleared and the construction ROW graded to provide for safe and efficient operation of construction equipment and inspection vehicles, and to provide space for the storage of subsoil and topsoil. Construction activity and ground disturbance will be limited to approved, staked areas.

Clearing requirements are discussed in detail in Section 3.2 of the Plan of Development.

3.1 Clearing and Grading Near Waterbodies and Wetlands

3.1.1 Waterbodies

A waterbody is any flowing river or stream, whether natural or artificial. Permanent lakes and ponds are also considered waterbodies, even if they are artificially created (e.g., stock ponds). Clearing adjacent to waterbodies will involve the removal of riparian trees and brush from the construction ROW and additional temporary use areas. Clearing and grading at waterbody crossings will be limited to that needed to construct the crossing. During clearing, the root systems will be left in place except over the trenchline and in areas that require grading. In these areas, riparian vegetation above the trenchline and in the travel lane will be carefully excavated and stored so that it may be transplanted later during the rehabilitation of waterbody crossing areas. Root systems may also be removed along the travel lane to allow safe passage by rubber-tired vehicles. These restrictions on clearing and grading will prevent harmful runoff by maintaining organic ground cover in the work areas to the greatest extent possible (Practice 2, Watershed Practices Handbook (WCPH)). They will also prevent nutrient loss from the proposed project area by keeping root systems of removed riparian trees and brush in place and by saving and transplanting riparian vegetation back into the project area (Practice 14, WCPH). Initial grading of the herbaceous strip will be limited to the extent needed to create a safe approach to the waterbody and to install bridges.

3.1.2 Wetlands

A wetland is any area that satisfies the requirements of the current federal methodology for identifying and delineating wetlands. Clearing of vegetation in wetlands will be limited to trees and shrubs which will be cut flush with the surface of the ground and removed from the wetland. To avoid excessive disruption of wetland soils and the native seed and rootstock within the wetland soils, stump removal, grading, topsoil segregation, and excavation will be limited to the area immediately over the trenchline. A limited amount of stump removal and grading may be conducted in other areas if dictated by safety-related concerns.

4.0 Topsoil Conservation

Topsoiling requirements are defined in Section 3.2 of the Plan of Development. Topsoil will be salvaged where required by the BLM and fee-landowners and protected along most of the pipeline route to facilitate revegetation of the ROW after construction is complete.

Topsoil will be segregated using one of the following methods: from either the full-work area (full-ROW method), from the trenchline only (trenchline only method), or from the trenchline

and working side (trench and working side method) depending on the amount of surface leveling needed.

Where grading is not needed to level the construction area, all available topsoil up to a depth of 6 inches will be removed from the trenchline only. On any lands requiring leveling for safe construction use, the topsoil up to a depth of 6 inches will be stripped from the entire portion of the ROW that requires grading.

On fee-lands, topsoil generally will be stripped up to a depth of 6 inches from the trenchline; however, at the fee-landowner's request, more than 6 inches of topsoil may be salvaged and/or topsoil may be salvaged across the full width of the ROW or a portion thereof. Up to 12 inches of topsoil will be stripped across the full width of the ROW in irrigated agricultural lands. Fee-landowner requirements are listed in the Fee-Lands Line List included as Attachment 2 of the Plan of Development.

In dry wetlands, prior to trenching, all topsoil up to 12 inches in depth will be stripped from over the trenchline. If the wetland is located on a sidehill, topsoil will be stripped from the entire area being graded. Topsoil will be stockpiled in a location where it will not be mixed with any upland soils or wetland subsoil. Care will be taken to ensure that the area stripped over the trenchline is wide enough to include topsoil over trench sidewalls that may slough off due to high groundwater. If the wetland has standing water or saturated soils, every attempt will be made to remove and stockpile all topsoil up to 12 inches in depth.

Topsoil will be stockpiled separate from subsoil and will not be used to pad the trench or construct trench breakers. Dry drainages or washes that cross the ROW will not be blocked with topsoil or subsoil piles. Topsoil and subsoil will be placed on the banks of the drainage. Topsoil will be stripped from the streambanks along the trenchline and stockpiled at least 10 feet from water's edge behind sediment barriers or other containment structures. Gaps will be left periodically in the topsoil and subsoil windrow to avoid ponding and excess diversion of natural runoff during storm events. All stockpiled topsoil will be contained within the ROW or temporary use areas. On steeper side sloping situations where cutting into the slope is necessary to achieve a level trench area, topsoil will be placed upslope, above the cut.

5.0 Erosion and Sediment Control Measures

The following general environmental protection measures will be implemented to minimize environmental impacts during construction and operation of the project.

Install temporary erosion and sediment control devices immediately after initial soil disturbance that will be maintained throughout construction and restoration, as necessary, until replaced by permanent erosion control measures.

Limit disturbance during construction to the minimum necessary to efficiently complete construction activities.

Prohibit mud blading of BLM roads. Vehicles may be towed through the mud provided they stay within the original roadway and do not cause rutting greater than that allowed by permit or as directed by BLM Authorized Officer.

Cease all activities on BLM roads when road surfaces become saturated to a depth of 6 inches.

Complete construction, cleanup, and reclamation as quickly as possible to keep the time period between grading, trench excavation, backfilling, and final restoration/reclamation to a minimum.

Minimize cut and fill to reduce the amount of exposed slopes.

Avoid construction on steep sideslopes and in areas of known or suspected geologic hazard.

Streambanks and slopes above dry drainages, waterbodies, and wetlands require additional stabilization beyond the replacement of original contours and other normal erosion control requirements. Stabilization of waterbody banks with on-site materials (e.g., placing felled trees along the streambanks) will be determined on-site by the Environmental Inspector in consultation with the BLM. Straw mulch will be required for stabilization on dry drainage and waterbody streambanks through the riparian zone (or 50 feet, whichever is greater).

Temporary and permanent erosion control measures will be installed to control erosion and transport of sediment. Erosion and sediment controls will be used and maintained during all phases of construction. Selection of appropriate erosion controls will be based on soil properties, steepness of the slope, and anticipated surface flow or runoff. Erosion control measures will include sediment barriers, waterbars, erosion control fabric, and vegetative and rock mulch.

Temporary control measures will effectively reduce erosion and sedimentation to sensitive resources during construction. These temporary erosion control measures will be installed concurrently with construction earthwork and will be maintained throughout the course of construction. When necessary, these measures may be left in place along with permanent measures during the post construction period until effective revegetation has been established. Sediment barriers, waterbars (as described below), mulch, and possibly the use of quick growing temporary vegetative cover will be the primary measures for temporary erosion control used on the project.

Interim erosion control measures will temporarily stabilize portions of the disturbed construction area near sensitive resources if construction is delayed for significant periods following disturbance.

Permanent erosion control measures will minimize erosion and sedimentation after construction until revegetation efforts have effectively stabilized the construction area. Installation of permanent erosion control measures should be performed within 30 days following backfilling of the trench.

In general, temporary erosion control measures will be removed after permanent erosion control measures have been installed.

The following sections review materials, installation requirements, and performance criteria for temporary and permanent erosion and sediment control measures.

5.1 Sediment Barriers

Sediment barriers are temporary devices designed to slow down water flow and intercept suspended sediment conveyed by sheet flow, while allowing runoff water to continue down gradient. These barriers are used to prevent sediment conveyance off of the construction area while diverting water from the construction area. Sediment barriers may include silt fence, certified weed-free straw bales, excelsior logs, or sandbags.

Sediment barriers will be installed at the base of slopes at road crossings, wetlands, and waterbodies; on exposed slopes; around topsoil or subsoil stockpiles; and along the downslope edge of the ROW. Sediment barriers may be installed at the top of the waterbody bank if no herbaceous strip exists. Adjacent to wetlands and within temporary use areas as necessary, sediment barriers, such as silt fence and staked straw bales, will be installed and maintained to minimize the potential for sediment runoff during clearing and construction activities. These measures will control run-off from project areas into wetlands and waterbodies and will help maintain hydrologic function in accordance with Practices 1 and 2 of the WCPH. Sediment barriers also will be installed at the edge of the workspace in culturally or biologically sensitive areas. Sediment barriers will be installed immediately after initial ground disturbance. The requirement to install a sediment barrier is dependent on the slope angle (when a hillside slopes in multiple directions, the slopes can off-set each other and reduce the need for sediment barriers), slope length, and soil type (texture and coarse fragment content). While typically used only during construction, silt fences and straw bale sediment barriers may be left in place following seeding, possibly for a complete growing season.

See the Typical Straw Bale Sediment Barrier and Typical Silt Fence Sediment Barrier in Attachment 1 for additional information. Only biodegradable erosion control materials will be used.

5.1.1 General Requirements

Sediment barriers placed at the base of a slope will be at least 6 feet from the toe of the slope, where possible, in order to increase ponding volume. The ends of the sediment barrier will be turned upslope to capture sediment.

Sediment barriers will be placed so as not to hinder construction activities. Sediment barriers will be installed between the spoil piles and the edge of the ROW where there is a potential for material to leave the ROW. If silt fences or straw bale sediment barriers are placed across the construction area (adjacent to waterbodies, wetlands, or roads) where construction traffic is allowed to cross, provisions will be made for traffic flow. An approximately 15-foot-wide gap will be provided along the silt fence or straw bale ROW, with the ends of the sediment barrier turned slightly upslope. A drivable earth berm will be installed and maintained across the gap immediately upslope of the sediment barrier (ends of the sediment barrier will tie into the drivable earth berm); alternatively, straw bales will be installed across the gap with 24 inches of overlap with the adjacent sediment barrier at the end of each day.

If sediment loading is noted during regular inspections to be at or greater than 50 percent of barrier capacity, sediment behind the barrier will be spread on the disturbed ROW uphill of the sediment barrier. Loose stakes, loosely abutted bales, damaged bales, or damaged or undermined sections of silt fence will be repaired or replaced as necessary.

5.1.2 Straw Bales

Straw bale sediment barriers consist of a line of tightly abutted straw bales placed perpendicular to the runoff direction with the ends turned upslope. The barriers are typically one bale high, placed on the fiber-cut edge (tie not in contact with the ground) in a 4-inch-deep trench, and anchored securely with two wooden stakes driven through each bale. A small amount of soil is then piled across the upslope side of the straw bale barrier.

Only certified weed-free straw bales with biodegradable (not photodegradable) strings will be used. Excelsior logs, such as Bon Terra BioWattle-FX or equivalent approved by the Environmental Inspector in consultation with the BLM, may be substituted for straw bales. These excelsior logs will have a lifespan of at least 3 years. Installation will be as recommended by the manufacturer.

When straw bales or excelsior logs are used as a temporary substitute for waterbars, the same spacing noted for waterbars will be used (see Section 4.2 of the Plan of Development).

5.1.3 Silt Fences

Commercial filter fabrics, with sufficient strength to prevent failure, will be provided by the Contractor. The height of a silt fence will not exceed 36 inches and the fabric will be cut from a continuous roll of fabric with splices only at support posts, with a minimum 6-inch overlap and both ends of fabric securely attached to the post. Support posts will be a maximum of 10 feet apart.

Silt fences will be placed approximately 3 feet from the toe of a slope (subject to edge of ROW and other restrictions) to allow temporary ponding and deposition of sediment. The bottom edge of silt fences will be installed in a trench excavated approximately 6 inches wide by 6 inches deep and refilled with compacted soil, unless on-site constraints dictate otherwise (e.g., rock). In situations where rock prohibits burying of silt fence, sandbags will be used to keep the bottom of the silt fence firmly attached to the ground and prevent water flow under the fence. Silt fences will be attached to supporting posts by staples or wire.

Silt fences generally will be located downslope of sedimentation barriers or other soil stabilization controls to effectively control runoff, particularly in areas adjacent to wetlands or waterbodies. If additional support is needed to contain wet spoil, or to provide added protection near a sensitive resource, either wire mesh or straw bales may be placed immediately behind the silt fence on the down-gradient side. If wire mesh is used, the wire will be attached to the support posts, prior to installation of the fabric, with heavy duty wire staples at least 1 inch long, wire ties, or hog rings. The wire will be keyed into the trench at least 2 inches, and extended up the posts to the top of the filter fabric. Silt fences will not be used on slopes steeper than 1:1 or in areas with large boulders or soil clods that could tear the fence or otherwise reduce its functionality.

Silt fences will be inspected regularly to ensure proper function is maintained. Any damaged or non-functioning silt fences will be replaced or repaired within 24 hours of discovery.

5.2 Waterbars

Waterbars (slope breakers) are used in various forms (e.g., rolling dips on access roads, drivable berms across travel ways, waterbars on slopes) during project construction and after final grade restoration. Waterbars are used for the purpose of reducing the velocity and concentration of runoff and dispersing runoff into stable, well-vegetated, or adjacent rocky areas to prevent excessive sheet erosion and formation of a gully resulting in transport of sediment off of the ROW onto adjacent areas.

Waterbars will be installed in sloped areas susceptible to erosion and near the base of slopes adjacent to wetlands, riparian areas, and watercourses. Waterbars will be constructed as berms made from disturbed soil materials within the construction ROW. Topsoil will not be used to construct waterbars.

Temporary waterbars will be installed concurrently with initial grading operations, and will be maintained throughout construction. Permanent waterbars will be installed after the ROW grade is restored.

Waterbar spacing is primarily dependent upon the slope of the ROW, the soil erosion potential, and the general ROW configuration. Temporary waterbars will be installed at the base of slopes adjacent to roads, wetlands, or waterbodies, and in sloped areas susceptible to erosion. Temporary spacing will be determined based on site-specific conditions as determined by the Environmental Inspector.

Permanent waterbars will be installed across the ROW after topsoil replacement. Permanent waterbars will not be installed on irrigated agricultural lands unless requested by the fee-landowner. Permanent waterbar spacing typically will be installed at the following intervals:

Slope (percent)	Spacing (feet)
0–2	120
2–5	100
5–10	75
10–20	50
20+	30

Permanent waterbar spacing and size may be adjusted based on site-specific conditions. Criteria to be considered for spacing adjustment will include:

slope angle (if ROW crosses side slopes, waterbars may not be required);

slope length (broken terrain may reduce effective slope length);

soil type (texture and coarse fragment content);

visual sensitivity;

landowner requests; and

BLM specifications.

Waterbars will be constructed of existing suitable material (compacted soil), a series of tightly abutted straw bales, excelsior logs, or burlap bags filled with native soil. Permanent waterbars typically will be installed with a 2 to 8 percent outfall and will extend slightly past the edge of the disturbed ROW to facilitate drainage off of the ROW. Drainage or outfall from waterbars will be directed into natural drainage swales and stable, well-vegetated or non-erosive (rocky) areas. The drainage from the slope breaker outlets may be further controlled with energy-dissipating devices which may include rock or sediment barriers based upon site-specific conditions.

