NAVAJO GALLUP WATER SUPPLY PROJECT

REACH 24.1 JAN

REACH 24.1 TURNOUT TO JICARILLA APACHE INDIAN RESERVATION BORDER, NM

STORM WATER POLLUTION PREVENTION PLAN

Stormwater Pollution Prevention Plan (SWPPP)

For Linear Construction Activities At:

Project 1394
Counselor, (Navajo Nation) New Mexico
Construction of approximately 3.0 miles of 10-inch PVC water transmission line with a surge tank and a flow control/meter vault with appurtenances; within the territory of the Counselor Chapter of the Navajo Nation.

SWPPP Prepared For:

OWNER

NAVAJO NATION –DIVISION OF NATURAL RESOURCES

DWR/WATER MANAGEMENT BRANCH

P.O. Box Drawer 678

Fort Defiance, Arizona 86504

928-729-4004

and

Souder, Miller & Associates

3451 Candelaria Rd. NE, Suite D

Albuquerque, NM 87107

505-299-0942

SWPPP Prepared By:

Contractor

NAVAJO ENGINEERING AND CONSTRUCTION AUTHORITY
P.O. BOX 969
SHIPROCK, NEW MEXICO 87420
505-368-5151

SWPPP Preparation Date:
January 2018

Estimated Project Dates:
Project Start Date: February 2018
Project Completion Date: December 2018

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SECTION 1: CONTACT INFORMATION/RESPONSIBLE PARTIES

1.1 Operator / Subcontractors

Operator:

NAVAJO ENGINEERING AND CONSTRUCTION AUTHORITY:
Post Office Box 969
Shiprock, New Mexico 87420
505-368-5151

Subcontractors:

Company or Organization Name: **Attached listing**

Emergency 24-Hour Contact:

NAVAJO ENGINEERING AND CONSTRUCTION AUTHORITY:
505-368-5151/505-368-3041 (NECA Base 5 Security)

1.2 Stormwater Team

CONTRACTOR:

Navajo Engineering and Construction Authority

Construction Operations Manager: **Frank Smith**
NECA OFFICE: 505-368-3028
Mobile #: **970-759-3961**
Frank-Smith@navajo.net

Project Superintendent: **Gene Laughlin**
NECA OFFICE: 505-368-5151
Mobile #: **505-406-2419**
Gene@navajo.net

Project Engineer: **Arron Barton**
NECA OFFICE: **505-368-3077**
Arron@navajo.net

Environmental Field Officer: **Lee B. Roy**
NECA OFFICE: 505-368-3025
Mobile #: **928-502-1180**
Lee@navajo.net

CPESC-IT: ECM: James Redhorse
NECA OFFICE: 505-368-3023
Mobile #: **505-406-6922**

OWNER:
The Navajo Nation
Division of Natural Resources
DWR – Water Management Branch
DWR Office: **928-729-4004**
Principal Hydrologist/Branch Manager: Jason John
jasonjohn@navajo-nsn.gov

Resident Project Representative:
Souder, Miller & Associates
3451 Candelaria Rd. NE, Suite D
Albuquerque, NM 87107
SMA Office: **505-299-0942**
Engineer: Andrew Robertson
Office; 505-264-1488
andrew.robertson@soudermiller.com

SECTION 2: SITE EVALUATION, ASSESSMENT, AND PLANNING

2.1 Project/Site Information

Project Name and Address

Project/Site Name: 1394 NAVAJO GALLUP WATER SUPPLY, REACHES 24.1
Project Street/Location: B.O.P.: 0.26 mile southeast from the intersection of Navajo Route 45 and 474.

City: Counselor

State: New Mexico

ZIP Code: 87018

County or Similar Subdivision: Sandoval

Project Latitude/Longitude

Latitude:
36.1533° N (decimal)

Longitude:
-107.4583° W (decimal)

Method for determining latitude/longitude:
☐ USGS topographic map (specify scale: _____) ☐ EPA Web site ☒ GPS
☐ Other (please specify):

Horizontal Reference Datum:
☐ NAD 27 ☒ NAD 83 or WGS 84 ☐ Unknown

If using a U.S.G.S topographic map, what was the scale? _____

Additional Project Information

Is the project/site located on Indian country lands, or located on a property of religious or cultural significance to an Indian tribe? ☒ Yes ☐ No

If yes, provide the name of the Indian tribe associated with the area of Indian country (including the name of Indian reservation if applicable), or if not in Indian country, provide the Indian tribe associated with the property: NAVAJO NATION: NN Trust Lands

If NECA are conducting earth-disturbing activities in response to a public emergency. Document information substantiating its occurrence and a description of the construction necessary to reestablish effective public services: NO

Is NECA applying for permit coverage as a "federal operator" as defined in Appendix A of the 2017 CGP? ☒ Yes ☐ No

2.2 *Discharge Information*

Does NECA/SMA project/site discharge stormwater into a Municipal Separate Storm Sewer System (MS4)? ☐ Yes ☒ No

Are there any surface waters that are located within 50 feet of your construction disturbances?
☐ Yes ☒ No

	Is this surface water listed as "impaired"?	If you answered yes, then answer the following:			
		What pollutant(s) are causing the impairment?	Has a TMDL been completed?	Title of the TMDL document	Pollutant(s) for which there is a TMDL
1.	☐ YES ☒ NO		☐ YES ☐ NO		

Table 1 – Names of Receiving Waters

Name of the first surface water that receives stormwater directly from your site. (note: multiple rows provided where your site has more than one point of discharge that flows to different surface waters)
1. Carrizo Creek

Table 2 – Impaired Waters / TMDLs

None

Describe the method used to determine whether or not the project/site discharges to an impaired water: Information from NNEPA.

Table 3 – Tier 2, 2.5, or 3 Waters (Answer the following for each surface water listed in Table 1 above)

	Is this surface water designated as a Tier 2, Tier 2.5, or Tier 3 water? (see Appendix F)	If you answered yes, specify which Tier (2, 2.5, or 3) the surface water is designated as?
1.	☐ YES ☒ NO	

2.3 *Nature of the Construction Activity*

General Description of Project

Provide a general description of the construction project:

Construction of approximately 3.0 miles of 10-inch PVC water transmission line with a surge tank and a flow control/meter vault with appurtenances.

Size of Construction Project

What is the size of the property (in acres), the total area expected to be disturbed by the construction activities (in acres), and the maximum area expected to be disturbed at any one time?

SIZE OF PROPERTY: **36.36 acres**
TOTAL AREA OF CONSTRUCTION DISTURBANCES: **14.55 acres**
MAXIMUM AREA TO BE DISTURBED AT ANY ONE TIME: **10.0 acres**

2.4 *Sequence and Estimated Dates of Construction Activities*

Phase I: Installation of Temporary Erosion Control Measures (TECM).

Phase II: Continue with TECM during soil disturbing activities including removal of existing structures, clearing, installation of drainage structures, sub-grade stabilization, excavation, grading, backfilling, final grading. If areas along the waterline are complete then final stabilization can commence.

Phase III: Preparation for the installation of permanent erosion control measures and seeding for the areas of construction disturbance.

2.5 *Allowable Non-Stormwater Discharges*

List of Allowable Non-Stormwater Discharges Present at the Site

Type of Allowable Non-Stormwater Discharge	Likely to be Present at Your Site?
Discharges from emergency fire-fighting activities	☐ YES ☒ NO
Fire hydrant flushing	☐ YES ☒ NO
Landscape irrigation	☐ YES ☒ NO
Waters used to wash vehicles and equipment	☒ YES ☐ NO
Water used to control dust	☒ YES ☐ NO
Potable water including uncontaminated water line flushing	☒ YES ☐ NO
Routine external building wash down	☐ YES ☒ NO
Pavement wash waters	☒ YES ☐ NO
Uncontaminated air conditioning or compressor condensate	☐ YES ☒ NO
Uncontaminated, non-turbid discharges of ground water or spring water	☐ YES ☒ NO
Foundation or footing drains	☐ YES ☒ NO
Construction dewatering water	☒ YES ☐ NO

2.6 ***Site Map:***

SECTION 3: DOCUMENTATION OF COMPLIANCE WITH OTHER FEDERAL REQUIREMENTS

3.1 Endangered Species Protection

Eligibility Criterion

Under which criterion listed in Appendix D are you eligible for coverage under this permit?

☒ **A** ☐ **B** ☐ **C** ☐ **D** ☐ **E**

For reference purposes, the eligibility criteria listed in Appendix D are as follows:

Criterion A. No federally-listed threatened or endangered species or their designated critical habitat(s) are likely to occur in your site's "action area" as defined in Appendix A of this permit.

Criterion B. The construction site's discharges and discharge-related activities were already addressed in another operator's valid certification of eligibility for your action area under eligibility Criterion A, C, D, E, or F and there is no reason to believe that federally-listed species or federally-designated critical habitat not considered in the prior certification may be present or located in the "action area". To certify your eligibility under this Criterion, there must be no lapse of NPDES permit coverage in the other operator's certification. By certifying eligibility under this Criterion, you agree to comply with any effluent limitations or conditions upon which the other operator's certification was based. You must include in your NOI the tracking number from the other operator's notification of authorization under this permit. If your certification is based on another operator's certification under Criterion C, you must provide EPA with the relevant supporting information required of existing dischargers in Criterion C in your NOI form.

Criterion C. Federally-listed threatened or endangered species or their designated critical habitat(s) are likely to occur in or near your site's "action area," and your site's discharges and discharge-related activities are not likely to adversely affect listed threatened or endangered species or critical habitat. This determination may include consideration of any stormwater controls and/or management practices you will adopt to ensure that your discharges and discharge-related activities are not likely to adversely affect listed species and critical habitat. To make this certification, you must include the following in your NOI: 1) any federally listed species and/or designated habitat located in your "action area"; and 2) the distance between your site and the listed species or designated critical habitat (in miles). You must also include a copy of your site map with your NOI.

Criterion D. Coordination between you and the Services has been concluded. The coordination must have addressed the effects of your site's discharges and discharge-related activities on federally listed threatened or endangered species and federally designated critical habitat, and must have resulted in a written concurrence from the relevant Service(s) that your site's discharges and discharge-related activities are not likely to adversely affect listed species or critical habitat. You must include copies of the correspondence between yourself and the Services in your SWPPP and your NOI.

Criterion E. Consultation between a Federal Agency and the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service under section 7 of the ESA has been concluded. The consultation must have addressed the effects of the construction site's discharges and discharge-related activities on federally listed threatened or endangered species and federally designated critical habitat. The result of this consultation must be either:

i. a biological opinion that concludes that the action in question (taking into account the effects of your site's discharges and discharge-related activities) is not likely to jeopardize the continued existence of listed species, nor the destruction or adverse modification of critical habitat; or

ii. written concurrence from the applicable Service(s) with a finding that the site's discharges and discharge-related activities are not likely to adversely affect federally listed species or federally designated habitat.

You must include copies of the correspondence between yourself and the Services in your SWPPP and your NOI.

Criterion F. Your construction activities are authorized through the issuance of a permit under section 10 of the ESA, and this authorization addresses the effects of the site's discharges and discharge-related activities on federally listed species and federally designated critical habitat. You must include copies of the correspondence between yourself and the Services in your SWPPP and your NOI.

Supporting Documentation

a. **FINAL ENVIRONMENTAL ASSESSMENT: U,S DEPARTMENT OF RECLAMATION, Reaches 24.1,24.1 JAN and 25 of the Navajo-Gallup Water Supply Project(FEIS-NGWSP; Reclamation 2009)**
b. **CULTURAL RESOURCE SURVEY NGWSP; NMCRIS No. 122467; Souder, Miller & Associates**

For criterion A, indicate the basis for NECA's determination that no federally listed threatened or endangered species or their designated critical habitat(s) are likely to occur in your site's action area (as defined in Appendix A of the permit). Check the applicable source of information you relied upon:

☐ Specific communication with staff of the U.S. Fish & Wildlife Service or National Marine Fisheries Service N/A

☐ Publicly available species list. N/A

☒ Other source: **NAVAJO NATION DEPARTMENT OF FISH AND WILDLIFE**

3.2 Historic Preservation

Appendix E, Step 1

Does NECA/SMA plan to install any of the following stormwater controls at your site? ☒ YES ☐ NO

Check all that apply below, and proceed to Appendix E, Step 2.