The Contractor will regularly inspect and repair waterbars during construction to maintain their effectiveness. Waterbars worn down by heavy construction traffic, or filled with sediments, will be repaired as needed, and the sediments will be spread on the disturbed ROW uphill of the waterbar.

Construction specifications for waterbars will follow typical specifications provided by the BLM. See Typical Waterbars in Attachment 1 for additional information.

The above methods of water control and sediment barriers may be used singly or together depending on site characteristics, to achieve the appropriate level of control.

5.3 Trench Breakers

Trench breakers consisting of polyurethane foam or sandbags will be installed around the pipe in the trench to restrict or slow groundwater flow along the trench. Topsoil will not be used to construct trench breakers. Trench breakers will be installed in the trench prior to backfilling on steep slopes and slopes adjacent to waterbodies and wetlands. Trench breakers will be installed in trench sections that lead to improved roads in order to prevent water from migrating along the roads and possibly away from wetlands or waterbodies. Waterbars will be placed just below the trench breakers to carry off any excess water into vegetated areas. An engineer or similarly qualified professional will determine the need for, and spacing of, trench breakers. Otherwise, trench breakers will be installed at the same spacing as, and upslope of, permanent waterbars. See Typical Trench Breaker in Attachment 1 for additional information.

5.4 Trench Dewatering

The Contractor will be responsible for proper dewatering of the trench, where necessary. Trench dewatering will comply with applicable permit requirements. Dewatering discharge will be

directed at a controlled rate onto a stable surface and will use a section of geotextile fabric, straw belt structure, or similar erosion preventative device to prevent scouring during discharge. If dewatering operations take place near waterbodies, riparian areas, or wetlands, a number of strategies may be implemented to prevent heavily sediment-laden water from reaching sensitive resources. These strategies include the following.

Locate dewatering discharges as far as practicable from waterbodies and wetlands (considering local topography, vegetation, and soils). Dewatering discharge will not be pumped directly into wetlands or waterbodies (consistent with Practice 8 of the WCPH).

Minimize duration of dewatering discharges by scheduling dewatering operations immediately prior to lowering in, tie-ins, or backfilling.

Minimize disturbance of the trench (i.e., additional digging) to the extent practicable until the majority of the water is pumped out.

Use dewatering structures and/or sediment bags to remove heavy sediments from discharges when dewatering near (within approximately 200 feet of) waterbodies, riparian areas, wetlands, or other sensitive resources, as needed. See Typical Straw Barrier Dewatering Structure in Attachment 1 for additional information.

5.5 Hydrostatic Test Dewatering

Applicable permits for hydrostatic test dewatering will be obtained and complied with if hydrostatic testing is necessary. Specific dewatering requirements related to hydrostatic test dewatering are discussed in the Pressure Testing Plan (Appendix H).

5.6 Mulching

Mulching is the application of certified weed-free straw, wood fiber, other vegetative material, or rock to disturbed soils to minimize the effects of wind or rain on exposed soils. During rainy conditions, mulch reduces the impact of rainfall and slows the flow of water down the slope. Mulch also optimizes the soil regime necessary for successful revegetation, especially on dry, sandy sites. Mulch (as opposed to erosion control mats described in Section 5.7.3) typically would be used across large sections of the ROW to reduce wind erosion and raindrop impact.

After final restoration and seeding, permanent mulch applications will be applied to stream crossing sites through the riparian zone (or for 50 feet, whichever is greater), on slopes greater than 35 percent, for 100 feet either side of waterbodies and wetlands (or until the slope is less than 35 percent), and where determined by the BLM Authorized Officer or Environmental Inspector.

5.6.1 Straw Mulch

Certified weed-free straw mulch will be anchored into the seedbed using a mechanical crimper specifically designed to crimp mulch to a depth of 2 to 3 inches. Acceptable straw mulch crimpers include:

mechanical crimper,

backhoe with crimper forks,

tracked equipment tracking up and down slopes (restricted to areas where other methods will not work),

hand-punching with round-pointed shovel, and

equivalent approved by the Environmental Inspector.

A regular farm disc or a foot packer will not be used. If a straw mulch blower is used, strands of the mulching material will be at least 8 inches long to allow anchoring.

Areas requiring mulch application will have the mulch uniformly applied over at least 75 percent of the ground surface at a rate of 2 tons/acre.

5.6.2 Rock and Vegetative Debris Mulch

Vegetative mulch and excess rock may be used to reduce erosion potential by providing additional surface relief structure. Where approved by the BLM, vegetative debris could be salvaged for use in reclamation activities. Rocks will not be stacked in storage areas and stockpiles of large rocks (3 to 5 feet in diameter) will only be made in locations approved by BLM. Layering of rock, to a height no more than 12 inches and an area no larger than 15 feet by 15 feet, may be used on the surface of erodible soils in some critical areas to reduce erosion and restore appearance of native surface. Suitable sites include naturally rocky slopes and areas that have a natural gravel, cobble, or boulder veneer on the surface. Suitable sites will be determined in conjunction with the BLM or fee-landowner. In these sites, the Contractor will scatter, haul, and/or bury rocks so that rock density is similar to that of surrounding areas. Boulders could be used to keep traffic off the reclaimed ROW.

During final cleanup and restoration, the Contractor will randomly distribute any windrowed trees, shrubs, or other remaining vegetation debris over the ROW (subject to BLM or fee-landowner approval). Vegetative dispersal must be accomplished by hand or with appropriate equipment after seeding of the ROW so the spread material will not interfere with the performance of seeding equipment and to prevent disturbance of the seedbed.

5.6.3 Erosion Control Matting

Erosion control matting will be installed after final grade restoration to reduce rain impacts on soils, to reduce erosion, and to stabilize steep slopes and waterbody banks where determined by the Environmental Inspector in consultation with the BLM. Erosion control matting typically will be used on slopes greater than 40 percent for 100 feet either side of waterbodies or wetlands or until the slope is less than 40 percent. Erosion matting also will be used at locations identified by the BLM Authorized Officer or field representative.

Acceptable matting for use on steep slopes will be North American Green SC 150 BN (a straw/coconut matrix sewn between two natural fiber nets) or equivalent approved by the Environmental Inspector in consultation with the BLM. Matting acceptable for streambank

stabilization will be North American Green C125 BN (a coconut fiber matrix sewn between two natural fiber nets), Bon Terra CF7 mats (100 percent coir [coconut] fiber woven into a high strength matrix), or equivalent approved by the Environmental Inspector. Matting will be woven with biodegradable netting.

Mats will be furnished in continuous rolls of 30 feet or greater with a minimum width of 4 feet. Staples will be made of wire, 0.091 inch in diameter or greater, and have a "U" shape with legs 8 inches in length and a 2-inch crown. Wire staples will be driven into the ground for the full length of the staple legs. Alternatively, wood pegs (0.5-inch-diameter) may be used to secure the erosion control fabric.

Installation and stapling of erosion control matting will follow procedures specified in the details included in Attachment 1. For streambank installations, mats will be laid parallel (upper mat overlapping lower mat in a shingle pattern) to the waterbody to a point above the top of the bank. The erosion control mats identified above for streambank stabilization are designed to handle flow and can be placed under the ordinary high water mark of the streambank. Native material (rocks, logs, etc.) may be used in conjunction with the matting to aid in stabilization of banks.

During regular erosion control monitoring, erosion control matting will be inspected for washouts, adequate staking, and loss of matting. Damaged or undermined matting will be repaired or replaced as necessary.

See Typical Erosion Control Matting Slopes and Typical Erosion Control Matting Streambanks in Attachment 1 for additional information.

6.0 Wetland and Waterbody Construction Methods

6.1 General Requirements

Construction equipment working in wetlands will be limited to that which is essential for ROW clearing, trench excavation, pipe fabrication and installation, backfilling, and ROW restoration. In areas where there is no reasonable access to the ROW except through wetlands, non-essential equipment will be allowed to travel through wetlands only if the ground is firm enough or has been stabilized to avoid rutting. Foreign material (upland soil, rock, tree stumps, etc.) will not be imported into the wetland to stabilize the working area. If standing water or saturated soils are present, equipment will work from, and access across, timber equipment mats. If the wetland is dry, equipment can use the ROW for access on an as-needed basis with as much traffic as possible routed around the wetland.

Fens and other wetlands will be avoided to the extent feasible. A list of waterbodies and wetlands that will be crossed by the project is included in Attachment 2. Specific construction methods will be determined by the Contractor using the requirements of this plan as the minimum acceptable standards.

6.1.1 Flagging

GEC will sign and/or flag the following boundaries at least 72 hours prior to any clearing or grading, or before any construction crew is within 1 mile of any wetland or waterbody.

Limits of the ROW in waterbodies and wetlands (survey flagging).

Edges of wetland boundaries ("Wetland Boundary" sign).

Limits of 100-foot buffers for fueling and concrete coating activities ("No Refueling" sign).

6.1.2 Hazardous Materials

The Contractor will comply with the requirements included in the Hazardous Materials Management and Spill Prevention, Containment, and Countermeasure Plan (Appendix G) and requirements contained in authorizing documents. The Contractor will not store hazardous materials, chemicals, fuels, or lubricating oils, or perform concrete coating activities within 100 feet of any waterbody or dry drainage (Practice 15, WCPH). Equipment or vehicles that are crossing or working within 100 feet of waterbodies will not be refueled unless a specific exception is given by the Environmental Inspector. If any hazardous material must be temporarily stored or transferred within 100 feet of a waterbody (i.e., stationary pumps), then it must be placed within a secondary containment structure as specified in the Hazardous Materials Management and Spill Prevention, Containment, and Countermeasure Plan (Appendix G) and in Practice 16 of the WCPH.

6.2 Dry Streams

Dry drainage crossings will be constructed using the same upland, mainline construction methods that will be used along the rest of the ROW, except that spoil will be placed outside the channel. During cleanup and reclamation, the pre-construction profiles and contours (including meanders of the drainage bed) of dry drainages will be re-established in coordination with a BLM representative. Mulch and erosion control matting will be installed in accordance with requirements for waterbodies and wetlands as discussed in this plan.

6.3 Vehicle and Equipment Crossings

GEC will acquire all necessary permits for vehicle and equipment crossings of waterbodies and wetlands. Before construction, temporary bridges will be installed across waterbodies to allow construction equipment to cross. Bridges may include clean rock fill over culverts, timber mats supported by flumes, railcar flatbeds, flexi-float apparatus, or other types of spans. Care will be taken that excess water is not directed into sensitive areas during temporary bridge construction or use. Typical drawings for equipment bridges are included in Attachment 1. Construction equipment will be required to use the bridges, except the clearing crew who will be allowed one pass through the waterbodies before the bridges are installed.

Equipment bridges will be one of the following types:

portable bridges that span the channel,

clean rock riprap and flumes, or

timber equipment mats.

Each bridge will be designed to allow for maximum predicted flows for the time frames that it will be in place, including all anticipated precipitation events. The Contractor will also maintain

bridges so that soil from equipment or the bridge abutment is prevented from entering any waterbody. Certified weed-free straw wattles or straw bales (depending on location) will be used as sediment barriers when necessary. All equipment bridges will be removed as soon as possible after permanent seeding.

6.4 Waterbody and Wetland Installation

6.4.1 General Requirements

The following requirements apply to all waterbody crossings.

Pre-construction photo points at each waterbody crossing would be established to aid in the rehabilitation of each crossing site. Reference photos will be taken prior to construction at the crossing.

All crossings, both perennial and intermittent/ephemeral, will be protected from runoff entering the stream system with sediment control devices and by restricting clearing, grading, and operation of equipment to the minimal necessary area required to perform the crossing.

Pipe segments for the crossing will be fabricated in adjacent upland temporary use areas.

Tie-in locations will be in uplands where possible. Tie-ins near wetlands will have a soft trench plug between the tie-in location and the wetland.

Pipe will be coated with concrete or equipped with set-on weights to provide negative buoyancy, where required.

Spoil will be stored at least 10 feet from the water's edge and will be located behind sediment barriers or other containment structures.

Substrate material removed from drainages (i.e., rock) will be returned to the channel and may require hand placing to restore habitat features (Practice 5, WCPH).

In-stream work will be limited to the construction equipment necessary to dig the trench, lower-in the pipe, and backfill the trench.

Every effort will be made to complete all in-stream work within 24 hours.

Streambanks will be restored and reseeded as soon as possible after installation of pipe.

Temporary livestock fencing would be installed at each waterbody crossing site. This fencing would be in-place and maintained until the crossing site has rehabilitated to revegetation standards and is signed off by a BLM representative or by the landowner.

6.4.2 Flume

The flume crossing method will involve trenching through the waterbody while water is directed to flow through a flume pipe over the trenchline. Prior to trenching, a flume pipe sized to adequately carry the stream flow will be placed in the channel to carry the stream flow over the

ditchline. Sandbags will be used to direct stream flow into the upstream end of the flume and at the downstream end to seal off the active trench area. Scour protection will be placed at the downstream end of the flume, if necessary. Trackhoes will excavate a trench under the flume pipe from one or both of the waterbody banks. Equipment operating within the waterbody will be limited to that needed to construct the crossing. Sediment barriers will be installed where necessary to prevent sediment and excavated spoil from entering the water. Once the trench is excavated, the prefabricated segment of pipe will be installed under the flume in the trench at least 4 feet under the streambed. The trench will then be backfilled with native streambed spoil and the streambanks restored to pre-construction contours in coordination with the BLM representative. Use of a flume crossing method for flowing waterbodies will allow for uninterrupted water flow, sediment passage, and movement of aquatic life during construction (Practice 4, WCPH).

6.4.3 Open-Cut, Nonflowing

The open cut crossing method will involve trenching through the waterbody while water is not flowing over the trenchline. Trackhoes will excavate a trench in the nonflowing waterbody from one or both of the waterbody banks. Equipment operating within the waterbody will be limited to that needed to construct the crossing. Sediment barriers will be installed where necessary to prevent sediment and excavated spoil from entering the water. Once the trench is excavated, the prefabricated segment of pipe will be installed in the trench at least 4 feet under the streambed. The trench will then be backfilled with native streambed spoil and the streambanks will be restored to pre-construction contours. Material removed from the channel will be replaced in order to restore the channel to pre-disturbance conditions.

6.5 Wetland Installation

Timber equipment mats, or their equivalent, will be used to stabilize the work area, if needed. Sediment barriers will be placed on the downslope edge of the ROW if the wetland continues beyond the ROW. Sediment barriers would be placed on both edges of the ROW if there is a potential for material to leave the ROW. A typical wetland crossing detail is provided in Attachment 1.

For streambank installations, mats will be laid parallel (upper mat overlapping lower mat in a shingle pattern) to the waterbody to a point above the top of the bank. As mentioned above, native materials (rocks, logs, etc.) may be used in conjunction with the matting to aid in stabilization of berms.

7.0 Reclamation Process

After the final installation of the pipeline, all disturbed portions of the construction workspace (including the ROW, travel lane, and temporary use areas) will be returned to pre-construction grades and contours. Topsoil will then be replaced over the ROW from the approximate area in which it was stripped. Every effort will be made to complete final cleanup and installation of permanent erosion control measures within 30 days after final backfilling is completed.

Revegetation will be the primary method to stabilize soils and ensure permanent erosion control over the long term. Shrubs, small trees, and ground cover from areas adjacent to the road intersections will be transplanted at the intersections of forest roads and the pipeline ROW to visually screen the pipeline corridor.

The following sections outline the pre-construction planning and sequential steps for restoring the ROW, temporary use areas, and temporary roads following installation of the pipe and backfilling of the trench.

7.1 Agricultural Features

All irrigation ditches, cattle guards, fences, and artificial and natural livestock and wildlife water sources will be maintained and repaired to at least pre-construction conditions. Temporary measures will be provided, as agreed with the fee-landowner or BLM, for any of these facilities that are disrupted during the construction or reclamation process.

7.2 Wetlands and Waterbodies

Original meanders, profiles, other contours of waterbodies, and 25 feet up each waterbody bank (as measured from water's edge) will be restored (Practice 5, WCPH). Any material that has accumulated in an intermittent/ephemeral stream will be removed and the stream will be returned to pre-construction form. Final cleanup will be concluded, seeding accomplished, and mulching or erosion control mats installed, prior to the end of the following time frames.
waterbodies—24 hours after initial in-stream disturbance

wetlands—within 10 days of backfilling in that wetland

There are exceptions to these time frames, as noted below.

Seeding and installation of erosion control matting may be deferred until final cleanup (i.e., temporary bridge is removed and waterbody banks across the travel lane are restored to pre-construction conditions) if the streambanks and all disturbed slopes above the waterbody are stabilized with an application of mulch extending 25 feet up the slope.

Temporary bridges or other materials (e.g., timber mats) required for access during restoration will not be removed until they are no longer needed. All other areas at the crossing (culverts and other crossing materials), not needed for the bridge abutments, must meet the requirements above.

Very steep or incised waterbody banks with the likelihood of further erosion will not have the original contour restored. These waterbody banks will be restored at a 1.5 to 1 slope (horizontal to vertical), which is equivalent to 67 percent slope. Transition from adjacent slopes to those reclaimed over the ROW will be made so as to prevent erosion between these transitions, and to minimize eddying at the toe of these slopes.

If reclamation and seeding is deferred more than 10 days after final grade restoration near waterbodies and wetlands, all disturbed slopes above waterbodies and wetlands will be temporarily stabilized by applying straw mulch for a minimum distance of 200 feet above the edge of the waterbody or wetland.

These restoration measures follow relevant sections of Practice 3 of the WCPH.

7.3 Rock Disposal

Excess rock is defined as all rock that cannot be returned to the existing rock profile in the trench or graded cuts, or is not needed to restore the ROW surface to a condition comparable to that found adjacent to the ROW. Excess rock will be randomly distributed across the ROW, used in reclamation efforts, used as slope stabilizing materials**,** or arranged to block use of the ROW by motor vehicles**.** Excess rock will not be piled to heights above 2 feet**,** and in areas where rocks cover the ground continuously with little to no soil visible, rock piles will not exceed 15 feet in length by 15 feet wide. The Contractor may also remove other excess rock from the ROW and haul it to an approved disposal site as directed by BLM mineral material disposal authorities. GEC will coordinate with fee-landowners or the BLM regarding the methods of disposal.

On irrigated agricultural lands, rocks will be removed from at least the top 12 inches of soil and diligent efforts will be made to remove stones greater than 4 inches in any dimension if the off-ROW areas do not contain stones greater than 4 inches in any dimension. Requirements for rock removal may vary between fee-landowners and will be listed in the Fee-Lands Line List, included in the Plan of Development Attachment 3.

7.4 Final Cleanup

Within 30 days after backfilling the trench, the Contractor will make every effort to complete final cleanup and installation of permanent erosion control structures.

The ROW and other project-related areas where soil has been disturbed will be restored as close to pre-construction grade, compaction, and other conditions as possible. No solid waste, trash, or vegetative debris will be buried on the ROW.

Irrigated agricultural lands are of special concern and require precise recontouring and trench compaction to return fields to pre-construction conditions. The Contractor will work closely with fee-landowners to ensure irrigated agricultural lands are effectively restored.

Final compaction of disturbed areas will be returned to approximate pre-construction conditions. Any compacted areas, including but not limited to the travel lane, will be decompacted. Compacted areas will be decompacted with a scarifier to a depth of 6 to 10 inches prior to topsoil replacement and seeding. Compacted areas on irrigated agricultural land where topsoil was not salvaged will be decompacted to a depth of 18 inches using a paraplow, winged subsoiler, or other deep tillage implement so as not to mix topsoil and subsoil horizons.

7.5 Topsoil Restoration

After the trench has been backfilled and the ROW regraded, the Contractor will redistribute topsoil to the approximate location from which it was originally removed. Restored topsoil will be left in a roughened condition to discourage erosion and enhance the quality of the seedbed. Topsoil will not be handled if excessively wet or frozen. Topsoil will not be distributed outside of the ROW.

Topsoil will be redistributed as close to original salvage depths as possible. Segregation of subsoil and topsoil will be maintained throughout final cleanup procedures. The Contractor will be responsible for replacement of lost or degraded (mixed) topsoil with topsoil imported from a

GEC-approved and certified weed-free source. Additional erosion control and soil stabilization will be required in areas adjacent to or within drainages.

7.6 Permanent Erosion Control

Permanent erosion control measures will be installed within 30 days after the trench is backfilled to aid in site stabilization wherever required. Willow staking and carex plugs will be used when possible at stream or wetland crossings and at BLM or landowner direction.

7.7 Seedbed Preparation

The Contractor will scarify, till, or harrow the seedbed to a depth of 3 to 4 inches prior to seeding where needed to improve revegetation potential. Those sites where seedbed preparation is not practical (e.g., steep slopes, rocky areas, etc.) will be left with adequate roughness following topsoil replacement to create micro-environments for seed germination and growth, and to reduce the potential for soil movement.

7.8 Soil Supplements

Generally, fertilizer will not be used unless requested by the fee-landowner. At this time, no areas that require fertilizer have been identified.

7.9 Revegetation

The Contractor will be responsible for seeding the ROW, temporary use areas, and off-ROW ancillary sites using GEC-supplied BLM-approved seed mixes, appropriate seeding methods, and approved application rates. The seeding requirements and scheduling of reclamation activities will be determined in coordination with BLM or fee-landowner. The seed will be randomly tested to ensure weed-free status is maintained.

7.9.1 Species Selection and Sources

Selection of grass and shrub species for revegetation will be based on pre-construction community composition and soil types, as well as establishment potential, soil stabilizing qualities, post-construction land use objectives, and BLM and fee-landowner recommendations. Native species will be used on BLM lands and native species will be used to the extent possible on fee-lands unless non-natives are specifically requested by a fee-landowner.

Seed mixes will be purchased from commercial seed vendors and must be certified "All States" weed-free mixtures. Seed bag tags will be collected and submitted to the BLM and appropriate county to confirm that the seed was purchased from a commercial seed vendor and was tested and certified. The seed will be randomly tested by Colorado State University's Colorado Seed Laboratory to ensure weed-free status is maintained. Seeding rate will be listed as pounds per acre of pure live seed (PLS). The Contractor will be responsible for providing all seed tags to the Environmental Inspector at the end of each day. The Environmental Inspector will provide seed tags and station seeded to the BLM.

Suggested seed mixes, rates, and application areas are identified in Attachment 4 and must be approved by the BLM.

7.9.2 Seed Application Rates and Viability

Seeding rates will be determined in PLS pounds per acre and seeds per square foot based on drilled application rates. Broadcast seeding rates will be twice the drill rate. Seed will be used within 12 months of testing to assure seed viability. If additional seeding is required in the year following construction, additional viability tests will be conducted to determine any need for adjustment of application rates.

Wetlands will not be seeded unless noxious weeds are present. Successful recolonization by wetland species is generally related to effective topsoil salvage methods and sources of seed and rhizomes in adjacent areas.

Streambanks will be seeded immediately upon completion of final cleanup.

7.9.3 Seeding Methods and Procedures

The Contractor will conduct broadcast or drill seeding as directed by BLM. Seeding activities will be contingent upon weather and soil conditions, and subject to evaluation by the Environmental Inspector. Seeding will not be permitted if there are more than 2 inches of snow on the ground unless approved by the Environmental Inspector and BLM Authorized Officer or field representative. On BLM lands and where approved by the fee-landowner, the Contractor will randomly distribute any windrowed trees and shrubs or other remaining vegetation debris over the ROW (after seeding) by hand or appropriate equipment so as not to disturb the seedbed.

7.9.3.1 Drill Seeding

Drill seeding is the preferred seeding method and will be used wherever soil characteristics and slope allow effective operation of a rangeland seed drill. Drill seeding will be performed perpendicular to the slope. Seed will be placed in direct contact with the soil at an average depth of 0.5 inch, covered with soil, and firmed to eliminate air pockets around the seeds. Seed will be applied using a rangeland seed drill with a seed release and agitation mechanism sufficient to allow seeds of various sizes and densities to be planted at the proper seeding depth.

7.9.3.2 Broadcast Seeding

Broadcast seeding will be used only in areas where drill seeding is unsafe or physically impossible. Seed will be applied using manually operated cyclone-bucket spreaders, mechanical spreaders, or blowers. Seed will be uniformly broadcast over disturbed areas. Broadcast application rates will be twice that of drill rates. Seed will be applied so that uniform coverage of 20 seeds per square foot is obtained. Immediately after broadcasting, the seed will be uniformly raked, chained, dragged, or cultipacked to incorporate seed to a sufficient seeding depth. If the area is seeded prior to a soil crust forming, harrowing or raking may not be necessary.

7.10 Grazing

Prior to and during construction, GEC will keep BLM grazing allotment permittees and fee-lands ranchers informed regarding schedules to allow them ample opportunity to move livestock away from the ROW. Gates and fences will be installed along the ROW as required. Hard or soft plugs will be left or installed to allow livestock to cross to either side of the ROW during construction. Gates, fences, and cattle guards will be repaired or replaced after construction as agreed to with

the fee-landowner or BLM. These facilities will be left in as good as or better shape than the pre-construction condition.

Fences crossed by the pipeline and cattle guards or gates on access roads or within the ROW damaged during construction on BLM lands will be rebuilt or replaced in accordance with BLM specifications.

8.0 Monitoring and Maintenance

The Contractor will be responsible for ensuring that erosion control measures are fully functional, for continually monitoring erosion control measures along the ROW during construction, and for completing timely repairs of erosion control structures as needed.

The Construction and Environmental Inspectors will inspect erosion control measures along the ROW as a part of normal daily inspection tasks. The Construction and Environmental Inspectors will identify needed repairs and notify the Contractor who will then complete the repairs within 24 hours of notification.

8.1 Construction

Throughout construction, temporary erosion control structures will be inspected daily in areas of active construction or equipment operation, on a weekly basis in areas with no construction or equipment operation, and in all areas within 24 hours of each 0.5-inch or greater rainfall event, soil and weather conditions permitting. Exhibit B of Attachment 4 contains an Erosion Control Checklist.

The Contractor will monitor weather reports and in the event of impending heavy precipitation, the Contractor will inspect temporary erosion control devices where needed (e.g., areas considered to have greater potential for erosion, areas where cattle may have damaged erosion control measures, and areas of active construction) to ensure that erosion control measures have not been damaged since the last inspection. All temporary erosion control devices that are found in need of repair or replacement will be corrected immediately. During this period the Contractor will provide additional personnel, vehicles, and materials to repair erosion control structure damage where noted during the inspection.

Should structures clog, deteriorate, fail, be damaged, or require maintenance, the Contractor will conduct repairs or replacements within 24 hours after problems have been identified, weather and soil conditions permitting. Erosion control structures should be fully cleaned of sediment when they reach 50 percent of holding capacity.

8.2 Post-Construction

Prior to the completion of construction, the Contractor and GEC in conference with the BLM will verify that all erosion control devices are in place and functional. During the first spring following construction, GEC will conduct surveys to evaluate the stability of the ROW and the success of the erosion and sediment control structures. Assessments will be made to evaluate the presence of erosion indicators such as rills, gullies, bare ground, or evidence of sheet erosion, with observable pedestals, etc. If erosion control structures fail or require maintenance, or if accelerated erosion is observed, GEC will direct the Contractor to repair them and conduct

remedial actions as soon as possible, recognizing weather and soil conditions, and site accessibility. Repairs will also be made at the direction of the BLM. Remedial actions could include supplemental seeding, installation of additional erosion/sediment control materials, maintenance of existing erosion control measures, additional mulching, or use of matting.

During subsidence and/or reseeding activities in the spring following pipeline construction, the Contractor will perform reinstallation, repair, and/or maintenance of temporary sediment devices damaged over the winter/spring season. In areas where the project is successfully revegetated as defined in this plan, the Contractor will be responsible for removal and disposal of the temporary sediment devices.

Temporary sediment devices not removed by the Contractor during subsidence and/or reseeding activities in the spring and/or summer following construction will be maintained by GEC until revegetation has been determined successful.

Erosion control monitoring and maintenance efforts will continue after project construction until successful revegetation is achieved. Throughout the first year following construction, erosion control devices will be checked at all locations along the ROW in combination with reclamation and revegetation surveys. Erosion control devices will be reinstalled, repaired, and/or maintained as necessary.

During the first growing season following construction and reclamation, GEC will conduct intensive surveys to assess revegetation success, evaluate erosion control measures, and determine the need for further reclamation.

BLM has a requirement that 80% of areas subject to reclamation efforts be revegetated before reclamation efforts are considered complete. Revegetation monitoring will include evaluation of the following parameters as compared to adjacent (off-ROW) vegetation:

percent total adjacent herbaceous cover (seeded species plus desirable volunteers),

new or expanded populations of noxious weeds, and

species composition.

Areas with poor germination and/or growth will be evaluated to determine, if possible, the cause of the problem. Reclamation techniques will be modified as necessary to address any identified problems and appropriate remedial measures will be undertaken. The Contractor will be responsible for remediating any problem areas identified by GEC for the first growing season following construction. Thereafter, GEC will be responsible for obtaining a reclamation contractor to perform any necessary work.