- ☒ Dike
- ☒ Berm
- ☐ Catch Basin
- ☐ Pond
- ☒ Stormwater Conveyance Channel (e.g., ditch, trench, perimeter drain, swale, etc.)
- ☒ Culvert
- ☒ Other type of ground-disturbing stormwater control:

Appendix E, Step 2

If NECA/SMA answered yes in Step 1, have prior surveys or evaluations conducted on the site already determined that historic properties do not exist, or that prior disturbances at the site have precluded the existence of historic properties? ☒ YES ☐ NO ☐ N/A

Appendix E, Step 3

If NECA/SMA answered no in Step 2, have you determined that your installation of subsurface earth-disturbing stormwater controls will have no effect on historic properties? ☒ YES ☐ NO

3.3 Safe Drinking Water Act Underground Injection Control Requirements

Does NECA/SMA plan to install any of the following controls? ☐ YES ☒ NO
Check all that apply below.

- ☐ Infiltration trenches (if stormwater is directed to any bored, drilled, driven shaft or dug hole that is deeper than its widest surface dimension, or has a subsurface fluid distribution system)
- ☐ Commercially manufactured pre-cast or pre-built proprietary subsurface detention vaults, chambers, or other devices designed to capture and infiltrate stormwater flow
- ☐ Drywells, seepage pits, or improved sinkholes (if stormwater is directed to any bored, drilled, driven shaft or dug hole that is deeper than its widest surface dimension, or has a subsurface fluid distribution system)

SECTION 4: EROSION AND SEDIMENT CONTROLS

4.1 Natural Buffers or Equivalent Sediment Controls

Buffer Compliance Alternatives

Are there any surface waters within 50 feet of your project's earth disturbances? ☐ YES ☒ NO
(Note: If no, no further documentation is required for the SWPPP.)

Check the compliance alternative that you have chosen:

☐ NECA will provide and maintain a 50-foot undisturbed natural buffer.
☐ NECA qualify for one of the exceptions in Part 2.1.2.1.e. (If you have checked this box, provide information on the applicable buffer exception that applies, below.)

Buffer Exceptions

Which of the following exceptions to the buffer requirements applies to your site?

☐ There is no discharge of stormwater to the surface water that is located 50 feet from my construction disturbances.

4.2 Perimeter Controls

Specific Perimeter Controls with CGP Part 2.1.2.2a.

Perimeter Control Description

- BMP wattles, Sandbags, Brush berms, etc.
- Linear perimeter controls: uncompact ROW berms, left and right.
  Install sediment controls along those perimeter areas of the site that will receive storm water from earth disturbing activities.
  For linear projects with rights-of-way that restrict or prevent the use of such perimeter controls, maximize the use of these controls, where practicable and document in project SWPPP and also state why it is impracticable in other areas of the project.

- Attached copies (Erosion Control details plan drawing) to SWPPP.

Maintenance Requirements

Before it has accumulated to one-half of the above-ground height of any perimeter control.

Installation: After 01/2018

4.3 Sediment Track-Out

General
Where sediment has been tracked-out from your site onto the surface of off-site streets, other paved areas, NECA must remove the deposited sediment by the end of the same workday in which the track-out occurs or by the end of the next workday if track-out occurs on a non-work day.

Specific Track-Out Controls

Track-Out Control Description

- Existing cattle guard on NR 474 at: 36.1595,-107.4522.
- Existing cattle guard on NR 474/US 550 at: 36.2084,-107.4566.

Installation
- After 01/2018.

Maintenance Requirements
- NECA must remove the track-out by sweeping, shoveling these surfaces, or by using other similarly effective means of sediment removal. NECA is prohibited from hosing or sweeping tracked-out sediment into any stormwater conveyance (unless it is connected to a sediment basin, sediment trap, or similarly effective control), storm drain inlet, or surface water.

4.4 Stockpiled Sediment or Soil

General
- Stockpile management as per the CGP 2017.

Specific Stockpile Controls

Stockpiled Sediment/Soil Control Description
- Wattles or Dirt berms
- Attached to SWPPP

Installation
- After 01/2018

Maintenance Requirements

(Note: At a minimum, NECA must comply with following requirement in CGP Part 2.1.2.4.d: Do not hose down or sweep soil or sediment accumulated on pavement or other impervious surfaces into any stormwater conveyance (unless connected to a sediment basin, sediment trap, or similarly effective control), storm drain inlet, or surface water.)

4.5 Minimize Dust

General

- Water

Specific Dust Controls

Dust Control Description
- Water truck to spray any dust problems.

Installation
- After 01/2018

Maintenance Requirements
As needed per field inspections and monthly inspections.

4.6 Minimize the Disturbance of Steep Slopes

General

Specific Steep Slope Controls

Steep Slope Control Description

The permit does not prevent or prohibit disturbance on steep slopes. For some projects, disturbance on steep slopes may be necessary for construction (e.g., a road cut in mountainous terrain). If a disturbance to steep slopes is required for the project, EPA would recognize that it is not economically achievable to avoid the disturbance to steep slopes.
However, in cases where steep slope disturbances are required, minimizing the disturbances to steep slopes consistent with this requirement can be accomplished through the implementation of a number of standard erosion and sediment control practices, such as by phasing disturbances to these areas and using stabilization practices designed to be used on steep grades.

4.7 Topsoil

NECA must preserve native topsoil on your site, unless infeasible. Stockpiling of topsoil at off-site locations, or transfer of topsoil to other locations, is an example of a practice that is consistent with the requirements in this Part.

4.8 Soil Compaction

General
In areas of the site where final vegetative stabilization will occur or where infiltration practices will be installed, NECA/SMA must either:

a. **Restrict vehicle / equipment use.** Restrict vehicle and equipment use in these locations to avoid soil compaction; **or**

b. **Use soil-conditioning techniques.** Prior to seeding or planting areas of exposed soil that have been compacted, use techniques that condition the soils to support vegetative growth, if necessary and feasible.

4.9 Storm Drain Inlets

General
Storm drain inlet that carries stormwater flow from the site directly to a surface water (and it is not first directed to a sediment basin, sediment trap, or similarly effective control), and have authority to access the storm drain inlet, NECA must:

Specific Storm Drain Inlet Controls

-Storm Drain Inlet Control Description
Install inlet protection measures that remove sediment from the site discharge prior to entry into the storm drain inlet.

> Note: Inlet protection measures can be removed in the event of flood conditions or to prevent erosion.

Installation
- After 01/2018

Maintenance Requirements
Clean, or remove and replace, the protection measures as sediment accumulates, the filter becomes clogged, and/or performance is compromised. Where there is evidence of sediment accumulation adjacent to the inlet protection measure, NECA must remove the deposited sediment by the end of the same workday in which it is found or by the end of the following workday if removal by the same workday is not feasible.

4.10 Constructed Stormwater Conveyance Channels

Specific Conveyance Channel Controls

Design stormwater conveyance channels to avoid unstabilized areas on the site and to reduce erosion,unless infeasible. Minimize erosion of channels and their embankments, outlets, adjacent streambanks, slopes, and downstream waters during discharge conditions using erosion controls and velocity dissipation devices within and along the length of any constructed stormwater conveyance channel, and at any outlet to provide a non-erosive flow velocity.

4.11 Sediment Basins

General

Inlet protection measures include fabric filters, sandbags, concrete blocks, and gravel barriers.

Specific Sediment Basin Controls

Sediment Basin Control Description

Velocity dissipation devices include check dams, sediment traps, riprap, or grouted riprap at outlets.

Installation

Sediment basins must be situated outside of surface waters and any natural buffers established under Part 2.1.2.1a, and must be designed to avoid collecting water from wetlands.

Maintenance Requirements

At a minimum, NECA must comply with following requirement in CGP Part 2.1.3.2.b: "Keep in effective operating condition and remove accumulated sediment to maintain at least ½ of the design capacity of the sediment basin at all times.

4.12 Chemical Treatment

N/A

4.13 Dewatering Practices

General

Discharging ground water or accumulated stormwater that is removed from excavations, trenches, foundations, vaults, or other similar points of accumulation, unless such waters are first effectively managed by appropriate controls.[11] Uncontaminated, non-turbid dewatering water can be discharged without being routed to a control.

Specific Dewatering Practices

Do not discharge visible floating solids or foam;

Use an oil-water separator or suitable filtration device (such as a cartridge filter) that is designed to remove oil, grease, or other products if dewatering water is found to contain these materials;

To the extent feasible, utilize vegetated, upland areas of the site to infiltrate dewatering water before discharge. In no case will surface waters be considered part of the treatment area;

At all points where dewatering water is discharged, comply with the velocity dissipation requirements of Part 2.1.3.1;

With backwash water, either haul it away for disposal or return it to the beginning of the treatment process; and

Replace and clean the filter media used in dewatering devices when the pressure differential equals or exceeds the manufacturer's specifications.

> Note: At a minimum, NECA must comply with following requirement in CGP Part 2.1.3.4: "With backwash water, either haul it away for disposal or return it to the beginning of the treatment process; and replace and clean the filter media used in dewatering devices when the pressure differential equals or exceeds the manufacturer's specifications.

4.14 Other Stormwater Controls

N/A

4.15 Site Stabilization

Site Stabilization Practice (only use this if you are located in an arid, semi-arid, or drought-stricken area)
☐ *Vegetative* ☐ *Non-Vegetative*
☒ *Temporary* ☐ *Permanent*

Description of Practice

The use of wattles, sandbags and silt-fence as needed on the clearing and grubbing area. Must initiate soil stabilization measures immediately whenever earth-disturbing activities have permanently or temporarily ceased on any portion of the site.

Installation

Appropriate controls include, but are not limited to, sediment basins or sediment traps, sediment socks, dewatering tanks, tube settlers, weir tanks, or filtration systems (e.g., bag or sand filters) that are designed to remove sediment.

APPROXIMATE DATE OF INSTALLATION: after January 2018
APPROXIMATE COMPLETION DATE: December 31, 2018

Maintenance Requirements

The 14-calendar day timeframe above begins counting as soon as you know that construction work on a portion of your site will be temporarily ceased. In circumstances where you experience unplanned or unanticipated delays in construction due to circumstances beyond your control (e.g., sudden work stoppage due to unanticipated problems associated with construction labor, funding, or other issues related to the ability to work on the site; weather conditions rendering the site unsuitable for the continuation of construction work) and you do not know at first how long the work stoppage will continue,) your requirement to immediately initiate stabilization is triggered as soon as you know with reasonable certainty that work will be stopped for 14 or more additional calendar days. At that point, you must comply with Parts 2.2.1.1 and 2.2.1.2.

SECTION 5: POLLUTION PREVENTION STANDARDS

5.1 Potential Sources of Pollution

Construction Site Pollutants
Required to comply with the pollution prevention standards of 40 CFR 112 in this SWPPP. Listed are the following activities at the site or at any construction support activity areas covered by this permit (see Part 1.3.c):

- Fueling and maintenance of equipment or vehicles;
- Washing of equipment and vehicles;
- Storage, handling, and disposal of construction materials, products, and wastes;
- Washing of applicators and containers used for paint, concrete, or other materials.

The materials or substances listed below are expected to be present, but not limited to, on-site storage during construction:

- Asphalt
- Cleaning Solvents
- Concrete
- Concrete Masonry Units and Grout
- Diesel and/or Petroleum Products
- Fertilizers
- Metal Building Material
- Paint
- Plastic PVC Pipe
- Seed Mix
- Straw Bales/ Temporary Erosion Control Products
- Wood Building Materials

5.2 Spill Prevention and Response

- Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite. Equipment and materials will include but are not limited to shovels, brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, absorbent pads and booms, and plastic and metal trash containers specifically for this purpose.
- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.

- Spills of toxic or hazardous material will be reported to the appropriate State, Tribal, Federal or local government agency.
- ***When any major spills or leaks occur, the Contractor shall also be required to immediately notify :***
  - ***a. Mr. Harrison Nez, Regional BIA Safety Manager: Ofc.: 505-863-8316, cell: 505-879-8333***
  - ***b. Mr. Byron Smith, NECA Safety Officer: 505-406-6963***
  - ***c. Mr. Lee B. Roy, Environmental Field Officer: 928-205-1180***
  - ***d. Navajo Nation EPA RCRA Office: 928-871-7994,***
  - ***e. SMA Resident Project Representative***
- The SPCC will be adjusted to include measures to prevent this type of spill from reoccurring and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures will also be included.

The **NECA** Project Superintendent or will be the **spill prevention and cleanup**. The **coordinator** will designate **at least three** other site personnel who will receive SPCC training. These individuals will each become responsible for a particular phase of prevention and cleanup. The names of responsible SPCC personnel will be posted in the material storage area and/or in the office trailer onsite.

5.3 Fueling and Maintenance of Equipment or Vehicles

General

All onsite vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers, which are clearly labeled. Any asphalt substances used onsite will be applied according to the manufacture's recommendations. Secondary containment will be provided for any stored petroleum products along with a spill kit for cleanup. Spill cleanup training shall be part of the SWP3 training. All petroleum products at the site will be secured by locking valves or storage within a secure structure. If the volumes of petroleum products **are greater** than **1,320** gallons or **660** gallons in one container, a Spill Prevention Controls and Countermeasure Plan (SPCC) will be made available onsite.

Specific Pollution Prevention Practices

a. If applicable, comply with the Spill Prevention Control and Countermeasures (SPCC) requirements in 40 CFR 112 and Section 311 of the CWA;

b. Ensure adequate supplies are available at all times to handle spills, leaks, and disposal of used liquids;

c. Use drip pans and absorbents under or around leaky vehicles;

d. Dispose of or recycle oil and oily wastes in accordance with other federal, state, tribal, or local requirements;

e. Clean up spills or contaminated surfaces immediately, using dry clean-up measures where possible, and eliminate the source of the spill to prevent a discharge or a furtherance of an ongoing discharge; and,

f. Do not clean surfaces by hosing the area down.

5.4 Washing of Equipment and Vehicles

General

Provide an effective means, **see Specific Pollution Prevention Practices,** of minimizing the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other types of washing and to comply with the prohibition in Part 2.3.1.4, for storage of soaps detergents, or solvents, and provide either (1) cover (*e.g., plastic sheeting or temporary roofs*) to prevent these detergents from coming into contact with rainwater, or (2) a similarly effective means designed to prevent the discharge of pollutants from these areas.

Specific Pollution Prevention Practices

Effective controls include, but are not limited to, locating activities away from surface waters and stormwater inlets or conveyances and directing wash waters to a sediment basin or sediment trap, using filtration devices, such as sand bags or wattles, or use other similarly effective controls.

5.5 Storage, Handling, and Disposal of Construction Products, Materials, and Wastes

5.5.1 Building Products

(Note: Examples include asphalt sealants, copper flashing, roofing materials, adhesives, concrete admixtures.)

General

- Minimize the exposure to stormwater of any of the products, materials, or wastes specified below that are present.

Specific Pollution Prevention Practices

In storage areas, provide either (1) cover (*e.g., plastic sheeting or temporary roofs*) to prevent these products from coming into contact with rainwater, or (2) a similarly effective means designed to prevent the discharge of pollutants from these areas.

5.5.2 Pesticides, Herbicides, Insecticides, Fertilizers, and Landscape Materials

i. In storage areas, provide either (1) cover (e.g., *plastic sheeting or temporary roofs*) to prevent these chemicals from coming into contact with rainwater, or (2) a similarly effective means designed to prevent the discharge of pollutants from these areas; and
ii. Comply with all application and disposal requirements included on the registered pesticide, herbicide, insecticide, and fertilizer label.

5.5.3 Diesel Fuel, Oil, Hydraulic Fluids, Other Petroleum Products, and Other Chemicals

i. To comply with the prohibition in Part 2.3.1.3, store chemicals in water-tight containers, and provide either (1) cover *(e.g., plastic sheeting or temporary roofs)* to prevent these containers from coming into contact with rainwater, or (2) a similarly effective means designed to prevent the discharge of pollutants from these areas *(e.g., spill kits)*, or provide secondary containment *(e.g., spill berms, decks, spill containment pallets)*; and

ii. Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly. Do not clean surfaces or spills by hosing the area down. Eliminate the source of the spill to prevent a discharge or a continuation of an ongoing discharge.

Specific Pollution Prevention Practices

Effective controls include, but are not limited to, locating activities away from surface waters and stormwater inlets or conveyances and directing wash waters to a sediment basin or sediment trap, using filtration devices, such as filter bags, sand filters, and absorbent socks, or using other similarly effective controls.

5.5.4 Hazardous or Toxic Waste

i. Separate hazardous or toxic waste from construction and domestic waste;

ii. Store waste in sealed containers, which are constructed of suitable materials to prevent leakage and corrosion, and which are labeled in accordance with applicable Resource Conservation and Recovery Act (RCRA) requirements and all other applicable federal, state, tribal, or local requirements;

iii. Store all containers that will be stored outside within appropriately sized secondary containment *(e.g., spill berms, decks, spill containment pallets)* to prevent spills from being discharged, or provide a similarly effective means designed to prevent the discharge of pollutants from these areas *(e.g., storing chemicals in covered area or having a spill kit available on site)*;

iv. Dispose compliance with federal, state, tribal, and local requirements; and of hazardous or toxic waste in accordance with the manufacturer's recommended method of disposal and in compliance with federal, state, tribal, and local requirements; and

v. Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly. Do not clean surfaces or spills by hosing the area down. Eliminate the source of the spill to prevent a discharge or a furtherance of an ongoing discharge.

Specific Pollution Prevention Practices

Hazardous or toxic waste that may be present at construction sites include, but are not limited to, paints, solvents, petroleum-based products, wood preservatives, additives, curing compounds,
acids.

5.5.5 Construction and Domestic Waste

(Note: Examples include packaging materials, scrap construction materials, masonry products, timber, pipe and electrical cuttings, plastics, styrofoam, concrete, and other trash or building materials.)

General

Provide waste containers *(e.g., dumpster or trash receptacle)* of sufficient size and number to contain construction and domestic wastes. In addition, you must:

(1) On work days, clean up and dispose of waste in designated waste containers; and

(2) Clean up immediately if containers overflow.

Specific Pollution Prevention Practices

Construction and domestic waste include, but are not limited to, packaging materials, scrap construction materials, masonry products, timber, pipe and electrical cuttings, plastics, styrofoam, concrete, and other trash or building materials.

5.5.6 Sanitary Waste

General

Position portable toilets so that they are secure and will not be tipped or knocked over.

Specific Pollution Prevention Practices

Pumping the waste as needed on the construction site.

5.6 Washing of Applicators and Containers used for Paint, Concrete or Other Materials

General
Eliminating the discharge of water from the washout and cleanout of stucco, paint, concrete, form release oils, curing compounds, and other construction materials.

Specific Pollution Prevention Practices

a. Direct all washwater into a leak-proof container or leak-proof pit. The container or pit must be designed so that no overflows can occur due to inadequate sizing or precipitation;

b. Handle washout or cleanout wastes as follows:
i. Do not dump liquid wastes in storm sewers;

ii. Dispose of liquid wastes in accordance with applicable requirements in Part 2.3.3.3; and

iii. Remove and dispose of hardened concrete waste consistent with your handling of other construction wastes in Part 2.3.3.3; and

c. Locate any washout or cleanout activities as far away as possible from surface waters and stormwater inlets or conveyances, and, to the extent practicable, designate areas to be used for these activities and conduct such activities only in these areas.

5.7 Fertilizers

If storage areas is needed, provide either (1) cover (*e.g., plastic sheeting or temporary roofs*) to prevent these products from coming into contact with rainwater, or (2) a similarly effective means designed to prevent the discharge of pollutants from these areas such as berms or absorbent socks.

NECA subcontractor may provide when reseeding.

5.8 Other Pollution Prevention Practices

N/A

SECTION 6: INSPECTION AND CORRECTIVE ACTION

6.1 Inspection Personnel and Procedures

Personnel Responsible for Inspections

Gene Laughlin
In addition, any other employees assigned at a later date.

Inspection Schedule

Specific Inspection Frequency

Once every 14 calendar days and within 24 hours of the occurrence of a storm event of 0.25 inches or greater. To determine if a storm event of 0.25 inches or greater has occurred on your site, you must either keep a properly maintained rain gauge on your site, or obtain the storm event information from a weather station that is representative of your location. For any day of rainfall during normal business hours that measures 0.25 inches or greater, you must record the total rainfall measured for that day in accordance with Part 4.1.7.1d.

Rain Gauge Location

Project Construction Yard or Project Site

Reductions in Inspection Frequency:

Every 7 days or 14 days depending on field conditions.

For reduction in inspections due to frozen conditions:

a. If NECA suspends earth-disturbing activities due to frozen conditions, NECA may temporarily suspend inspections on the site until thawing conditions (see Appendix A) begin to occur if:
   i. Runoff is unlikely due to continuous frozen conditions that are likely to continue at your site for at least 3 months based on historic seasonal averages. If unexpected weather conditions (such as above freezing temperatures or rain on snow events) make discharges likely, NECA must immediately resume your regular inspection frequency as described in Parts 4.1.2 or 4.1.3, if applicable;

   ii. Land disturbances have been suspended; and

   iii. All disturbed areas of the site have been temporarily or permanently stabilized in accordance with Part 2.2.

b. If NECA is still conducting earth-disturbing activities during frozen conditions, NECA may reduce your inspection frequency to once per month if:

   i. Runoff is unlikely due to continuous frozen conditions that are likely to continue at the site for at least 3 months based on historic seasonal averages. If unexpected weather conditions (such as above freezing temperatures or rain on snow events) make discharges likely, NECA must immediately resume your regular inspection frequency as described in Parts 4.1.2 or 4.1.3 if applicable; and

   ii. Except for areas in which NECA are actively conducting earth disturbing activities, disturbed areas of the site have been temporarily or permanently stabilized in accordance with Part 2.2.

NECA must document the beginning and ending dates of this period in the SWPPP.

Inspection Report Forms under Appendix E.

6.2 *Corrective Action*

Field Stormwater Team and assigned personnel for;

NECA: **Gene Laughlin, Lee B. Roy**

Representative for the Navajo Nation DWR (SMA): **Andrew Robertson**

QUALITY CONTROL MGR: **Christine Padilla**

USBR: **Gary Vance**

6.3 Delegation of Authority

Duly Authorized Contractor On-Site Representative:

NAVAJO ENGINEERING AND CONSTRUCTION AUTHORITY:
Gene Laughlin, Project Superintendent
P.O. BOX 969:
SHIPROCK, NEW MEXICO 87420:
NECA: 505-368-5151
Mobile: 505-406-2419
CONTRACTOR : DAY-BY-DAY OPERATIONAL CONTROL OF CONSTRUCTION ACTITVIES:

SECTION 7: TRAINING

Name	Date Training Completed
Gene Laughlin	
Arron Barton	
Albert Benally	
Lee B. Roy	
Christine Padilla	
Additional employees when trained.	