Erosion control monitoring will be performed in response to significant weather events and/or concurrently with the revegetation monitoring during the first year following construction. Success criteria for both are discussed in Section 8.3.

Both erosion control and revegetation monitoring will be conducted routinely throughout the life of the pipeline to evaluate long-term survival of reestablished vegetation and the effectiveness of erosion control measures with specific attention to problem sites.

GEC will periodically monitor irrigation ditches and irrigated agricultural fields for two years following construction to ensure that field flow characteristics have been maintained. The Contractor will be notified if any remedial work is required.

8.3 Evaluating Reclamation Success

GEC is responsible for the stability and revegetation of all areas disturbed as a result of construction for the life of the pipeline. As discussed in Section 8.2, GEC will conduct intensive monitoring after the first growing season and routinely thereafter to assess soil stability and revegetation success.

The Contractor will reseed any portion of the ROW that does not exhibit 50 percent total herbaceous cover (comprised of seeded species plus desirable volunteers) relative to adjacent (off-ROW) vegetation after the first complete growing season. Additional seeding will be completed during the next seeding season (fall or spring) and continue until it is considered successful. In the event that first year revegetation is affected by precipitation amounts significantly below the annual average, GEC may request deferment of additional seeding activities until the following seeding window.

The reclaimed ROW will be considered stable when the surface appears similar to adjacent undisturbed land and the following accelerated erosion indicators do not exist:

perceptible soil movement (exceeding pre-construction conditions),

flow pattern development resulting in rills or gullies greater than 3 inches in depth,

evidence of sheet erosion with observable pedestaling occurring,

evidence of deposition in lower positions of the ROW, and

trench subsidence or slumping.

Revegetation will be considered successful when the following criteria are met:

total herbaceous (seeded species plus desirable volunteers) cover is at least 80 percent of that on adjacent land, and

species composition is comprised of a mix of seeded species and desirable volunteers from adjacent communities.

9.0 Reclamation Schedule and Documentation

Reclamation activities will be determined in part by construction schedules and seasonal climatic conditions. Seeding and planting will be coordinated with other reclamation activities to occur as soon after seedbed preparation as possible. The Contractor will complete permanent reclamation

activities prior to the end of the typical fall planting season. Fall seeding will be completed after September 1 and prior to prolonged ground frost. If necessary, spring seeding will occur when the ground thaws and be completed prior to May 15.

Upon completion of reclamation, GEC's Construction Inspector, Environmental Inspector, BLM representative (or Land Agent on fee property) will perform a final inspection of the ROW and ancillary facilities to verify that pre-construction commitments have been satisfied. A copy of the post-reclamation inspection form will be transmitted to the Contractor if any deficiencies or a need for remedial action is noted. A copy of this report will also be provided to the BLM.

9.1 Post-Construction Reporting

GEC will compile monthly National Pollution Discharge Elimination System inspection reports and submit as an annual Reclamation Monitoring Report on or before 31 December of the inspection year. Copies of these reports will be submitted to the BLM. This report will include:

a summary of the general vegetative cover and diversity between the ROW and comparisons to off-ROW vegetation quadrants;

an assessment of the condition of transplants in riparian areas;

identification of areas that require remedial action;

recommendations and schedule for remedial action(s); and

monitoring forms (see Attachment 4, Exhibit B).

ATTACHMENT 1—BEST MANAGEMENT PRACTICES

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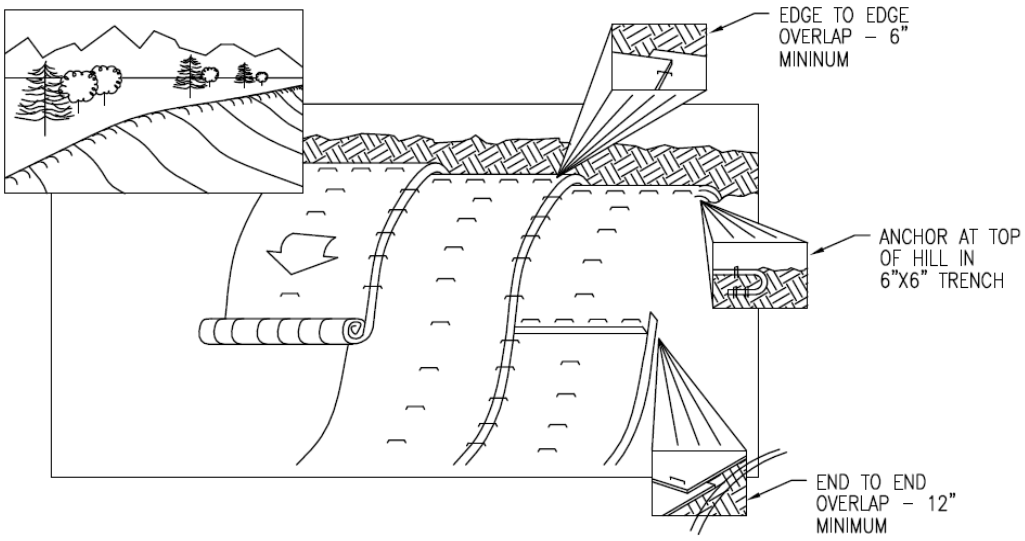


NOTES:

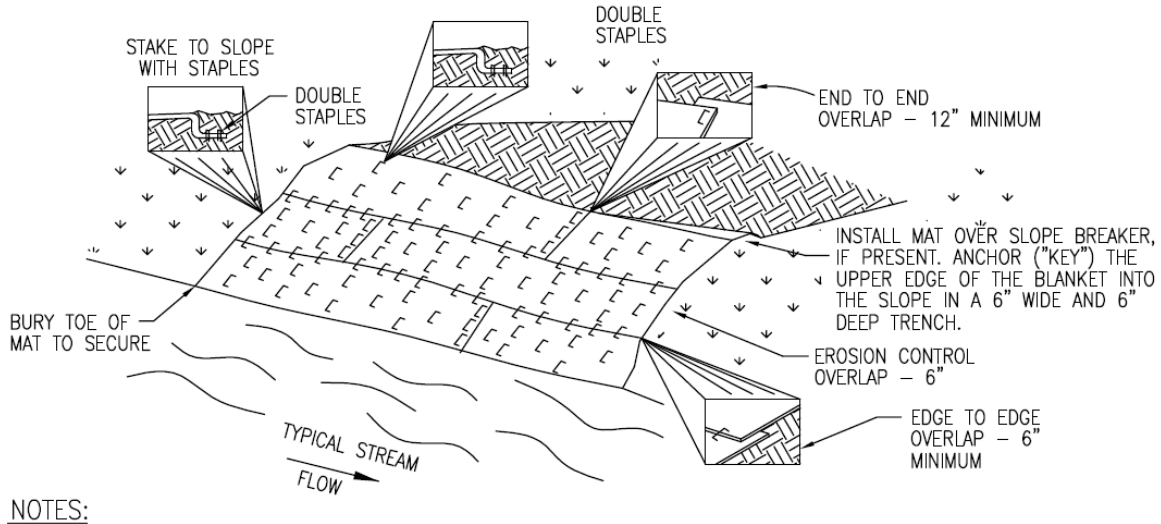
1. EROSION CONTROL MATTING (BLANKETS) SHALL BE USED AT THE FOLLOWING LOCATIONS:
   - ALL SLOPES 40% OR GREATER.
   - AS DIRECTED BY THE BLM AUTHORIZED OFFICER OF FIELD REPRESENTATIVE.
2. THE EROSION CONTROL MAT SHALL BE MADE OF BIODEGRADABLE NATURAL FIBER OR AN APPROVED EQUIVALENT. EROSION CONTROL MATS SHALL BE FURNISHED IN CONTINUOUS ROLLS OF 30' OR GREATER WITH A MINIMUM WIDTH OF 4'.
3. THE EROSION CONTROL MAT SHALL BE BON TERRA CS2 OR NORTH AMERICAN GREEN SC150 OR SC150BN OR AN APPROVED EQUIVALENT WITH THESE SPECIFICATIONS:
   - 70% STRAW AND 30% COCONUT (COIR) FABRIC.
   - WEIGHT OF 0.5 LBS/YD².
   - UNDERLAIN WITH PHOTODEGRADABLE PLASTIC NETTING OR NATURAL FIBER NET AND OVERLAIN WITH UV STABILIZED PLASTIC NETTING OR NATURAL FIBER NET.
4. STAPLES SHALL BE MADE OF 11 GAUGE WIRE, U–SHAPED WITH 8" LEGS AND A 2" CROWN AND SHALL BE DRIVEN INTO THE GROUND FOR THE FULL LENGTH OF THE STAPLE LEGS. LONGER STAPLES MAY BE REQUIRED IN LOOSE OR SANDY SOILS.
5. MATTING SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR AS STATED BELOW:
   - THE TOP OF THE BLANKET SHALL EXTEND 3' PAST THE UPPER EDGE OF THE SLOPE.
   - ANCHOR ("KEY") THE UPPER EDGE OF THE BLANKET INTO THE SLOPE IN A 6" WIDE BY 6" DEEP TRENCH. BLANKET ROLL SHALL BE ON UPHILL SIDE OF TRENCH. DOUBLE STAPLE EVERY 12" BEFORE BACKFILLING AND COMPACTING TRENCH.
   - BRING MAT ROLL BACK OVER THE TOP OF THE TRENCH AND CONTINUE TO ROLL DOWN SLOPE. STAPLE EVERY 12" WHERE MAT EXITS THE TRENCH AT TOP OF SLOPE.
   - THE EDGES OF PARALLEL BLANKETS SHALL BE OVERLAPPED A MINIMUM OF 6" AND STAPLED EVERY 12" THE LENGTH OF THE EDGE.
   - WHEN BLANKETS ARE SPLICED DOWN SLOPE TO ADJOINING MATS, THE UPPER BLANKET SHALL BE PLACED OVER THE LOWER MAT (SHINGLE STYLE) WITH APPROXIMATELY 12" OF OVERLAP. STAPLE THROUGH THE OVERLAPPED AREA EVERY 12".
   - STAPLE DOWN THE CENTER OF THE BLANKET(S). TWO STAPLES IN EVERY SQUARE YARD.
   - STAPLE ACROSS THE BOTTOM OF THE EROSION CONTROL MATTING EVERY 12".
6. THE EROSION CONTROL MATTING SHALL MAKE UNIFORM CONTACT WITH THE SOIL UNDERNEATH. WITH NO BRIDGING OF RILLS OR GULLIES.
7. MONITOR FOR WASHOUTS, STAPLE INTEGRITY OF MAT MOVEMENT, PRIOR TO COMPLETION OF CONSTRUCTION, REPLACE OR REPAIR AS NECESSARY.

REVISIONS					
NO.	DATE	DESCRIPTION	BY	CHKD.	APPR.

TRIGON EPC
ENGINEERING • PROCUREMENT • CONSTRUCTION

TYPICAL EROSION CONTROL MATTING SLOPES

DATE: 10/14/04		APPROVED BY: –
SCALE: N.T.S.	CST–P–1000–XXX3	SH. 1 OF 1



NOTES:

1. EROSION CONTROL MATTING (BLANKETS) SHALL BE USED AT THE BANKS OF ALL WATERBODIES WITH SLOPES 40% OR GREATER.
2. THE TYPE OF EROSION CONTROL MAT SHALL BE MADE OF BIODEGRADABLE NATURAL FIBER. EROSION CONTROL MATS SHALL BE FURNISHED IN CONTINUOUS ROLLS OF 30' OR GREATER WITH A MINIMUM WIDTH OF 4'.
3. THE EROSION CONTROL MAT SHALL BE BON TERRA CF7 OR NORTH AMERICAN GREEN SC125BN OR AN APPROVED EQUIVALENT WITH THESE SPECIFICATIONS:
   - 100% WOVEN COCONUT (COIR) FABRIC.
   - WEIGHT OF 1.2 LBS/YD^2.
   - 50% OPEN AREA.
4. STAPLES SHALL BE MADE OF 11 GAUGE WIRE, U–SHAPED WITH 8" LEGS AND A 2" CROWN AND SHALL BE DRIVEN INTO THE GROUND FOR THE FULL LENGTH OF THE STAPLE LEGS. LONGER STAPLES MAY BE REQUIRED IN LOOSE OR SANDY SOILS.
5. MATTING SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR AS STATED BELOW:
   - THE TOP OF THE BLANKET SHALL EXTEND 2' PAST THE UPPER EDGE OF THE ORDINARY HIGH WATER MARK. IF A SLOPE BREAKER IS PRESENT ON THE APPROACH SLOPE, THE BLANKET SHALL EXTEND OVER THE CREST AND THE TROPH OF THE SLOPE BREAKER.
   - INSTALL BLANKET(S) ACROSS THE SLOPE IN THE DIRECTION OF WATER FLOW.
   - ANCHOR ("KEY") THE UPPER EDGE OF THE BLANKET INTO THE SLOPE IN A 6" WIDE BY 6" DEEP TRENCH. DOUBLE STAPLE EVERY 12" BEFORE BACKFILLING AND COMPACTING TRENCH.
   - ANCHOR ("KEY") THE UPPER EDGE OF THE BLANKET INTO THE SLOPE IN A 6" WIDE BY 6" DEEP TRENCH. DOUBLE STAPLE EVERY 12" BEFORE BACKFILLING AND COMPACTING TRENCH.
   - THE EDGES OF PARALLEL BLANKETS SHALL BE OVERLAPPED A MINIMUM OF 6" AND STAPLED EVERY 12" THE LENGTH OF THE EDGE.
   - WHEN BLANKET ENDS, THE UPSTREAM BLANKET SHALL BE PLACED OVER THE DOWNSTREAM BLANKET (SHINGLE STYLE) WITH AT LEAST 12" OF OVERLAP. STAPLE THROUGH THE OVERLAPPED AREA EVERY 12".
   - STAPLE DOWN THE CENTER OF THE BLANKET(S). WITH THREE STAPLES IN EVERY SQUARE YARD.
   - STAPLE ACROSS THE BOTTOM OF THE EROSION CONTROL MATTING EVERY 12".
6. THE EROSION CONTROL MATTING SHALL MAKE UNIFORM CONTACT WITH THE SOIL UNDERNEATH WITH NO BRIDGING OF RILLS OR GULLIES.
7. MONITOR FOR WASHOUTS, STAPLE INTEGRITY OR MAT MOVEMENT PRIOR TO COMPLETION OF CONSTRUCTION. REPLACE OR REPAIR AS NECESSARY.

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TYPICAL EROSION CONTROL MATTING STREAMBANKS

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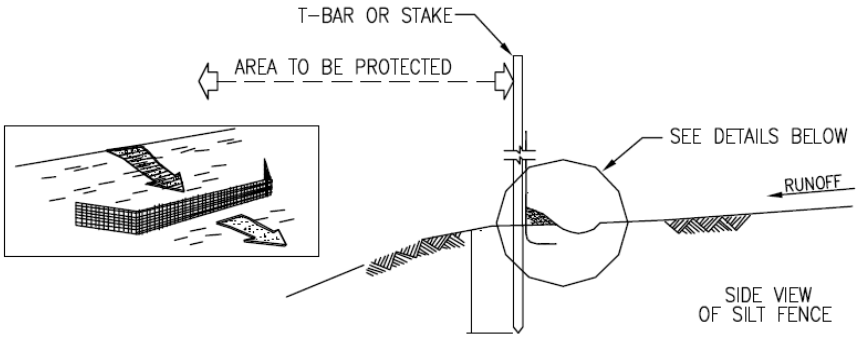

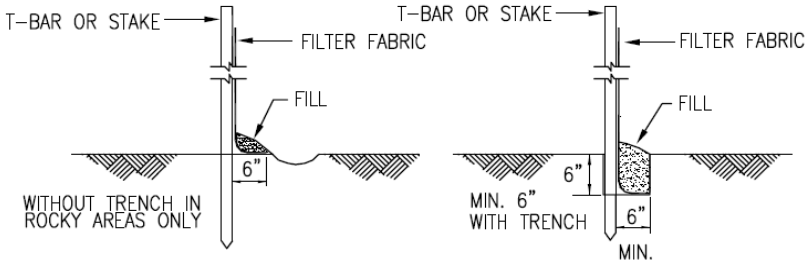

NOTES:

1. SILT FENCE WILL BE UTILIZED AT:
   - THE BASE OF ALL SLOPES ABOVE ROADS, WETLANDS, AND WATERBODIES.
   - THE DOWNSLOPE RIGHT-OF-WAY EDGE WHERE ANY OF THE ABOVE MENTIONED LOCATIONS ARE ADJACENT TO THE RIGHT-OF-WAY.
   - BETWEEN TOPSOIL/SPOIL STOCKPILES AND WATERBODIES OR WETLANDS, AS NEEDED.
   - ALONG R.O.W. BOUNDARIES OF WETLAND CONSTRUCTION, AS NEEDED.
   - AS DIRECTED BY THE COMPANY REPRESENTATIVE.
2. THE SILT FENCE SHALL BE CONSTRUCTED AS FOLLOWS:
   - FABRIC USED FOR THE SILT FENCE SHALL BE A "STANDARD STRENGTH" GEOTEXTILE, SUCH AS MIRAFI 100X OR AN APPROVED EQUIVALENT.
   - THE FABRIC SHALL BE CUT FROM A CONTINUOUS FABRIC ROLL.
   - THE HEIGHT OF THE FENCE SHALL NOT EXCEED 36".
   - SPLICES SHALL ONLY BE DONE AT POSTS AND SHALL CONSIST OF A MINIMUM OF 6" OF OVERLAP WITH BOTH ENDS SECURED TO THE POST.
   - POSTS SHALL BE POSITIONED A MAXIMUM OF 10' APART.
   - POSTS SHALL CONSIST OF 2"X2" WOODEN STAKES, OR EQUIVALENT, OF SUFFICIENT LENGTH TO EXTEND A MINIMUM OF 12" INTO THE GROUND.
   - FABRIC SHALL BE STAPLED OR WIRED TO POSTS A MAXIMUM OF EVERY 9".
3. THE SILT FENCE SHALL BE INSTALLED AS SPECIFIED BY THE MANUFACTURER OR AS FOLLOWS:
   - A TRENCH, 6" WIDE AND 6" DEEP, SHALL BE EXCAVATED ALONG THE CONTOUR. THE POST SHALL BE DRIVEN INTO THE BOTTOM OF THE TRENCH ON THE DOWNSTREAM SIDE OF THE FILTER FABRIC. THE TRENCH SHALL BE BACK FILLED AND COMPACTED, ENSURING 6" OF FENCE IS BURIED WITHIN THE TRENCH.
   - IN AREAS WHERE THE TERRAIN IS TOO ROCKY FOR TRENCHING, A 6" GROUND FLAP WITH ROCK FILL TO HOLD IT IN PLACE SHALL BE USED.

DRAWING DEPICTED IS SUPERSEDED BY WRITTEN STANDARD, SCOPE OF WORK OR LINE LIST.

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TYPICAL SILT FENCE SEDIMENT BARRIER
EROSION CONTROL

DATE: 10/14/04		APPROVED BY: –
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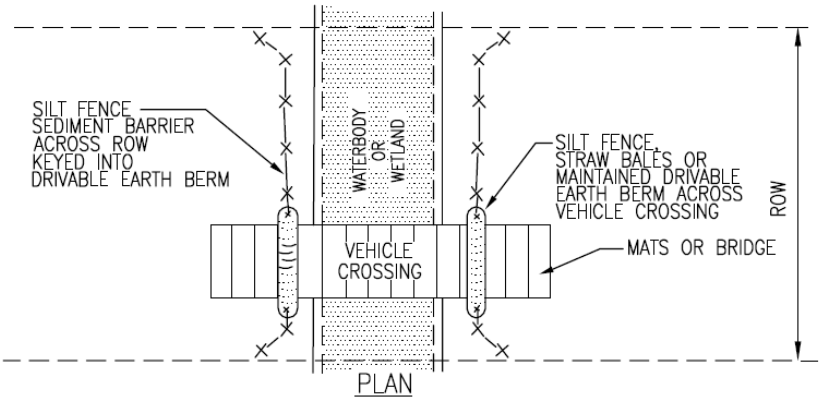
NOTES:

- SILT FENCES PLACED AT THE TOE OF A SLOPE SHALL BE SET AT LEAST 6' DOWN GRADIENT FROM THE TOE OF THE SLOPE (WHERE POSSIBLE) IN ORDER TO INCREASE PONDING.
- SILT FENCES PLACED AT THE BASE OF SPOIL OR TOPSOIL STOCKPILES SHALL EXTEND AROUND THE BASE OF THE PILES IN ORDER TO CONTAIN ANY SEDIMENTS AND/OR PREVENT FLOW-AROUND.
- WHEN INSTALLING SILT FENCES IN DRAINAGES, EXTEND THE FENCE UP THE CHANNEL BANKS AND TURN BOTH ENDS AT A SLIGHT ANGLE TOWARDS THE CENTER OF THE RIGHT-OF-WAY.
- UPON THE REQUEST OF THE COMPANY'S REPRESENTATIVE, STRAW BALE OR WIRE MESH SHALL BE USED IN CONJUNCTION WITH THE SILT FENCE. IF WIRE MESH IS USED, THE WIRE SHALL BE ATTACHED TO THE POSTS USING WIRE TIES OR HEAVY DUTY STAPLES PRIOR TO INSTALLATION OF THE FABRIC. THE WIRE SHALL BE "KEYED" INTO THE TRENCH AT LEAST 2" AND EXTEND UP THE POSTS TO THE TOP OF THE FABRIC.
- IF REQUIRED, A 15' GAP SHALL BE LEFT IN THE SILT FENCE TO ACCOMMODATE TRAFFIC ON TEMPORARY CONSTRUCTION ROADS. HOWEVER, A SECTION OF SILT FENCE OR A DRIVABLE EARTH BERM TIED INTO ADJACENT SILT FENCE SHALL BE USED TO CLOSE THE GAP AT THE END OF EACH DAY. THE SILT FENCE USED TO CLOSE THE GAP MUST OVERLAP THE ENDS OF THE PERMANENT SILT FENCE FOR A MINIMUM OF 24", AND SHALL BE "KEYED" INTO THE GROUND THE SAME AS THE FILTER FABRIC ON EITHER SIDE OF THE GAP.

4. SILT FENCES SHALL BE CHECKED AND MAINTAINED ON A REGULAR BASIS. THE DEPTH OF THE ANCHOR TRENCH SHALL BE ADJUSTED IF UNDERMINED. SHOULD INSPECTION REVEAL SEDIMENT LOADING AT OR NEAR 50% CAPACITY, THE SEDIMENT SHALL BE REMOVED AND PLACED IN AN AREA WHERE IT SHALL NOT REENTER THE SILT FENCE IMPOUNDMENT OR A WATERWAY.
5. SILT FENCE SHALL BE REMOVED ONLY AS DIRECTED BY THE COMPANY'S REPRESENTATIVE.
6. EROSION CONTROL STRUCTURES SHALL BE INSPECTED DAILY IN AREAS OF ACTIVE CONSTRUCTION. STRUCTURES SHALL BE INSPECTED WEEKLY AT INACTIVE CONSTRUCTION AREAS AND WITHIN 24 HOURS OF EACH 0.5 INCH RAINFALL EVENT. STRUCTURES SHALL BE REPAIRED AS NECESSARY.



DRIVABLE BERM NOTES:

1. A MAINTAINED DRIVABLE EARTH BERM MAY BE INSTALLED ACROSS THE VEHICLE CROSSING IN LIEU OF SILT FENCE OR STRAW BALES.
2. BERM MUST BE TIED INTO SILT FENCE.
3. BERM MUST BE MAINTAINED TO ENSURE SEDIMENT TRAPPING CAPACITY.

DRAWING DEPICTED IS SUPERSEDED BY WRITTEN STANDARD, SCOPE OF WORK OR LINE LIST.

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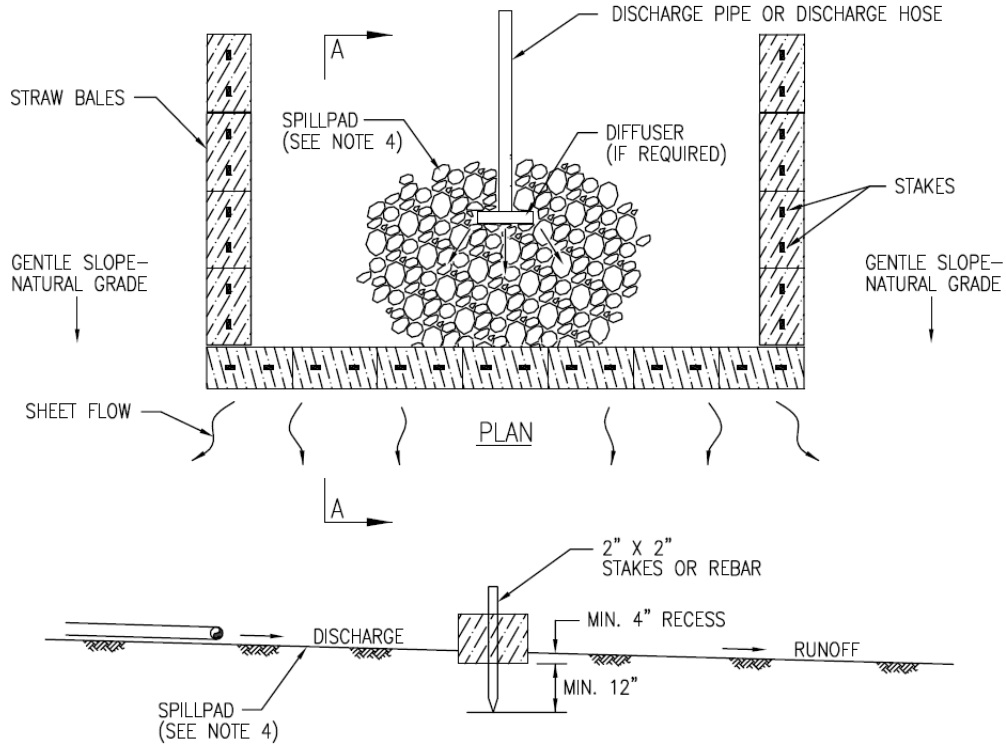
TYPICAL SILT FENCE SEDIMENT BARRIER EROSION CONTROL

DATE: 10/14/04		APPROVED BY: –
SCALE: N.T.S.	CST-P-1260-A180.2	SH. 2 OF 2



SECTION A–A

NOTES:

1. INSTALL A STRAW BALE DEWATERING STRUCTURE WHEREVER IT IS NECESSARY AND AS DIRECTED BY THE COMPANY REPRESENTATIVE TO PREVENT THE FLOW OF HEAVILY SILT LADEN WATER INTO WATERBODIES OR WETLANDS.
2. DISCHARGE SITE SHALL BE WELL VEGETATED AND THE TOPOGRAPHY OF THE SITE SUCH THAT WATER WILL FLOW INTO THE DEWATERING STRUCTURE AND AWAY FROM ANY WORK AREAS. THE AREA DOWN SLOPE FROM THE DEWATERING SITE MUST BE REASONABLY PLANE OR STABILIZED BY VEGETATION OR OTHER MEANS TO ALLOW THE FILTERED WATER TO CONTINUE AS SHEET FLOW.
3. ANCHOR STRAW BALES SECURELY IN PLACE WITH TWO WOODEN STAKES OR REBAR. ENTRENCH ("KEY") STRAW BALES INTO THE GROUND TO A DEPTH OF 4".
4. DIRECT THE PUMPED WATER ONTO A STABLE SPILL PAD CONSTRUCTED OF STRAW BALES, ROCK FILL, WEIGHTED TIMBERS, OR WOVEN GEOTEXTILE STAKED TO THE GROUND SURFACE (SUCH AS MIRAFI 600X, TERRAFIX 400W) OR AN APPROVED EQUIVALENT.
5. DISCHARGE RATES SHALL BE SUCH THAT WATER WILL NOT OVERFLOW THE TOP OF THE STRUCTURE.
6. MANUFACTURED FILTER BAGS ARE A SUITABLE ALTERNATIVE TO STRAW BALE STRUCTURES FOR TRENCH DEWATERING.
7. INSTALL AN ENERGY DISSIPATOR IF THE DISCHARGE VELOCITY IS ERODING THE SOILS.