SECTION 8: CERTIFICATION AND NOTIFICATION

Navajo Nation Enterprise's Certification

NECA certify under penalty of law that this document and all attachments were prepared in accordance with ***the 2017 General Construction Permit of the USEPA / NPDES regulations,****. This certification is designed to assure that qualified personnel properly gathered and evaluated the information submitted, based on the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. NECA is aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

*Signed:*_____ *Date:* _____

Construction Operations Manager, Navajo Engineering and Construction Authority

Prepared by: _____, *NECA.*

Certified Professional Erosion and Sediment Control – IT #3022

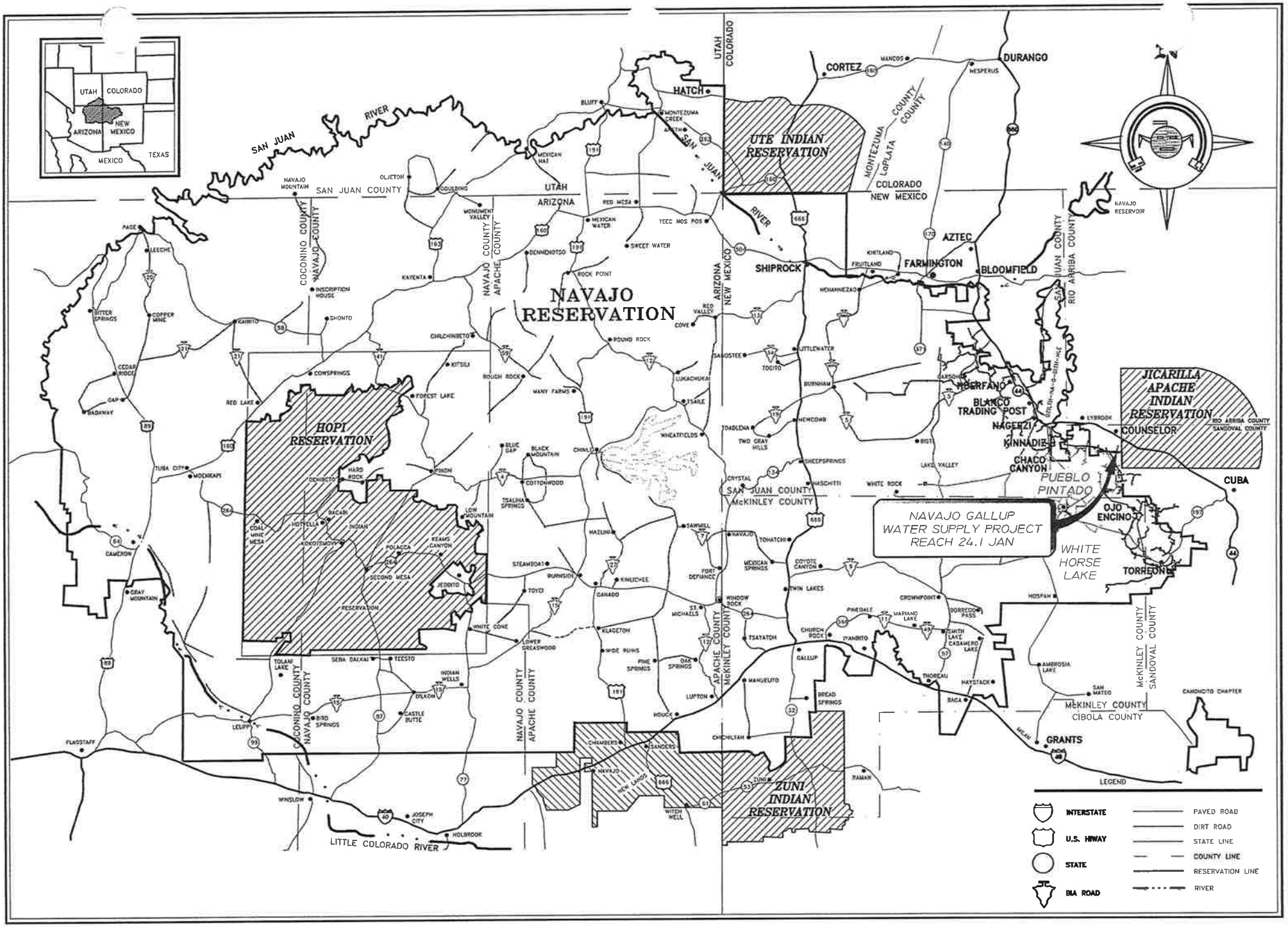
Owner's Certification

The Owner, under the penalty of the law that the Owner understands the terms and conditions of the general ***National Pollutant Discharge Elimination System (NPDES)*** *permit that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.*

*Signed:*_____ *Date:* _____

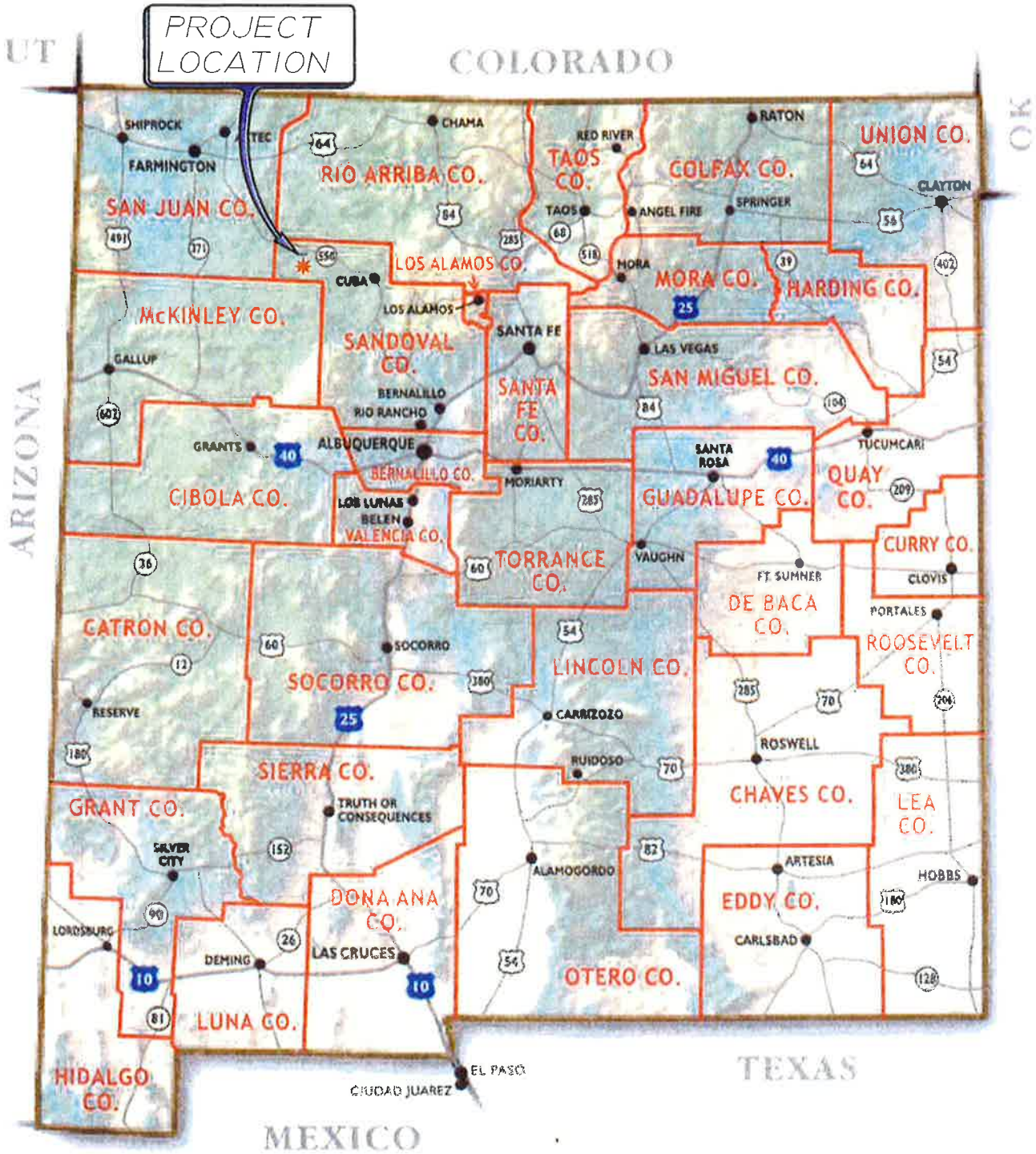
The Navajo Nation represented by Souder Miller & Associates
Division of Natural Resources
DWR – Water Management Branch

Appendix A – Site Maps

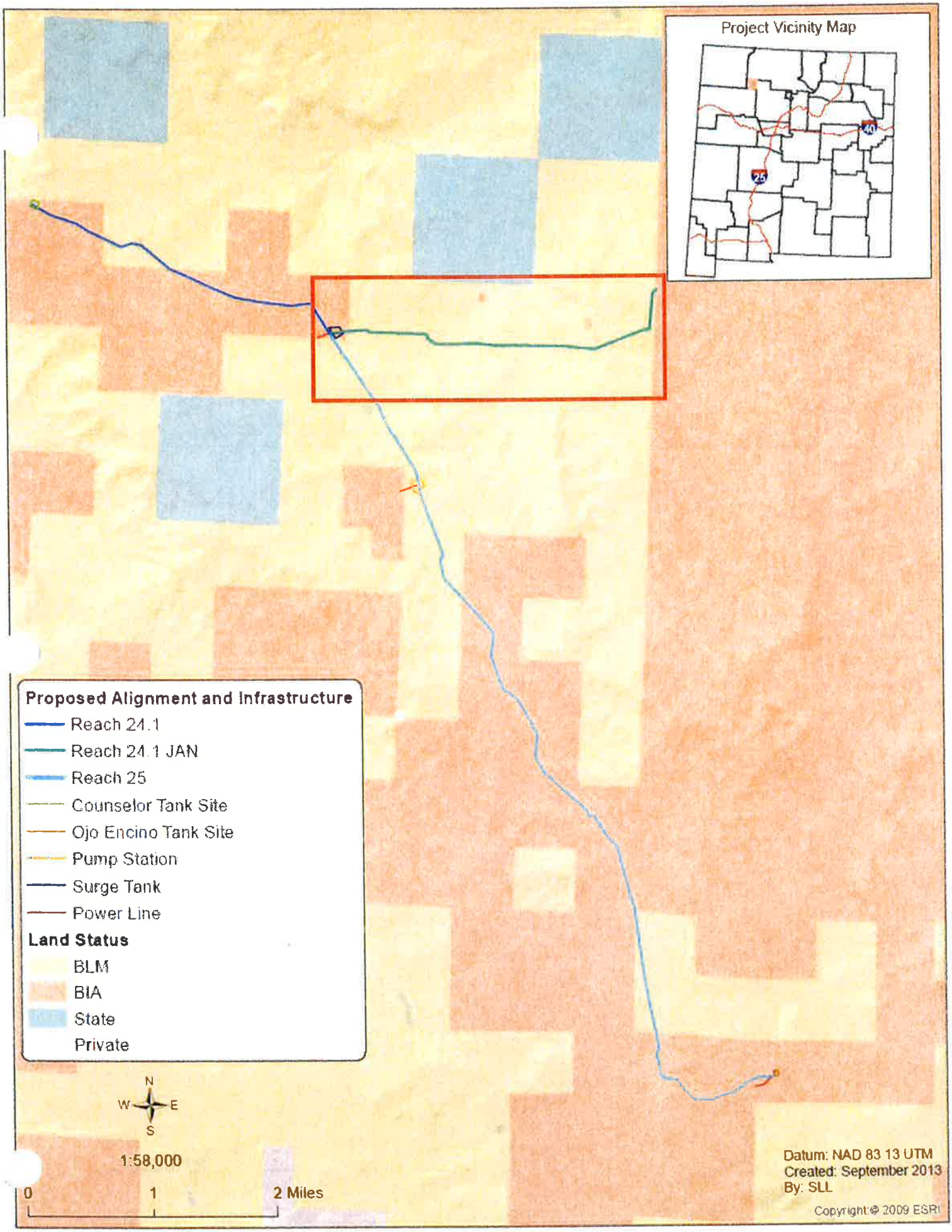


NAVAJO RESERVATION

PROJECT SITE MAP



PROJECT VICINITY MAP



Locations of proposed alignment and associated infrastructure.

SANDOVAL COUNTY, NEW MEXICO
TOWNSHIP 22 NORTH, RANGE 6 WEST, NMPM

3
BLM

2
State of
New Mexico

1
Navajo
Tribal
Fee

Route 46

Navajo
Tribal Trust

Canyon

Venado

EXISTING
NAVAJO GALLUP WATER SUPPLY
PROJECT REACH 24.1

PROPOSED
SURGE TANK
(SEE SITE PLAN
C-9 THRU C-14)

PROPOSED
NAVAJO GALLUP WATER SUPPLY
PROJECT REACH 24.1 JAN

C-3
C-4
C-5
C-6
C-7
C-8

0+00
20+00
40+00
60+00
80+00
100+00
120+00
140+00

BEGIN
WATERLINE
STA -0+39.10
N=1877301.32
E=1283671.26

END WATERLINE
STA 159+62.69
N=1879232.44
E=1297577.45

10

Bureau of
Land Management

Route 474

EXISTING
NAVAJO GALLUP WATER SUPPLY
PROJECT REACH 25

11
Bureau of
Land Management

12
Bureau of
Land Management

Bureau of
Land Management

N

0' 500' 1000'

0 MILES 1/8 MILE 1/4 MILE

GRAPHIC SCALE

R-6-W
R-5-W

Jicarilla Apache Indian Reservation Boundary

SANDOVAL COUNTY, NEW MEXICO
TOWNSHIP 22 NORTH, RANGE 6 WEST, NMPM

Navajo Tribal Trust
State of New Mexico
Navajo Tribal Fee
Bureau of Land Management

FOUND MONUMENT
2 1/2 BC M1/4 SEC 10
N=1876992.59
E=1284514.08

FOUND MONUMENT
2 1/2 BC SEC COR 3/2/10/11
N=1876609.86
E=1287132.34

FOUND MONUMENT
2.5 BC USGLO T22N R6-5W S1-6-7-12 1948
N=1879311.66
E=1295779.65

END WATERLINE
STA 159+62.69
N=1879232.44
E=1297577.45

FOUND MONUMENT
2.5 BC USGLO T22N R6-5W S1-6-7-12 1948
N=1879311.66
E=1295779.65

FOUND MONUMENT
2 1/2IN BC N1/4 SEC 14
N=1874167.92
E=1289587.47

FOUND MONUMENT
2 1/2IN BC SEC 11/12/14/13
N=1874075.17
E=1293195.83

FOUND MONUMENT
FD 2.5 BC USGLO T22N RGW S2-1-12-11 1948
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E=1292347.55

FOUND MONUMENT
FD 2.5 BC USGLO .25 S1-12 1948
N=1879325.02
E=1294965.23

FOUND MONUMENT
FD BC T22N R6W R5W S12 S7 S13 S18 1948
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E=1297430.82

FOUND MONUMENT
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E=1284358.42

FOUND MONUMENT
2 1/2 BC E1/4 SEC 15
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FOUND MONUMENT
3 1/2 AC CLUSTER 1
N=1871588.80
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FOUND MONUMENT
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E=1287057.11

FOUND MONUMENT
.5 RBR E1/4 SEC 14
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E=1292025.21

SET SMA CONTROL POINT 1
1/2" REBAR W/PLASTIC CAP
N = 1879133.52
E = 1283347.55
ELEV = 7205.44

SET SMA CONTROL POINT 2
1/2" REBAR W/PLASTIC CAP
N = 1879026.97
E = 1285652.37
ELEV = 7182.19

SET SMA CONTROL POINT 3
1/2" REBAR W/PLASTIC CAP
N = 1877869.84
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ELEV = 7119.09

SET SMA CONTROL POINT 4
1/2" REBAR W/PLASTIC CAP
N = 1877769.53
E = 1283382.92
ELEV = 7106.45

SET SMA CONTROL POINT 5
1/2" REBAR W/PLASTIC CAP
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ELEV = 7045.36

SET SMA CONTROL POINT 6
1/2" REBAR W/PLASTIC CAP
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ELEV = 7122.15

SET SMA CONTROL POINT 7
1/2" REBAR W/PLASTIC CAP
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ELEV = 7109.70

SET SMA CONTROL POINT 10
1/2" REBAR W/PLASTIC CAP
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SET SMA CONTROL POINT 11
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SET SMA CONTROL POINT 13
1/2" REBAR W/PLASTIC CAP
N = 1870682.69
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N = 1877290.44
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N = 1877020.77
E = 1297243.96
ELEV = 7022.52

SET SMA CONTROL POINT 408
1/2" REBAR W/PLASTIC CAP
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ELEV = 7011.17

PI STA -0+25.10
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E=1283682.89

PI STA 0+09.80
N=1877279.79
E=1283701.81

PI STA 0+19.95
N=1877277.48
E=1283711.70

PI STA 1+19.60
N=1877291.94
E=1283810.29

PI STA 7+62.88
N=1877385.34
E=1284446.75

PI STA 8+41.66
N=1877396.75
E=1284524.70

PI STA 15+53.03
N=1877465.16
E=1285232.78
STA: 16+26.82
GAS LINE X-ING
(ENCANA)
STA: 16+50.70
GAS LINES X-ING
(WPX ENERGY)

PI STA 17+00.61
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PI STA 29+77.50
N=1877332.99
E=1286620.88

PI STA 34+24.88
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E=1287067.59

PI STA 37+97.45
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PI STA 46+78.06
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E=1288221.01

PI STA 64+25.53
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PI STA 71+36.21
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PI STA 82+69.75
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E=1291809.12

PI STA 86+28.06
N=1876849.76
E=1292167.27

PI STA 97+66.03
N=1876505.94
E=1293176.82

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N=1876428.54
E=1292850.81

PI STA 101+28.05
N=1876814.15
E=1293366.75

PI STA 104+25.45
N=1876805.33
E=1293664.00

STA: 99+19.27
GAS LINE X-ING
(ENCANA)

PI STA 117+47.24
N=1876724.40
E=1294983.32

PI STA 122+31.73
N=1876878.54
E=1295442.62

PI STA 137+82.57
N=1877452.02
E=1296883.54

PI STA 142+51.63
N=1877575.09
E=1297336.17
STA: 142+13.59
GAS LINE X-ING
(ENCANA)

PI STA 152+26.38
N=1878546.51
E=1297416.50

PI STA 158+34.15
N=1879151.19
E=1297477.85

BEGIN WATERLINE
STA -0+39.10
N=1877301.32
E=1283671.26

PROPOSED SURGE TANK
(SEE SITE PLAN C-9 THRU C-14)

EXISTING
NAVAJO GALLUP WATER SUPPLY
PROJECT REACH 24.1/25

PROPOSED
NAVAJO GALLUP WATER SUPPLY
PROJECT REACH 24.1 JAN

40' WATERLINE ESMT.
30' TEMP. CONSTRUCTION ESMT.

Route 46
Route 47B

0+00 20+00 40+00 60+00 80+00 100+00 120+00 140+00 160+00 180+00 200+00 220+00 240+00 260+00 280+00 300+00

Jicarilla Apache Indian Reservation Boundary

0 500 1000
0 MILES 1/8 MILE 1/4 MILE
GRAPHIC SCALE

R-6-W R-5-W

LEGEND

- PROPOSED WATERLINE
- EXISTING WATERLINE
- EXISTING GAS LINE (COLOR YELLOW ON PLANS)
- EXISTING FENCE
- EXISTING OVERHEAD POWER LINE
- PROPOSED OVERHEAD POWER LINE
- TOWNSHIP AND RANGE LINE
- SECTION LINE
- QUARTER SECTION LINE
- CURRENT LAND STATUS (OWNER) — Tribal Trust
- PROPOSED 40' WATERLINE EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT
- DIRT ROAD
- 6 — SECTION NUMBER
- SEC COR / QTR COR
- SMA CONTROL POINT
- EXISTING UTILITY POLE
- PROPERTY LINE

CONTACT INFORMATION:

NAVAJO NATION WATER MANAGEMENT BRANCH
OWNER: JASON JOHN
(928) 729-4004

SOUDER, MILLER & ASSOCIATES
ENGINEER: ANDREW ROBERTSON, P.E.
(505) 299-0942 Office

SURVEYOR: WILLIAM BREWSTER, P.S.
(505) 293-0942 Office

NAVAJO TRIBAL UTILITY AUTHORITY (NTUA)
CROWNPOINT SUB-OFFICE
(600) 528-5011 (ext. 4758)

SURVEY DATUM

New Mexico, USA
Vertical: NAVD 88
Horizontal: NAD83 New Mexico State Plane, **Central** Zone, US Foot

Revision	Date	Description	By	Chkd

SOUDER, MILLER & ASSOCIATES
3451 CANDELARIA ROAD NE, SUITE D
ALBUQUERQUE, NM 87107
Phone (505) 299-0942 Toll-Free (877) 299-0942 Fax (505) 293-3430
www.smallermiller.com
Serving the Southwest & Rocky Mountains
Albuquerque, Cortez, Durango, Los Cruces, Roswell, Santa Fe, NM
Cortez, Grand Junction, CO Gallup, NM Ruidoso, NM Austin, TX El Paso, TX

Client: The Navajo Nation Location: Reach 24.1 JAN Turnout to JAN Border, NM

SURVEY CONTROL PLAN
NAVAJO GALLUP WATER SUPPLY
PROJECT - REACH 24.1 JAN
SANDOVAL COUNTY, NEW MEXICO

Designed	Drawn	Checked
AGR	AAV	WFB

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED

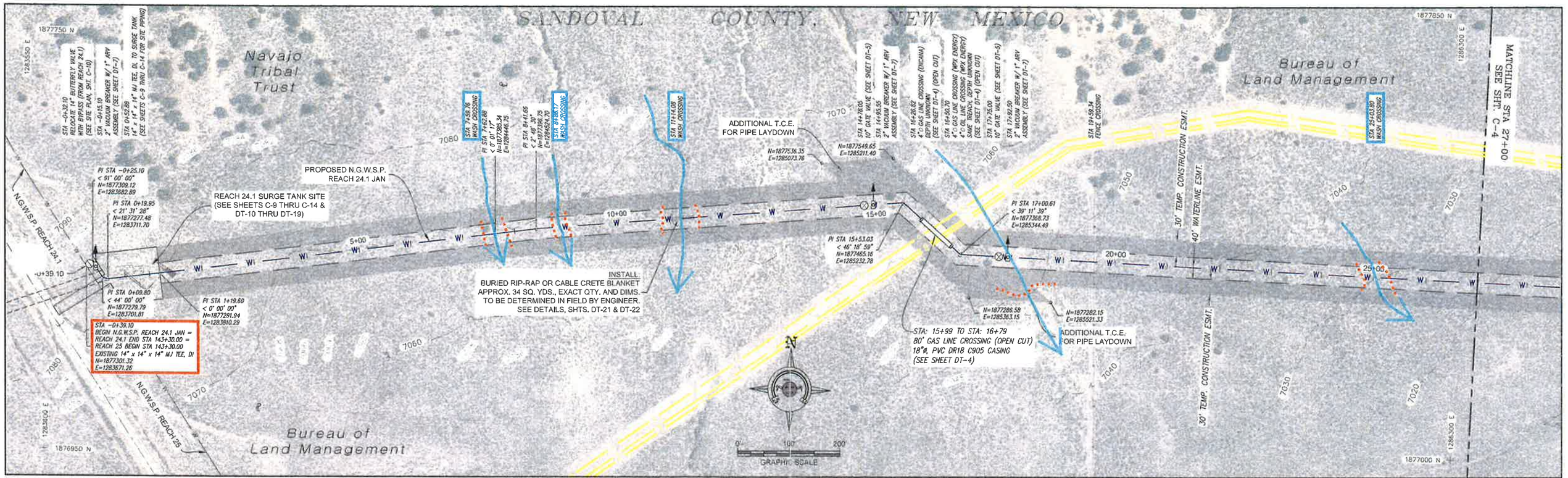
NOTICE OF EXTENDED PAYMENT PROVISION:
THIS CONTRACT ALLOWS THE OWNER TO MAKE PAYMENT WITHIN 45 DAYS AFTER SUBMISSION OF AN UNDISPUTED REQUEST FOR PAYMENT.