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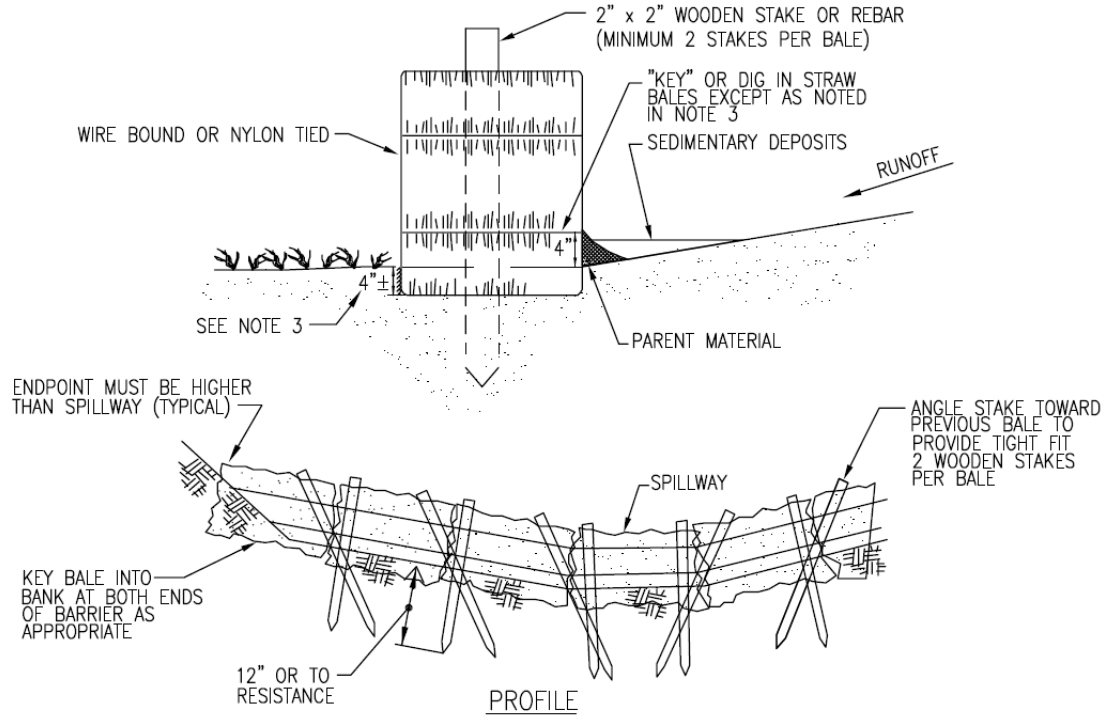
TYPICAL STRAW BARRIER
DEWATERING STRUCTURE

DATE: 10/14/04		APPROVED BY: –
SCALE: N.T.S.	CST–P–1000–XXX1	SH. 1 OF 1



NOTES:

1. STRAW BALE SEDIMENT BARRIERS SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS:
   - THE BASE OF ALL SLOPES ABOVE ROADS, WETLANDS, AND WATERBODIES.
   - THE DOWNSLOPE RIGHT-OF-WAY EDGE WHERE ANY OF THE ABOVE-MENTIONED LOCATIONS ARE ADJACENT TO THE RIGHT-OF-WAY.
   - BETWEEN TOPSOIL/SPOIL STOCKPILES AND WATERBODIES OR WETLANDS AS NEEDED.
   - ALONG R.O.W. BOUNDARIES IN WETLAND CONSTRUCTION.
   - AS DIRECTED BY THE COMPANY'S REPRESENTATIVE.
2. STRAW BALE SEDIMENT BARRIERS SHALL CONSIST OF A ROW OF STRAW BALES, PLACED ON THE FIBER-CUT EDGE (TIES NOT IN CONTACT WITH THE GROUND). BALES SHALL BE TIGHTLY ABUTTED TO ONE ANOTHER. THE BARRIER SHALL BE ONE BALE HIGH. ONLY CERTIFIED "NOXIOUS WEED-FREE" STRAW SHALL BE USED.
3. ENTRENCH ("KEY") STRAW BALES INTO THE GROUND TO A DEPTH OF 4" EXCEPT IN FROZEN, SATURATED, OR EXTREMELY ROCKY SOILS. PLACE PARENT MATERIAL ON UPSTREAM SIDE OF STRAW BALES TO PREVENT UNDERMINING.
4. WALK ON STRAW BALES TO INSURE ADEQUATE BALE-TO-SOIL CONTACT.
5. ANCHOR STRAW BALES SECURELY IN PLACE WITH TWO WOODEN OR STEEL REBAR STAKES DRIVEN THROUGH THE TOPS OF THE BALES. THE STAKES SHALL PENETRATE THE GROUND A DISTANCE OF 12" UNLESS ROCK OR AN IMPERMEABLE LAYER IS ENCOUNTERED:
   - THE FIRST, CENTER AND END BALES OF THE BARRIER SHALL HAVE STAKES DRIVEN VERTICALLY THROUGH THE BALE.
   - BALES, OTHER THAN THOSE LOCATED AT THE ENDS OR CENTER OF THE BARRIER, SHALL HAVE THE FIRST STAKE DRIVEN THROUGH THE TOP OF THE BALE AT AN ANGLE SO THAT THE STAKE PASSES THROUGH THE PREVIOUSLY PLACED BALE, IN ORDER TO PROVIDE TIGHT CONTACT BETWEEN BALES. THE SECOND STAKE SHALL BE DRIVEN VERTICALLY THROUGH THE TOP OF THE BALE.

DRAWING DEPICTED IS SUPERSEDED BY WRITTEN STANDARD, SCOPE OF WORK OR LINE LIST.

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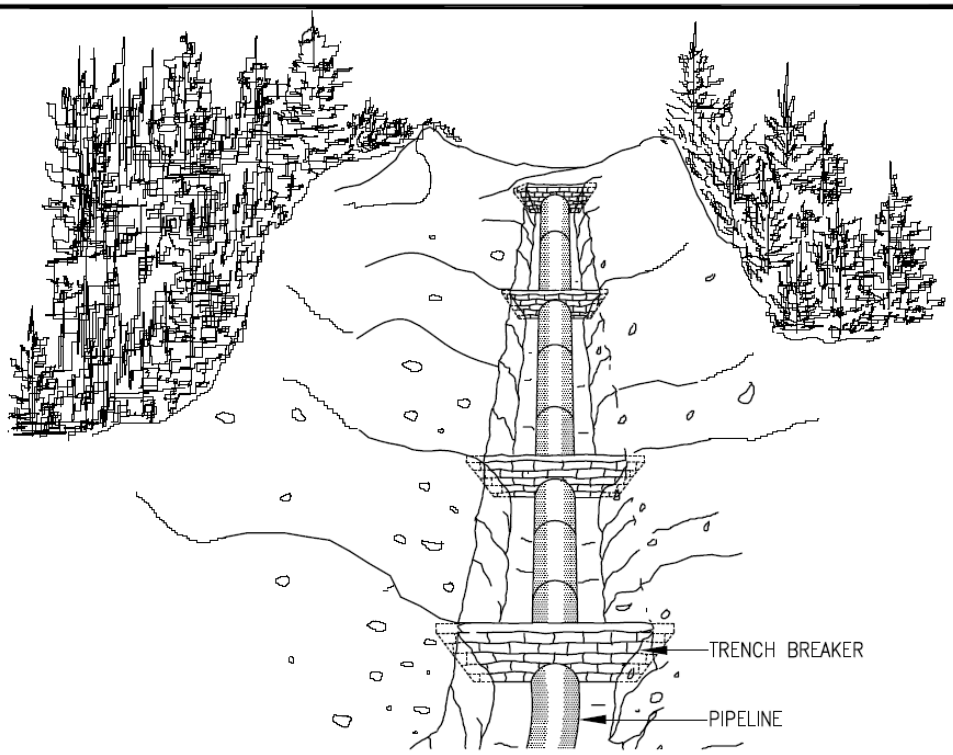
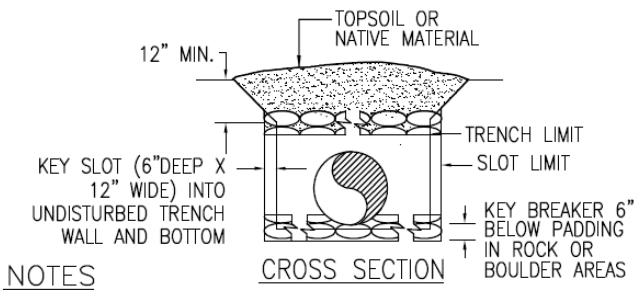
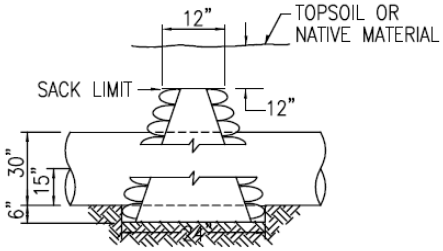
TYPICAL STRAW BALE SEDIMENT BARRIER
EROSION CONTROL

DATE: 10/14/04		APPROVED BY: –
SCALE: N.T.S.	CST-P-1260-A190.1	SH. 1 OF 1





CROSS SECTION



SIDE VIEW

NOTES

1. TRENCH BREAKERS SHALL BE INSTALLED:
   - ON SLOPES ALONG THE TRENCH LINE WHERE THE NATURAL DRAINAGE PATTERN, PROFILE, AND TYPE OF BACKFILL MATERIAL MAY RESULT IN LOSS OF BACKFILL MATERIAL OR ALTERATION OF THE NATURAL PATTERN;
   - AT THE BASE OF SLOPES ADJACENT TO WATERBODIES AND WETLANDS;
   - WHERE NEEDED TO AVOID DRAINING A WETLAND;
   - ON UPLAND SLOPES, AT THE SAME SPACING AS SLOPE BREAKERS AND UP SLOPE OF SLOPE BREAKERS;
2. OPEN WEAVE HEMP OR JUTE SACKS SHALL BE FILLED WITH SAND OR SUBSOIL. POLYURETHANE FOAM MAY BE USED WHEN APPROVED BY COMPANY REPRESENTATIVE.
3. BREAKER SPACING AND CONFIGURATION MAY BE CHANGED AS DIRECTED BY COMPANY. DEPTH OF DITCH MAY VARY WITH SITE CONDITIONS.
4. ALL MATERIALS SHALL BE SUPPLIED BY CONTRACTOR.

DRAWING DEPICTED IS SUPERSEDED BY WRITTEN STANDARD, SCOPE OF WORK OR LINE LIST.

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TYPICAL TRENCH BREAKER

DATE: 10/14/04		APPROVED BY: –
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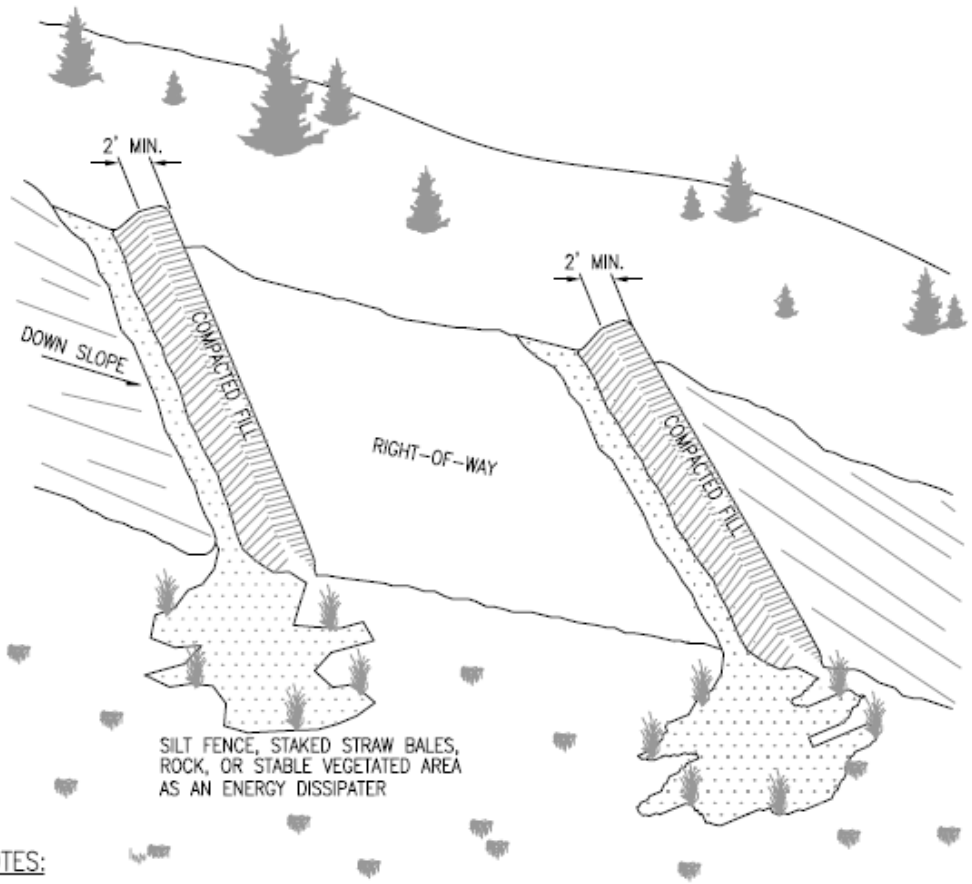

NOTES:

1. WATERBARS SHALL BE CONSTRUCTED OF COMPACTED NATIVE SOIL. TEMPORARY WATERBAR SPACING WILL BE DETERMINED BASED ON SITE-SPECIFIC CONDITIONS AS DETERMINED BY THE COMPANY REPRESENTATIVE. PERMANENT WATERBARS WILL TYPICALLY BE INSTALLED AT THE FOLLOWING SPACING:

% SLOPE	SPACING (FEET)
0-2	120 FT
2-5	100 FT
5-10	75 FT
10-20	50 FT
20+	30 FT

2. WATERBARS SHALL BE 18" DEEP (AS MEASURED FROM THE TROUGH TO THE TOP OF THE WATERBAR).
4. THE OUTLET OF THE WATERBAR MUST FREELY DISCHARGE ALL RUNOFF OFF THE DISTURBED R.O.W. INTO A STABLE, WELL VEGETATED AREA OR INTO AN ENERGY DISSIPATOR.
5. WATERBARS SHALL EXTEND SLIGHTLY BEYOND ARE EDGE OF THE CONSTRUCTION RIGHT-OF-WAY TO DIRECT RUNOFF INTO STABLE, WELL-VEGETATED AREAS.

DRAWING DEPICTED IS SUPERSEDED BY WRITTEN STANDARD, SCOPE OF WORK OR LINE LIST.

REVISIONS

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TYPICAL WATERBARS

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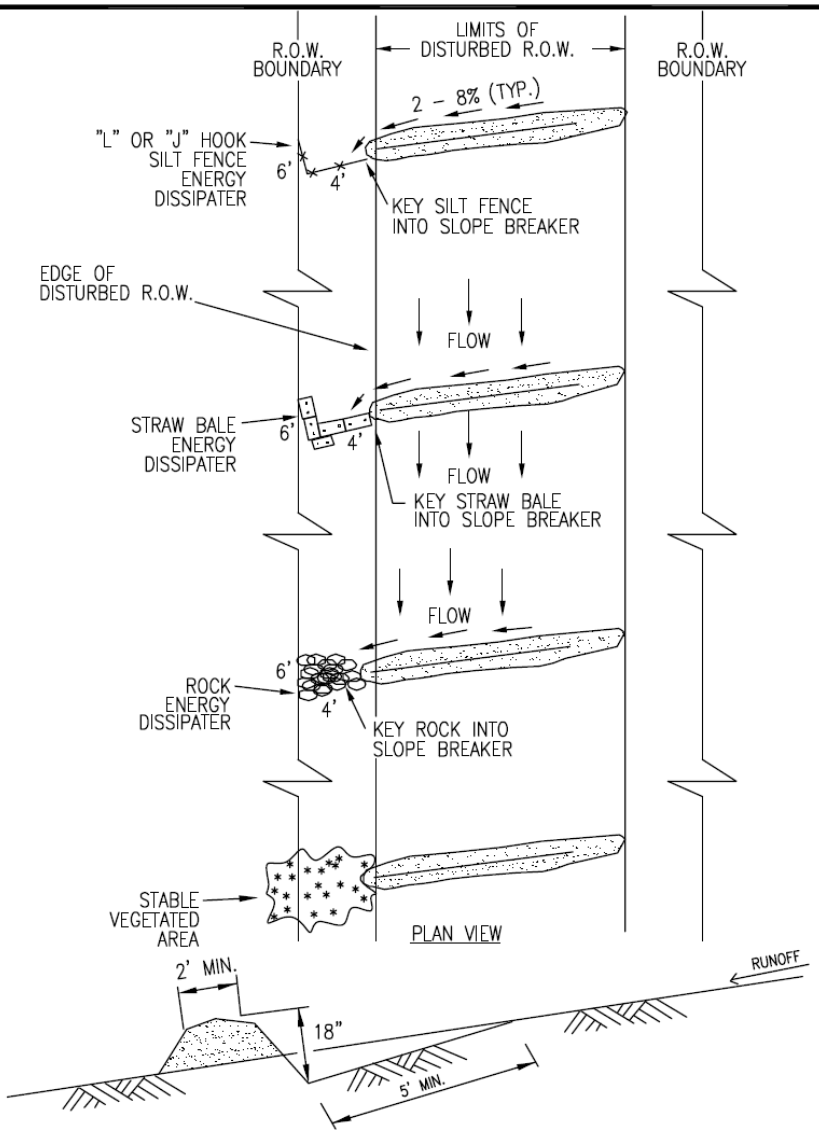

WATERBAR CROSS SECTION DETAIL

NOTES:

1. THE OUTLET SHALL CONTAIN AN ENERGY DISSIPATOR IF THE COMPANY REPRESENTATIVE DETERMINES EXISTING VEGETATION IS NOT SUFFICIENTLY STABLE TO PREVENT EROSION. THE ENERGY DISSIPATOR SHALL BE CONSTRUCTED AS FOLLOWS:
   - OUTFALL END OF THE DISSIPATOR SHOULD BE LOWER THAN WATERBAR END;
   - SILT FENCE, STRAW BALE OR ROCK DISSIPATORS SHOULD BE KEYED INTO THE END OF THE WATERBAR;
   - PROVIDE ENOUGH AREA INSIDE "L" TO CAPTURE AND HOLD SEDIMENT.

DRAWING DEPICTED IS SUPERSEDED BY WRITTEN STANDARD, SCOPE OF WORK OR LINE LIST.

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TYPICAL WATERBARS

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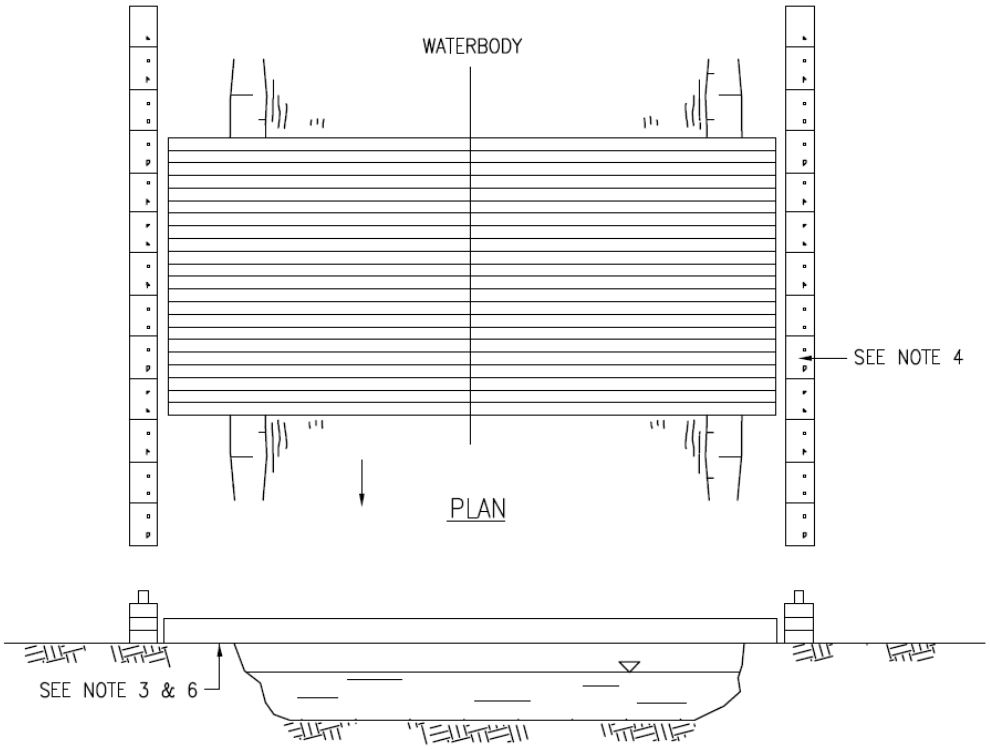

NOTES:

1. THIS TYPE OF BRIDGE IS GENERALLY USED ON NARROW CROSSINGS, LESS THAN 20 FEET WIDE WITH APPROPRIATE BANK CONFIGURATION. MULTIPLE MATS MAY BE LAYERED FOR HEAVIER EQUIPMENT CROSSINGS.
2. BRIDGE SHOULD BE TEMPORARILY REMOVED IF HIGH WATER RENDERS IT UNSAFE TO USE.
3. IF REQUIRED, UTILIZE APPROACH FILLS OF CLEAN ROCK MATERIAL, TIMBER MATS, SKIDS OR OTHER SUITABLE MATERIALS TO AVOID CUTTING THE BANKS WHEREVER FEASIBLE. ENSURE ADEQUATE FREEBOARD. AS REQUIRED, ENSURE THAT FILL MATERIAL IF USED DOES NOT SPILL INTO WATERCOURSE INCLUDING REMOVAL OF DIRT FROM DECK DURING OPERATION. CLEAN ROCK MATERIAL WILL NOT BE USED FOR APPROACH FILLS IN WETLANDS.
4. CONSTRUCT SEDIMENT BARRIERS ACROSS THE ENTIRE CONSTRUCTION R.O.W. TO PREVENT SILT LADEN WATER AND SPOIL FROM FLOWING BACK INTO WATERBODY. BARRIERS MAY BE TEMPORARILY REMOVED TO ALLOW CONSTRUCTION ACTIVITIES BUT MUST BE REPLACED BY THE END OF EACH WORK DAY. SILT FENCE, STRAW BALES, SANDBAGS OR DRIVABLE BERMS MAY BE USED INTERCHANGEABLY.
5. REMOVE BRIDGES AS SOON AS POSSIBLE AFTER PERMANENT SEEDING UNLESS OTHERWISE DIRECTED BY COMPANY REPRESENTATIVE. THE STRUCTURE IS TO BE REMOVED IF THERE IS MORE THAN ONE MONTH BETWEEN FINAL GRADING AND SEEDING, AND ALTERNATIVE ACCESS TO THE CONSTRUCTION R.O.W. IS AVAILABLE.
6. DISPOSE OF ANY ROCK AS DIRECTED BY COMPANY REPRESENTATIVE.
7. RESTORE AND STABILIZE BED AND BANKS TO APPROXIMATE PRE-CONSTRUCTION CONDITIONS.

DRAWING DEPICTED IS SUPERSEDED BY WRITTEN STANDARD, SCOPE OF WORK OR LINE LIST.

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TYPICAL TIMBER MAT
WATERBODY BRIDGE

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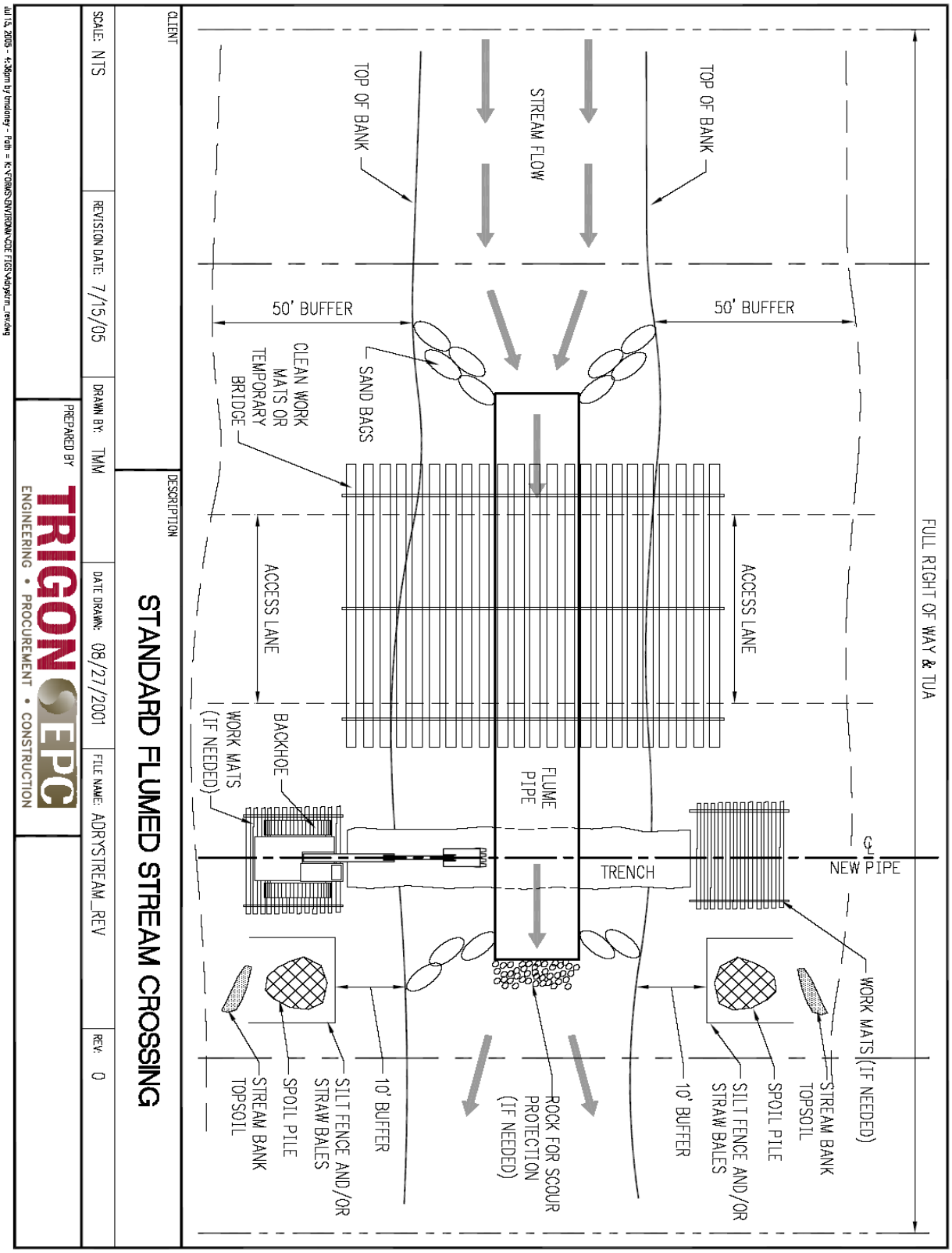
FULL RIGHT OF WAY & TUA
TOP OF BANK
STREAM FLOW
TOP OF BANK
50' BUFFER
50' BUFFER
CLEAN WORK MATS OR TEMPORARY BRIDGE
SAND BAGS
ACCESS LANE
ACCESS LANE
WORK MATS (IF NEEDED)
BACKHOE
FLUME PIPE
TRENCH
NEW PIPE
STREAM BANK TOPSOIL
SPOIL PILE
SILT FENCE AND/OR STRAW BALES
10' BUFFER
ROCK FOR SCOUR PROTECTION (IF NEEDED)
10' BUFFER
SILT FENCE AND/OR STRAW BALES
SPOIL PILE
STREAM BANK TOPSOIL
CLIENT
DESCRIPTION
STANDARD FLUMED STREAM CROSSING
SCALE: NTS
REVISION DATE: 7/15/05
DRAWN BY: TMM
DATE DRAWN: 08/27/2001
FILE NAME: ADRYSTREAM_REV
REV: 0
PREPARED BY
TRIGON EPC
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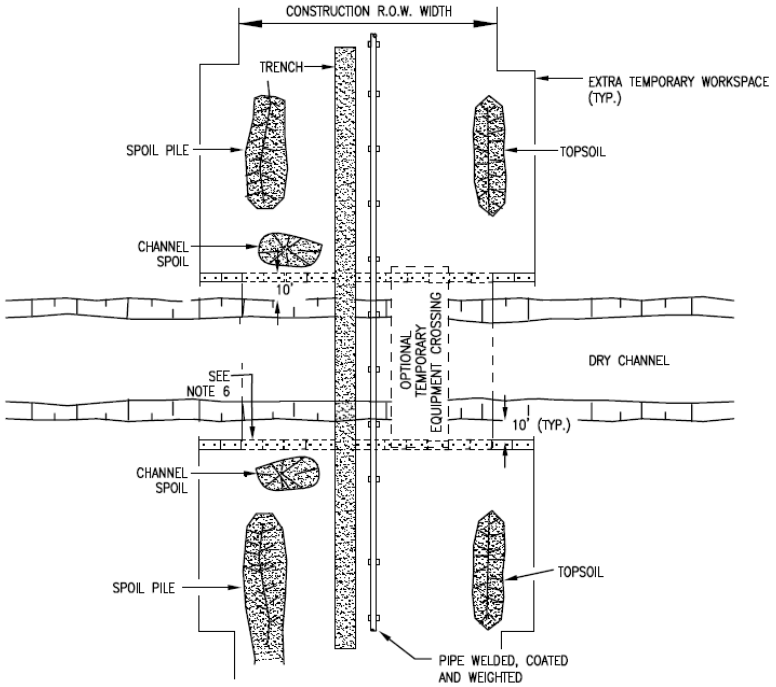
Jul 15, 2005 - 4:36pm by tmadorney - Path = K:\PROJECTS\ENVIRONMENTAL\CAD FILES\Adrystrm_rev.dwg