811 Know what's below. Call before you dig.

Date:	October 24, 2016
Scale: Horiz:	1" = 1000'
Vert:	N/A
Project No:	6921307
Sheet:	C-2

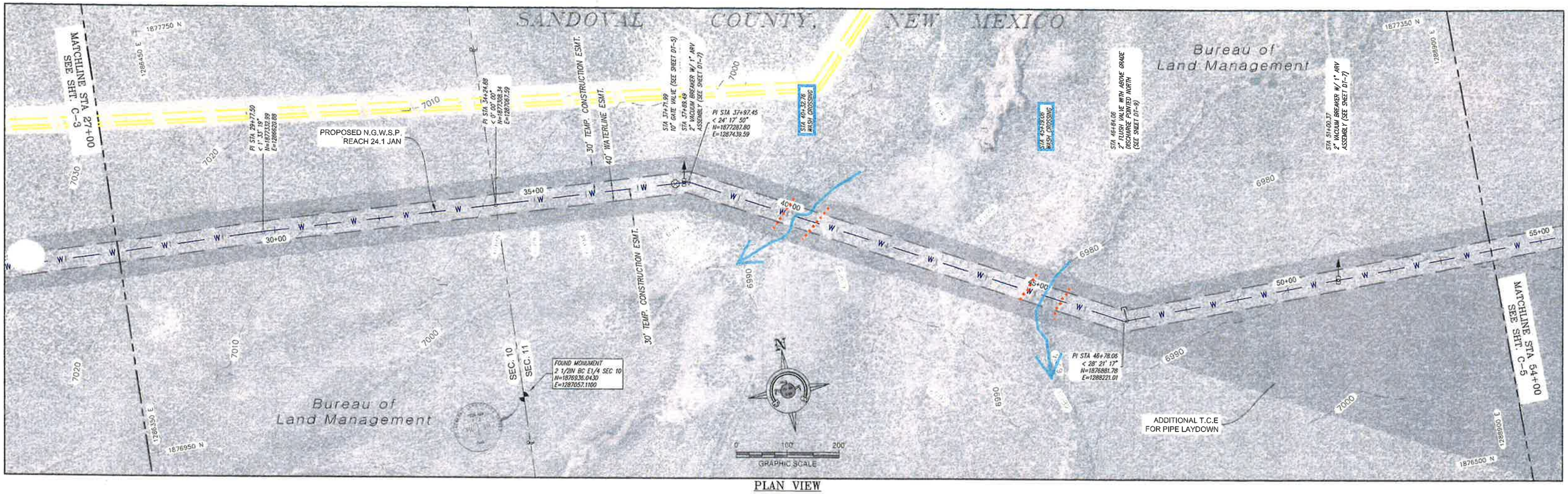
NECA - 1394 Navajo Gallup
Water Supply Project REACH
24.1 Jicarilla Apache Nation
(JAN)

ESTIMATED STATIONS	ITEM	ROW	LOCATION	QTY	UNIT	COMMENTS
STA. 7+59.76 WASH CROSSING	Wattles/BMPs		West and East	80	ft	Adjust to field conditions.
STA. 8+86.17 WASH CROSSING	Wattles/BMPs		West and East	80	ft	Adjust to field conditions.
STA. 11+14.08 WASH CROSSING	Wattles/BMPs		West and East	80	ft	Adjust to field conditions.
STA. 17+95.00 WASH CROSSING	Wattles/BMPs	Left	Possible drainage	80	ft	Adjust to field conditions.
STA. 25+03.80 WASH CROSSING	Wattles/BMPs		West and East	80	ft	Adjust to field conditions.
STA. 40+32.76 WASH CROSSING	Wattles/BMPs		West and East	80	ft	Adjust to field conditions.
STA. 45+19.06 WASH CROSSING	Wattles/BMPs		West and East	80	ft	Adjust to field conditions.
STA. 72+75.18 WASH CROSSING	Wattles/BMPs		West and East	80	ft	Adjust to field conditions.
STA.78+78.52 WASH CROSSING	Wattles/BMPs		West and East	80	ft	Adjust to field conditions.
STA. 79+82.50 WASH CROSSING	Wattles/BMPs		West and East	80	ft	Adjust to field conditions.
STA. 87+62.24 WASH CROSSING	Wattles/BMPs		West and East	80	ft	Adjust to field conditions.
STA. 89+01.00 WASH CROSSING	Wattles/BMPs		West and East	80	ft	Adjust to field conditions.
STA. 116+72.87 WASH CROSSING	Wattles/BMPs		West and East	80	ft	Adjust to field conditions.
STA. 142+40 to 144+25	Wattles/BMPs	Left		120	ft	Adjust to field conditions.
STA. 159+62	Wattles/BMPs	Left	E.O.P.	120	ft	Adjust to field conditions.
SURGE TANK PAD AT B.O.P.	Wattles/BMPs	Left	B.O.P.	120	ft	Adjust to field conditions.



PLAN VIEW

14" AND 10" WATERLINE



PLAN VIEW
10" WATERLINE

SANDOVAL COUNTY, NEW MEXICO

MATCHLINE STA 54+00
SEE SHT. C-4

1877250 N

1288950 E

Bureau of
Land Management

PROPOSED N.G.W.S.P.
REACH 24.1 JAN

PI STA 64+26.53
< 6° 23' 11"
N=1876998.17
E=1289968.26

30' TEMP. CONSTRUCTION ESMT.

40' WATERLINE ESMT.

PI STA 71+36.21
< 6° 23' 11"
N=1876841.75
E=1290675.73

STA 71+43.67
2" VACUUM BREAKER W/ 1" ARV
ASSEMBLY (SEE SHEET DT-7)

STA 71+50.42
CL DIRT ROAD CROSSING (OPEN CUT)

STA 73+95.24
10" GATE VALVE (SEE SHEET DT-5)

STA 74+12.74
2" VACUUM BREAKER W/ 1" ARV
ASSEMBLY (SEE SHEET DT-7)

STA 77+75.19
WASH CROSSING

STA 78+78.57
WASH CROSSING

STA 79+83.50
WASH CROSSING

1877200 N

1291600 E

55+00 60+00 65+00 70+00 75+00 80+00

6980 6990 7000 7010 7020 7030 7040 7050

N=1876847.05
E=1289195.35

ADDITIONAL T.C.E
FOR PIPE LAYDOWN

IF THE AREA IS USED FOR STORAGE

USE BMPs AROUND MATERIAL AREA.

SURVEY CONTROL POINT
1/2" REBAR W/PLASTIC CAP
N = 1876441.02
E = 1289347.69
ELEV = 7006.01

1289000 E

1876450 N

N=1876431.38
E=1288979.37

N

0 100 200
GRAPHIC SCALE

INSTALL
BURIED RIP-RAP OR CABLE CRETE BLANKET,
APPROX. 34 SQ. YDS., EXACT QTY. AND DIMS.
TO BE DETERMINED IN FIELD BY ENGINEER.
SEE DETAILS, SHTS. DT-21 & DT-22

INSTALL
BURIED RIP-RAP OR CABLE CRETE BLANKET
APPROX. 20 SQ. YDS., EXACT QTY. AND DIMS.
TO BE DETERMINED IN FIELD BY ENGINEER.
SEE DETAILS, SHTS. DT-21 & DT-22

INSTALL
BURIED RIP-RAP OR CABLE CRETE BLANKET
APPROX. 20 SQ. YDS., EXACT QTY. AND DIMS.
TO BE DETERMINED IN FIELD BY ENGINEER.
SEE DETAILS, SHTS. DT-21 & DT-22