PLAN VIEW

NOTES:

1. METHOD APPLIES TO CROSSINGS WHERE NO FLOWING WATER IS PRESENT AT THE TIME OF CROSSING.
2. CONTRACTOR MAY "MAINLINE THROUGH" THE CROSSING OR UP TO BOTH SIDES OF THE CROSSING; STRING, WELD, COAT, AND WEIGHT (IF NECESSARY), USING THE MAINLINE CREW WITH THE PIPE SKIDDED OVER THE CROSSING.
3. NO REFUELING OF MOBILE EQUIPMENT WITHIN 200 FEET OF DRY CHANNEL. REFUEL STATIONARY EQUIPMENT AS PER THE HAZARDOUS MATERIALS MANAGEMENT AND SPCCC PLAN.
4. IF A TEMPORARY EQUIPMENT CROSSING IS INSTALLED, IT MUST BE BUILT IN ACCORD WITH APPLICABLE DRAWINGS.
5. IN AGRICULTURAL LAND, STRIP TOPSOIL FROM SPOIL STORAGE AREA. TOPSOIL AND SUBSOIL WILL BE STOCKPILED OUTSIDE THE CHANNEL.
6. IF NECESSARY, CONSTRUCT SEDIMENT BARRIERS ACROSS THE ENTIRE CONSTRUCTION R.O.W. FOLLOWING CLEARING AND GRADING AND MAINTAIN UNTIL CONSTRUCTION OF THE CROSSING. EROSION CONTROL MEASURES SHALL BE REINSTALLED IMMEDIATELY FOLLOWING BACKFILLING OF TRENCH AND STABILIZATION OF BANKS. BARRIERS MAY BE TEMPORARILY REMOVED TO ALLOW CONSTRUCTION ACTIVITIES BUT MUST BE REPLACED BY THE END OF EACH WORK DAY.
7. IN-STREAM SPOIL TO BE STOCKPILED OUTSIDE OF THE CHANNEL.
8. BACKFILL WITH NATIVE MATERIAL.
9. RESTORE CROSSING CHANNEL TO APPROXIMATE PRE-CONSTRUCTION PROFILE AND SUBSTRATE.
10. RESTORE CROSSING BANKS TO APPROXIMATE ORIGINAL CONDITION AND STABILIZE, AS REQUIRED.
11. ALL DIMENSIONS INDICATED SHALL BE DETERMINED BY ACTUAL CONSTRUCTION CONDITIONS.

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TYPICAL NON-FLOWING WATERBODY CROSSING OPEN CUT TRENCH

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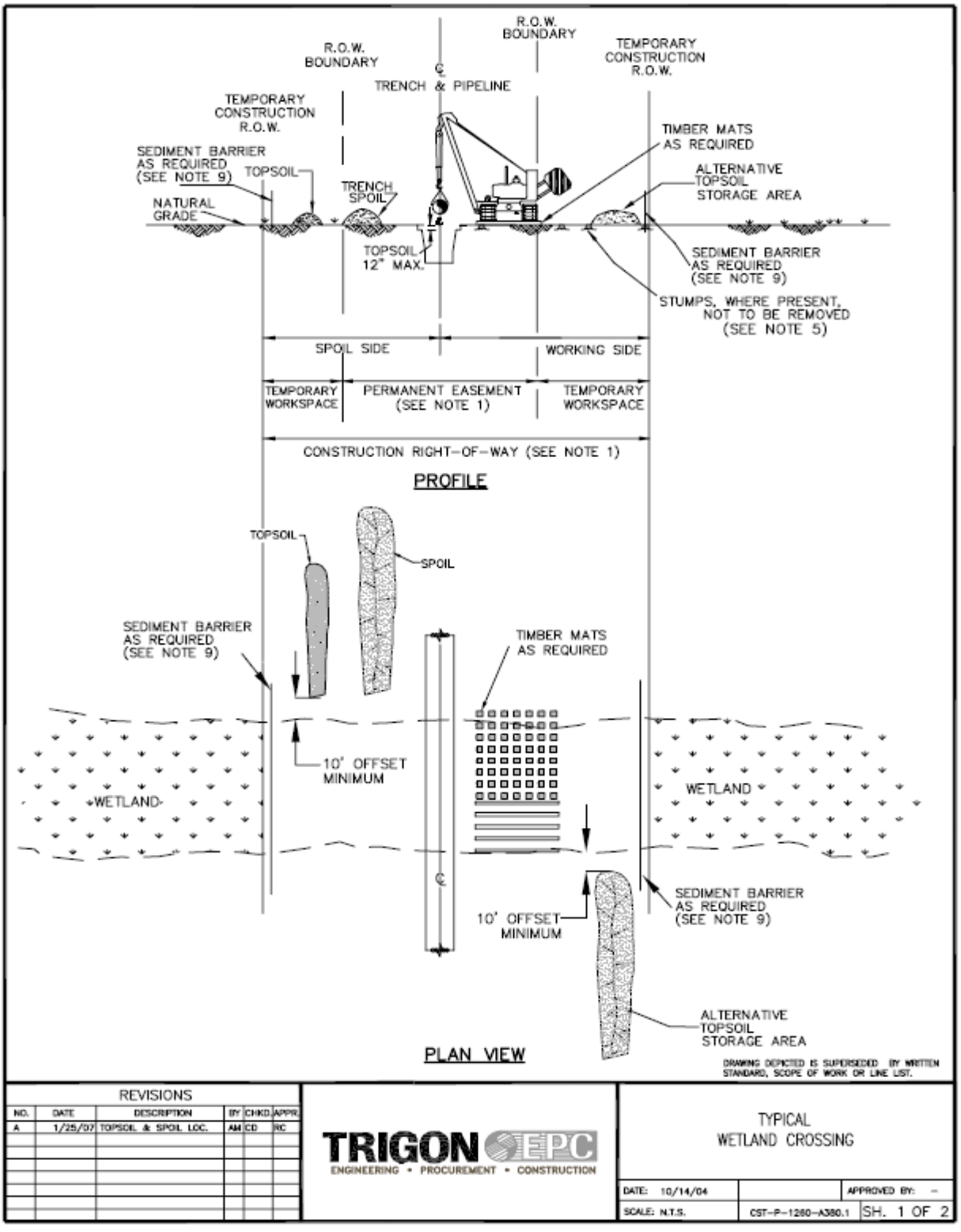
R.O.W. BOUNDARY
R.O.W. BOUNDARY
TEMPORARY CONSTRUCTION R.O.W.
℄ TRENCH & PIPELINE
TEMPORARY CONSTRUCTION R.O.W.
TIMBER MATS AS REQUIRED
SEDIMENT BARRIER AS REQUIRED (SEE NOTE 9)
TOPSOIL
TRENCH SPOIL
ALTERNATIVE TOPSOIL STORAGE AREA
NATURAL GRADE
TOPSOIL 12" MAX.
SEDIMENT BARRIER AS REQUIRED (SEE NOTE 9)
STUMPS, WHERE PRESENT, NOT TO BE REMOVED (SEE NOTE 5)
SPOIL SIDE
WORKING SIDE
TEMPORARY WORKSPACE
PERMANENT EASEMENT (SEE NOTE 1)
TEMPORARY WORKSPACE
CONSTRUCTION RIGHT-OF-WAY (SEE NOTE 1)
PROFILE
TOPSOIL
SPOIL
SEDIMENT BARRIER AS REQUIRED (SEE NOTE 9)
TIMBER MATS AS REQUIRED
10' OFFSET MINIMUM
WETLAND
WETLAND
SEDIMENT BARRIER AS REQUIRED (SEE NOTE 9)
10' OFFSET MINIMUM
ALTERNATIVE TOPSOIL STORAGE AREA
PLAN VIEW
DRAWING DEPICTED IS SUPERSEDED BY WRITTEN STANDARD, SCOPE OF WORK OR LINE LIST.
REVISIONS
NO. DATE DESCRIPTION BY CHKD APPR.
A 1/25/07 TOPSOIL & SPOIL LOC. AM CD RC
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TYPICAL WETLAND CROSSING
DATE: 10/14/04
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CST-P-1260-A380.1
SH. 1 OF 2

NOTES:

1. CONSTRUCTION RIGHT–OF–WAY WIDTHS WILL VARY.
2. THE SAME LAYOUT APPLIES WHETHER CONSTRUCTION R.O.W. DOES OR DOES NOT ABUT A FOREIGN R.O.W.
3. LOCATE ANY TEMPORARY USE AREAS OUTSIDE OF WETLAND.
4. CLEARING OF VEGETATION AND TREES IS PROHIBITED BETWEEN TEMPORARY USE AREA AND THE EDGE OF THE WETLAND.
5. CUT VEGETATION AND TREES OFF AT GROUND LEVEL, LEAVING EXISTING ROOT SYSTEMS IN PLACE WHEREVER PRACTICABLE, AND REMOVE CUTTINGS FROM THE WETLAND FOR DISPOSAL.
6. LIMIT CONSTRUCTION EQUIPMENT TO ONE PASS THROUGH WETLANDS TO THE EXTENT PRACTICABLE.
7. NO REFUELING OF EQUIPMENT WITHIN 200 FEET OF WETLAND EXCEPT IN ACCORDANCE WITH THE HAZARDOUS MATERIALS MANAGEMENT AND SPCCC PLAN.
8. IF SATURATED AT TIME OF CONSTRUCTION, CONSTRUCTION EQUIPMENT WILL OPERATE FROM TIMBER MATS.
9. AVOID ADJACENT WETLANDS. INSTALL SEDIMENT BARRIERS IMMEDIATELY AFTER INITIAL GROUND DISTURBANCE AND AT THE EDGE OF THE CONSTRUCTION R.O.W. ALONG THE WETLAND AS DIRECTED BY THE COMPANY'S REPRESENTATIVE.
10. THIS DRAWING REFLECTS "TRENCH ONLY" TOPSOIL STRIPPING METHOD.
11. SALVAGE UP TO 12" OF TOPSOIL OVER TRENCH. MAINTAIN SEPARATION BETWEEN TOPSOIL AND TRENCH SPOIL.
12. LEAVE GAPS IN TOPSOIL AND SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT USE TOPSOIL FOR PADDING. AVOID SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING SPOIL PILE.
13. IN UNSATURATED CONDITIONS, SPOIL MAY BE USED TO STABILIZE THE WORKING SIDE.
14. IF SATURATED AT TIME OF CONSTRUCTION, LEAVE HARD PLUGS AT THE EDGE OF WETLAND UNTIL JUST PRIOR TO TRENCHING.
15. TRENCH THROUGH WETLANDS.
16. LOWER–IN PIPE, INSTALL TRENCH BREAKERS AT WETLAND EDGES AS DIRECTED BY THE COMPANY'S REPRESENTATIVE TO PREVENT DRAINAGE. BACKFILL UPON COMPLETION OF CONSTRUCTION.
17. REMOVE ALL TIMBER, RIPRAP OR EQUIPMENT MATS FROM WETLANDS UPON COMPLETION OF CONSTRUCTION.
18. RESTORE GRADE TO NEAR PRE–CONSTRUCTION TOPOGRAPHY AND REPLACE TOPSOIL, WHERE SALVAGED, WITHOUT A CROWN OVER THE TRENCH.
19. TOPSOIL AND TRENCH SPOIL RELATIVE POSITIONS CAN, AS DIRECTED BY THE COMPANY'S REPRESENTATIVE, BE REVERSED.

DRAWING DEPICTED IS SUPERSEDED BY WRITTEN STANDARD, SCOPE OF WORK OR LINE LIST.

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TYPICAL
WETLAND CROSSING

DATE: 10/14/04		APPROVED BY: –
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ATTACHMENT 2—WATERBODIES AND WETLANDS

List will be provided following wetland delineation and report.

ATTACHMENT 3—RECLAMATION MONITORING FORM

RECLAMATION CHECKLIST															
For the week ending:															
Last precipitation event / amount:															
Reclamation success was evaluated weekly in the year following construction and twice yearly thereafter. Areas that required additional effort were documented in the Daily Environmental Report for the day that Reclamation Survey was conducted.															
Mile-post	**Station Range**		**Feature (e.g., wash, slope, access road)**	**Construction Status**			**Reclamation Measure**								**Comments**
	Begin	**End**		**Active**	**Inactive**	**Complete**	**% ROW similar to off-ROW**	**New Noxious Weed Pop.?**	**Expanded Noxious Weed Pop.?**	**Dominant Herb. Sp. ROW**	**Perceptible Soil Movement?**	**Evidence of trench subsidence?**	**Depth of any Gullies**	**Irrigated field flow satisfactory?**	

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ATTACHMENT 4—SEED MIX

All seed must be certified weed-free.

Habitat type	Elevation	Species	lbs/acre (PLS)	% of Mixture
P/J Woodland	6-7,000	Galleta	3	16
		Western wheatgrass	4	20
		Great Basin wildrye	3	16
		Indian ricegrass	3	16
		Sandberg bluegrass	3	16
		Bottlebrush squireltail	3	16
		Total	19	100
Mountain Shrub	7-8,000	Mountain bromegrass	4	20
		Prairie junegrass	3	15
		Western wheatgrass	4	20
		Indian ricegrass	3	15
		Sandberg bluegrass	3	15
		Bluebunch wheatgrass	3	15
		Total	20	100
Aspen/Spruce-Fir	8-9,500	Mountain bromegrass	5	26
		Slender wheatgrass	3	16
		Thickspike wheatgrass	3	16
		Canby bluegrass	3	16
		Blue wildrye	5	26
		Total	19	100

Temporary Revegetation	Elevation	Species	Lbs/acre (PLS)
Regreen (brand name)	All	Tall wheatgrass/ winter wheatgrass	20 lbs/acre
Pioneer (brand name)	All	Tritacale/winter wheatgrass	20 lbs/acre

Possible seed sources:
Arkansas Valley Seed Solutions 877-957-3337; 4625 Colorado Blvd, Denver, CO 80216
Pawnee Butte Seed Co. 970-356-7002; P.O. Box 1604, Greeley, CO 80632
Sharp Bros, Seed Co. 800-421-4234 104 East 4th Street Road Greeley, Colorado 80631

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ATTACHMENT 4—STORMWATER MANAGEMENT PLAN

Insert plan on following page.