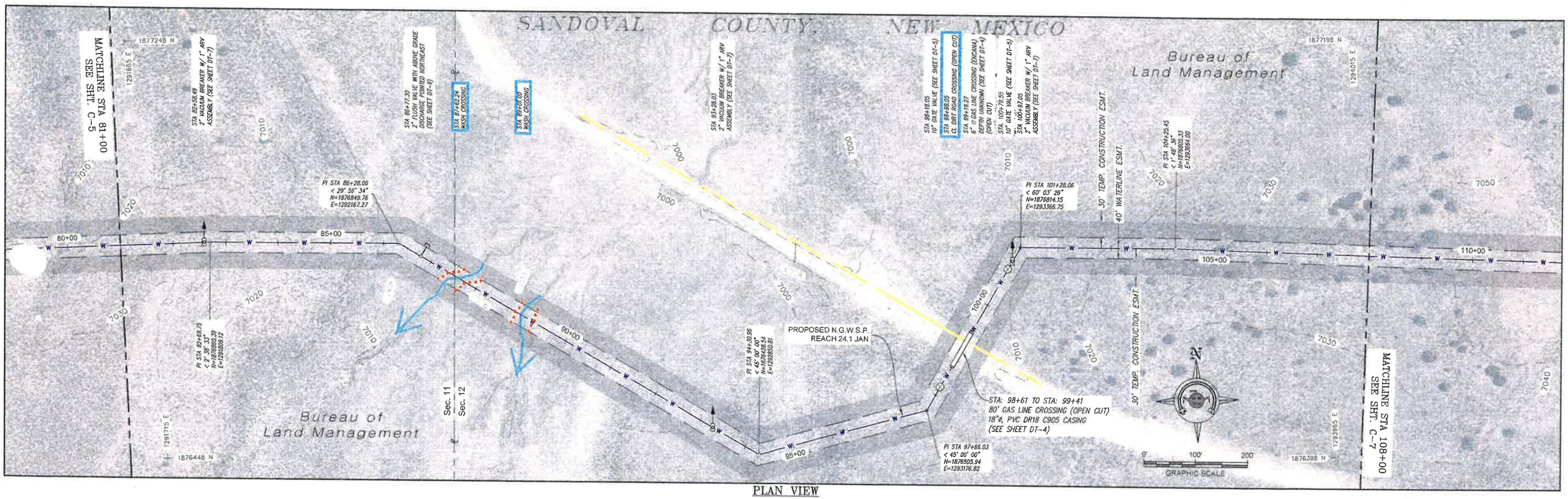
Bureau of
Land Management

1876400 N

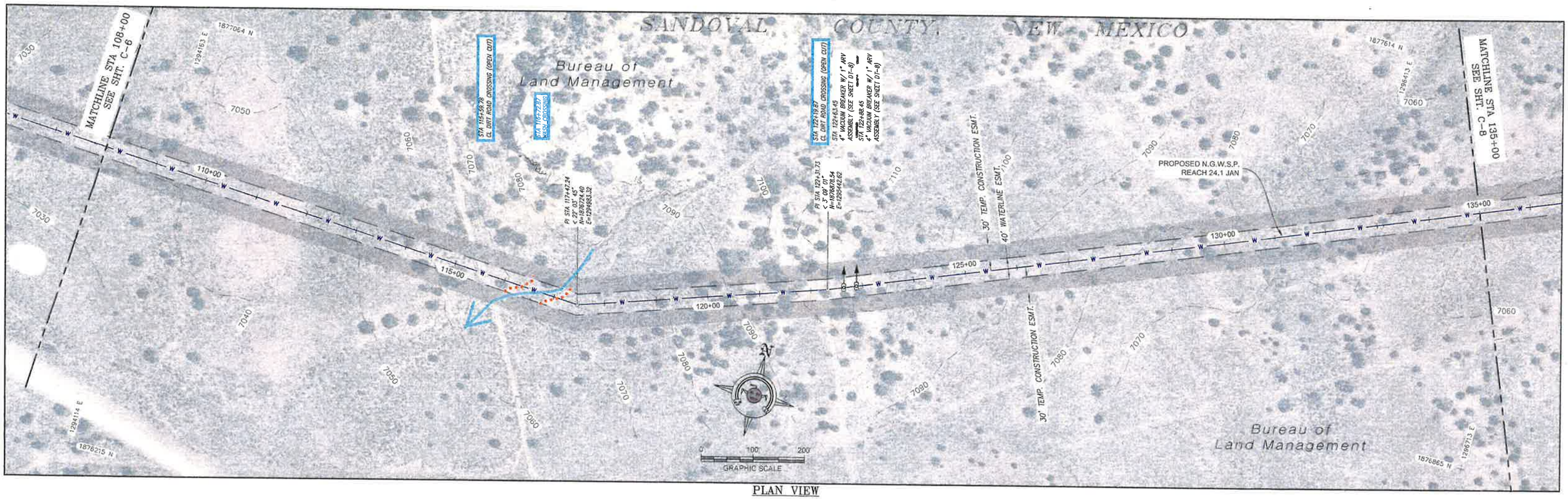
1291600 E

MATCHLINE STA 81+00
SEE SHT. C-6

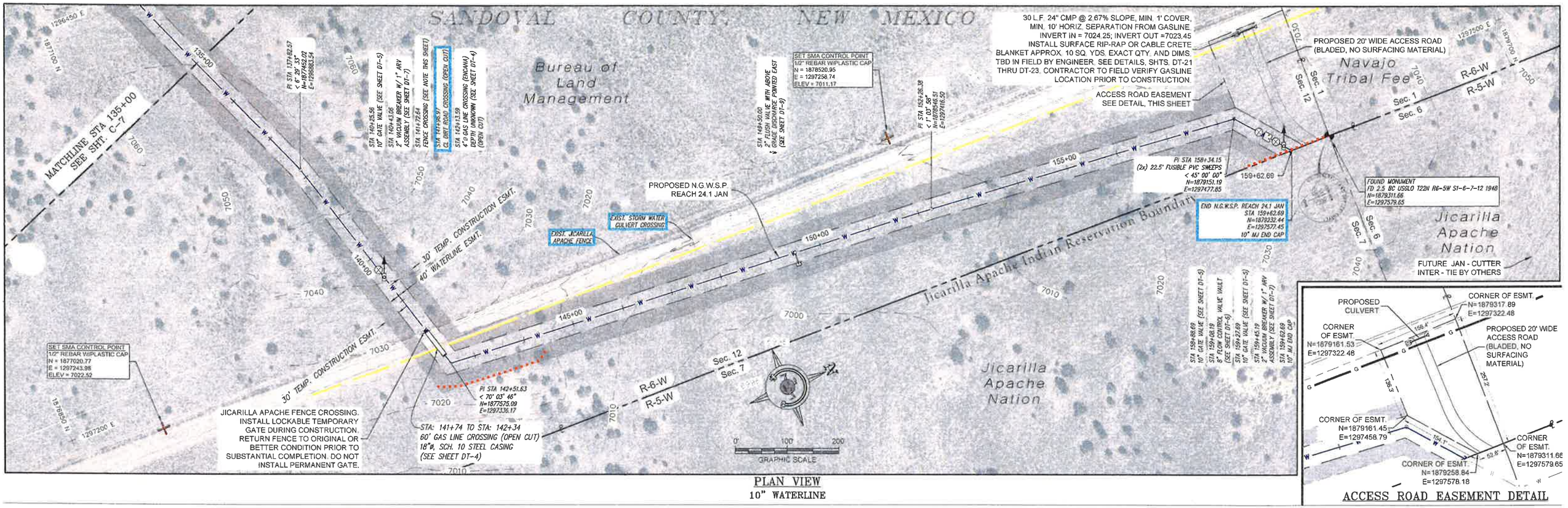
PLAN VIEW
10" WATERLINE



PLAN VIEW
10" WATERLINE



PLAN VIEW
10" WATERLINE



PLAN VIEW
10" WATERLINE

ACCESS ROAD EASEMENT DETAIL

GENERAL NOTES

1. THE ENGINEER WAIVES ANY AND ALL RESPONSIBILITY AND IS NOT LIABLE FOR PROBLEMS THAT MAY ARISE FROM CONTRACTOR'S FAILURE TO FOLLOW THESE DRAWINGS, SPECIFICATIONS, AND THE DESIGN INTENT THEY CONVEY, OR FOR PROBLEMS ARISING FROM FAILURE TO OBTAIN AND/OR FOLLOW THE ENGINEER'S GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES, OR CONFLICTS.

2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FAMILIARIZE HIMSELF WITH THE LOCATION OF ALL UTILITIES LOCATED WITHIN THE LIMITS OF CONSTRUCTION. THE GENERAL LOCATION OF KNOWN EXISTING UTILITIES HAS BEEN SHOWN ON THE CONSTRUCTION DRAWINGS TO INDICATE THAT CAUTION MUST BE EXERCISED WHEN WORKING IN THESE AREAS. IN MANY CASES THE EXACT LOCATION OF THE FACILITIES IS NOT KNOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL OVERHEAD AND UNDERGROUND UTILITIES WITHIN THE VICINITY OF THE NEW CONSTRUCTION. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR, WORKING WITH THE RESPECTIVE UTILITY COMPANIES, SHALL ACCURATELY LOCATE AND MARK ALL BURIED FACILITIES, INCLUDING SERVICE LINES, ALL EQUIPMENT LABOR, ETC. NECESSARY TO PROPERLY LOCATE THE EXISTING UTILITIES SHALL BE FURNISHED BY THE CONTRACTOR, THE COST OF WHICH SHALL BE INCIDENTAL TO THE WORK.

3. CONTRACTOR SHALL REPAIR ANY EXISTING STRUCTURE OR UTILITY PIPELINE DAMAGED DURING THE EXECUTION OF THE PROJECT, AT NO ADDITIONAL COSTS TO THE OWNER.

4. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTING THE PROJECT ACCORDING TO CURRENT NEW MEXICO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (NMSSPWC) AWWA SPECS AND NAVAJO NATION / NTUA STANDARDS, INCLUDING WHERE PARTICULAR WORK ITEMS ARE NOT SPECIFIED HEREIN.

5. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS AS SET FORTH IN THE TECHNICAL SPECIFICATIONS AND CONTRACT DOCUMENTS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE ENGINEER REGARDING ANY QUESTION ARISING FROM ANY ASPECT OF THIS PROJECT NOT SPECIFICALLY COVERED IN THE PLANS AND TECHNICAL SPECIFICATIONS, OR ANY CHANGES OR CORRECTIONS TO THE PLANS AND SPECS.

6. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY, WHICH SHALL REMAIN WHOLLY THE RESPONSIBILITY OF THE CONTRACTOR. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL (OSHA), STATE, TRIBAL AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING SAFETY AND HEALTH. ALL EXCAVATION, TRENCHING AND SHORING ACTIVITIES MUST BE CARRIED OUT IN ACCORDANCE WITH OSHA 29 CFR 1926, SUBPART P - EXCAVATIONS.

7. CONTRACTOR SHALL PROVIDE INGRESS AND EGRESS TO ANY LOCAL BUSINESSES AND RESIDENTS AS REQUIRED FOR THE DURATION OF THE PROJECT. THE CONTRACTOR SHALL ADVISE OF AND SCHEDULE ACCESS CLOSURES AT LEAST 24 HOURS IN ADVANCE WITH PROPERTY OWNERS AND THE ENGINEER.

8. THE DRAWINGS CONTAIN SPECIFIC EROSION CONTROL FEATURES DESIGNED BY THE ENGINEER TO PROTECT PROJECT FACILITIES FROM EROSION. THESE FEATURES ARE NOT DESIGNED TO PREVENT POLLUTION OF WATERWAYS DUE TO SEDIMENT. THE CONTRACTOR IS WHOLLY RESPONSIBLE TO PROVIDE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND IMPLEMENT THE BEST MANAGEMENT PRACTICES (BMPs) REQUIRED THEREIN, IN ADDITION TO THE FEATURES SHOWN ON THE DRAWINGS. ALL BID ITEMS REFERRING TO SPECIFIC EROSION CONTROL FEATURES, SUCH AS RIPRAP OR ROCK DAMS, ARE APPLICABLE ONLY TO FEATURES DESIGNED BY THE ENGINEER. A SEPARATE BID ITEM(S) IS PROVIDED FOR PREPARATION AND IMPLEMENTATION OF THE CONTRACTOR'S SWPPP.

9. ALL RIPRAP, ROCK CHECK DAMS AND OTHER EROSION CONTROL FEATURES SHOWN ON THE DRAWINGS ARE APPROXIMATE WITH REGARD TO QUANTITY, LOCATION, DIMENSIONS, SPACING, AND ORIENTATION. EXACT PLACEMENT WILL BE DETERMINED IN FIELD BY ENGINEER AFTER FINAL GRADING IS COMPLETE.

10. ALL AREAS DISTURBED BY THE CONSTRUCTION ACTIVITIES OF THIS PROJECT SHALL BE RESTORED AND RE-GRADED IN A MANNER ACCEPTABLE TO THE OWNER, ENGINEER, AND LAND OWNER. ALL DISTURBED AREAS SHALL BE RE-SEEDED PER THE CONTRACT DOCUMENTS.

11. FUSIBLE PVC PIPE SHALL BE USED IN LIEU OF ALL RESTRAINED JOINTS AND SHALL BE USED ON BOTH SIDES OF ALL ISOLATION VALVES, CASINGS, TEES, AND BENDS. REFER TO SPECIFICATIONS AND DETAIL, SHEET DT-3. IN ADDITION, THE PLAN AND PROFILE SHEETS INDICATE SPECIFIC ADDITIONAL LOCATIONS WHERE FUSIBLE PVC PIPE MUST BE USED IN LIEU OF BELL-AND-SPIGOT PIPE. IN THE ABSENCE OF ANY REQUIREMENT TO USE FUSIBLE PVC PIPE, CONTRACTOR HAS THE OPTION TO USE EITHER FUSIBLE OR BELL-AND-SPIGOT PIPE. IN THESE DRAWINGS, THE TERMS "BELL-AND-SPIGOT PIPE" AND "JOINTED PIPE" ARE USED SYNONYMOUSLY.

12. ALL PRESSURE RATINGS GIVEN HEREIN FOR PIPES, VALVES, FITTINGS AND OTHER COMPONENTS REFER TO COLD WATER WORKING PRESSURE RATING, UNLESS OTHERWISE NOTED.

13. VERTICAL CLEARANCES AT WATERLINE CROSSINGS ON PLAN AND PROFILE SHEETS CALLED OUT AS "MIN CLR TO CL" REFER TO MINIMUM CLEARANCE FROM BOTTOM OF EXISTING WATERLINE TO VERTICAL CENTERLINE OF PROPOSED WATERLINE. VERTICAL CLEARANCES FOR CASINGS CALLED OUT AS "MIN CLR TO CASING" REFER TO MINIMUM CLEARANCE FROM BOTTOM OF EXISTING PIPELINE OR FINISHED GRADE TO TOP OF PROPOSED CASING. VERTICAL CLEARANCES AT WASH CROSSINGS CALLED OUT AS "MIN TO CL" REFER TO MINIMUM PIPE DEPTH, MEASURED FROM BOTTOM OF WASH TO VERTICAL CENTERLINE OF PROPOSED WATERLINE.

14. ALL SCALES ARE BASED ON 11" x 17" SHEET SIZE.

CONTACT INFORMATION:

NAVAJO NATION WATER MANAGEMENT BRANCH (OWNER):

JASON JOHN (928) 729-4004

SOUDER, MILLER & ASSOCIATES (ENGINEER):

ANDREW ROBERTSON, P.E (OFFICE) (505) 299-0942 (CELL) (505) 264-1488

NAVAJO TRIBAL UTILITY AUTHORITY (NTUA):

CROWNPOINT SUB-OFFICE (800) 528-5011 (ext. 4758)

ABBREVIATIONS

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
A.C.	ASPHALTIC CONCRETE
ACI	AMERICAN CONCRETE INSTITUTE
AC.	ACRE
AC-FT.	ACRE FEET
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALIGN.	ALIGNMENT
ALUM	ALUMINUM
AMSL	ABOVE MEAN SEA LEVEL
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPROX.	APPROXIMATE
ARV	AIR RELEASE VALVE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWG	AMERICAN WIRE GAUGE
AWWA	AMERICAN WATER WORKS ASSOCIATION
BFV	BUTTERFLY VALVE
BIA	BUREAU OF INDIAN AFFAIRS
BLDG	BUILDING
BLM	BUREAU OF LAND MANAGEMENT
BV	BALL VALVE
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
CL	CENTERLINE
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CLR.	CLEARANCE
CMP	CORRUGATED METAL PIPE
COMM.	COMMUNICATION
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
CONT.	CONTINUED
COR.	CORNER
COUP.	COUPLING
CP	CONTROL POINT
CTR	CENTER
CU	CUBIC
CY	CUBIC YARD
DI	DUCTILE IRON
DIA	DIAMETER
DIMS	DIMENSIONS
DR	DIMENSION RATIO
DW	DRIVEWAY
E	EAST
E	EASTING
EA.	EACH
ED.	EDITION
EG	EXISTING GRADE
ELEC.	ELECTRICAL
EL., ELEV.	ELEVATION
EOP	EDGE OF PAVEMENT
EQ.	EQUAL
ESMT.	EASEMENT
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
EX., EXIST.	EXISTING
FBE	FUSION BONDED EPOXY
FF	FINISHED FLOOR
FFE	FINISHED FLOOR ELEVATION
FG	FINISHED GRADE
FIG.	FIGURE
FL	FLANGE
FND.	FOUND
FNPT	FEMALE NATIONAL PIPE THREAD
FRP	FIBER REINFORCED PLASTIC
FT.	FEET
FV	FLUSH VALVE
GA.	GAUGE
GALV.	GALVANIZED
GI	GALVANIZED IRON
GPM	GALLONS PER MINUTE
GV	GATE VALVE
HDD	HORIZONTAL DIRECTIONAL DRILLING
HDPE	HIGH DENSITY POLYETHYLENE
HORIZ.	HORIZONTAL
HP	HORSE POWER
HT	HEIGHT
HWY	HIGHWAY
I.A.	INDIAN ALLOTMENT
I.D.	INNER DIAMETER
I.E.	THAT IS, FOR EXAMPLE
IN.	INCH
INV	INVERT
IPS	IRON PIPE SIZE
JAN	JICARILLA APACHE NATION
KSI	KILO POUNDS PER SQUARE INCH
LAT	LATITUDE
L, LEN	LENGTH
LF	LINEAR FEET
LT	LEFT
LONG	LONGITUDE
LVC	LENGTH VERTICAL CURVE
MANUF	MANUFACTURER
MAX.	MAXIMUM
MIL	ONE THOUSANDTHS OF AN INCH
MIN.	MINIMUM
M.J.	MECHANICAL JOINT
MNPT	MALE NATIONAL PIPE THREAD
M.S.L.	MEAN SEA LEVEL
N	NORTH
N	NORTHING
NEC	NATIONAL ELECTRICAL CODE
NG	NATURAL GAS
NGWSP	NAVAJO GALLUP WATER SUPPLY PROJECT
NM	NEW MEXICO
NMDOT	NEW MEXICO DEPARTMENT OF TRANSPORTATION
NMED	NEW MEXICO ENVIRONMENT DEPARTMENT
NN	NAVAJO NATION
NO.	NUMBER
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OAE	OR APPROVED EQUAL
O.C.	ON CENTER
O.C.E.W.	ON CENTER EACH WAY
O.D.	OUTER DIAMETER
OHE	OVERHEAD ELECTRICAL
PE	PLAIN END
P.G.P.	PER GRADING PLAN
PI	POINT OF INFLECTION
PROP	PROPOSED
PRV	PRESSURE REDUCING VALVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PVC	POLY VINYL CHLORIDE
PVI	POINT VERTICAL INFLECTION
PVT	PRIVATE
Q	FLOW
QTY.	QUANTITY
R	RADIUS
R-	RANGE
REF	REFERENCE
RO	ROUGH OPENING
ROW	RIGHT OF WAY
RT	RIGHT
S	SOUTH
SCH	SCHEDULE
SDR	STANDARD DIMENSION RATIO
SEC.	SECTION
SF	SAFETY FACTOR
SHT	SHEET
SPECS.	SPECIFICATIONS
SS	STAINLESS STEEL
STA	STATION
STD.	STANDARD
SW	SIDEWALK
T	TOWNSHIP
TBD	TO BE DETERMINED
TCE	TEMPORARY CONSTRUCTION EASEMENT
TDH	TOTAL DYNAMIC HEAD
TELE.	TELEPHONE
TEMP.	TEMPORARY
THK	THICK
TNT	NAVAJO TRIBAL TRUST
T.O.	TOP OF
TRANS	TRANSFORMER
TW	TOP OF WALL
TYP	TYPICAL
UGE	UNDERGROUND ELECTRIC
USGS	UNITED STATES GEOLOGICAL SURVEY
V	VOLUME
VB	VACUUM BREAKER
VERT.	VERTICAL
VLV	VALVE
VR	VACUUM RELIEF
W	WATER
W	WEST
W	WITH
WL	WATERLINE
WP	WORKING PRESSURE
WT	WALL THICKNESS
WV	WATER VALVE
YDS	YARDS
Z	ZENITH

LEGEND
EXISTING

- BUTTERFLY VALVE
- GATE VALVE
- WATER METER
- HYDRANT
- POWER POLE
- GUY ANCHOR
- ELECTRICAL J-BOX
- TELEPHONE PEDESTAL
- STORM DRAIN INLET / OUTLET
- BUILDING
- CATTLE GUARD
- ROAD SIGN
- EXISTING DRAINAGE WASH
- GUARD RAIL
- ROAD EDGE
- ROAD CENTER
- 6490 — CONTOUR MAJOR
- CONTOUR MINOR
- SECTION CORNER
- CULTURALLY / BIOLOGICALLY SENSITIVE AREA DO NOT ENCROACH
- SECTION NUMBER
- Tribal Trust/I.A./BLM — CURRENT LAND STATUS (OWNER)
- SECTION LINE
- QUARTER SECTION LINE
- TOWNSHIP / RANGE LINE
- FENCE
- OHE — OVERHEAD POWER LINE
- UGE — UNDERGROUND POWER LINE
- TEL — OVERHEAD TELEPHONE LINE
- UGT — UNDERGROUND TELEPHONE LINE
- W — WATER LINE
- GAS LINE

LEGEND
PROPOSED

- W — WATER LINE
- OHE — POWER LINE
- FENCE
- PIPE CASING
- GATE VALVE
- BUTTERFLY VALVE
- VACUUM BREAKER / AIR RELEASE VALVE COMBO
- FLUSH VALVE
- POWER POLE
- GUY ANCHOR
- STORM DRAIN INLET / OUTLET
- DOUBLE SWING GATE
- 7080.0 — CONTOUR MAJOR
- 7079.5 — CONTOUR MINOR
- 40' WATERLINE EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT
- RIP RAP OR CABLE CRETE
- GRAVEL OVER BASE COURSE
- SWALE
- DIRECTION OF FLOW
- MATCH LINE

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Revision	Date	Description	By	Chk'd

C:\Jan Reach 24.1 JAN Cover Gen Notes.dwg
10/24/2016 1:16:15 PM ajar

SOUDER, MILLER & ASSOCIATES
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Client: The Navajo Nation Location: Reach 24.1 JAN Turnout to JAN Border, NM

GENERAL NOTES AND LEGEND
NAVAJO GALLUP WATER SUPPLY
PROJECT - REACH 24.1 JAN
SANDOVAL COUNTY, NEW MEXICO

Designed	Drawn	Checked
AGR	MvH/AaV	AGR

ANDREW ROBERTSON — NEW MEXICO — 15805 — REGISTERED PROFESSIONAL ENGINEER — 10/24/16

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED

NOTICE OF EXTENDED PAYMENT PROVISION
THIS CONTRACT ALLOWS THE OWNER TO MAKE PAYMENT WITHIN 45 DAYS AFTER SUBMISSION OF AN UNDISPUTED REQUEST FOR PAYMENT.

811 Know what's below. Call before you dig.

Date: October 24, 2016
Scale: Horiz.
Vert.
Project No: 6921307
Sheet: G-2

SANDOVAL COUNTY, NEW MEXICO
TOWNSHIP 22 NORTH, RANGE 6 WEST, NMPM

3 BLM
2 State of New Mexico
1 Navajo Tribal Fee

Route 46

Navajo Tribal Trust

EXISTING
NAVAJO GALLUP WATER SUPPLY
PROJECT REACH 24.1

Canyon
Venado

C-3
C-4
C-5
C-6
C-7
C-8

PROPOSED
SURGE TANK
(SEE SITE PLAN
C-9 THRU C-14)

PROPOSED
NAVAJO GALLUP WATER SUPPLY
PROJECT REACH 24.1 JAN

BEGIN WATERLINE
STA -0+39.10
N=1877301.32
E=1283671.26

END WATERLINE
STA 159+62.69
N=1879232.44
E=1297577.45

0+00 20+00 40+00 60+00 80+00 100+00 120+00 140+00

10 Bureau of Land Management

11 Bureau of Land Management

12 Bureau of Land Management

EXISTING
NAVAJO GALLUP WATER SUPPLY
PROJECT REACH 25

Route 4279

15 Bureau of Land Management

14 Bureau of Land Management

13 Bureau of Land Management

Jicarilla Apache Nation Reservation Boundary

R-6-W
R-5-W

N

0 500' 1000'
0 MILES 1/8 MILE 1/4 MILE
GRAPHIC SCALE

CONTACT INFORMATION:
NAVAJO NATION WATER MANAGEMENT BRANCH
OWNER: JASON JOHN
(928) 729-4004

SOUDER, MILLER & ASSOCIATES
ENGINEER: ANDREW ROBERTSON, P.E.
(505) 299-0942 Office

SURVEYOR: WILLIAM BREWSTER, P.S.
(505) 299-0942 Office

NAVAJO TRIBAL UTILITY AUTHORITY (NTUA)
CROWNPOINT SUB-OFFICE
(800) 528-5011 (ext. 4758)

SURVEY DATUM
New Mexico, USA
Vertical: NAVD 88
Horizontal: NAD83 New Mexico State Plane, Central Zone, US Foot

Revision	Date	Description	By	Chk'd

10/24/2016 1:11:09 PM

SOUDER, MILLER & ASSOCIATES
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Client: The Navajo Nation Location: Reach 24.1 JAN Turnout to JAN Border, NM

PROJECT SITE PLAN AND DRAWING KEY INDEX
NAVAJO GALLUP WATER SUPPLY PROJECT - REACH 24.1 JAN
SANDOVAL COUNTY, NEW MEXICO

Designed	Drawn	Checked
AGR	AAV	AGR

ANDREW ROBERTSON NEW MEXICO 15805 LICENSED PROFESSIONAL ENGINEER 10/24/16

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED

NOTICE OF EXTENDED PAYMENT PROVISION:
THIS CONTRACT ALLOWS THE OWNER TO MAKE PAYMENT WITHIN 45 DAYS AFTER SUBMISSION OF AN UNDISPUTED REQUEST FOR PAYMENT.

811 Know what's below. Call before you dig.

Date: October 24, 2016
Scale: Horiz: 1" = 1000'
Vert: N/A
Project No: 6921307
Sheet: C-1

SANDOVAL COUNTY, NEW MEXICO
TOWNSHIP 22 NORTH, RANGE 6 WEST, NMPM

3 BLM | 2 State of New Mexico | 1 Navajo Tribal Fee

FOUND MONUMENT 2 1/2 BC M1/4 SEC 10 N=1879697.59 E=1284514.65

FOUND MONUMENT 2 1/2 BC SEC COR 3/2/10/11 N=1876569.66 E=1287132.34

FOUND MONUMENT FD 2.5 BC USGLO T22N R6W S2-1-12-11 1948 N=1879436.58 E=1292347.55

FOUND MONUMENT 2.5 BC USGLO T22N R6-5W S1-6-7-12 1948 N=1879311.65 E=1297579.63

END WATERLINE STA 159+62.69 N=1879232.44 E=1297577.45

FOUND MONUMENT FD 2.5 BC USGLO .25 S1-12 1948 N=1879375.02 E=1294965.23

PI STA 158+34.15 N=1879151.19 E=1297477.85

PI STA 152+26.38 N=1878546.51 E=1297416.50

Route 46

Navajo Tribal Trust

SET SMA CONTROL POINT 5 1/2" REBAR W/PLASTIC CAP N = 1879133.52 E = 1283347.55 ELEV = 7205.44

SET SMA CONTROL POINT 8 1/2" REBAR W/PLASTIC CAP N = 1879028.97 E = 1285652.37 ELEV = 7182.19

SET SMA CONTROL POINT 402 1/2" REBAR W/PLASTIC CAP N = 1877859.84 E = 1283130.22 ELEV = 7119.09

SET SMA CONTROL POINT 6 1/2" REBAR W/PLASTIC CAP N = 1877769.53 E = 1283382.92 ELEV = 7106.45

SET SMA CONTROL POINT 11 1/2" REBAR W/PLASTIC CAP N = 1878169.95 E = 1287505.32 ELEV = 6996.80

SET SMA CONTROL POINT 404 1/2" REBAR W/PLASTIC CAP N = 1877739.98 E = 1289491.36 ELEV = 6965.53

SET SMA CONTROL POINT 408 1/2" REBAR W/PLASTIC CAP N = 1878520.95 E = 1297258.74 ELEV = 7011.17

PI STA 15+53.03 N=1877465.16 E=1285232.78
STA: 16+26.82 GAS LINE X-ING (ENCANA)
STA: 16+50.70 GAS LINES X-ING (WPX ENERGY)

PI STA -0+25.10 N=1877309.12 E=1283682.89
PI STA 0+09.80 N=1877279.79 E=1283701.81
PI STA 0+19.95 N=1877277.48 E=1283711.70

PI STA 7+62.88 N=1877385.34 E=1284446.75

PI STA 34+24.88 N=1877308.34 E=1287067.59

PI STA 37+97.45 N=1877287.80 E=1287439.59

PI STA 46+78.06 N=1876881.78 E=1288221.01

PI STA 71+36.21 N=1876841.75 E=1290675.73

PI STA 82+69.75 N=1876860.39 E=1291809.12

40' WATERLINE ESMT. | 50' TEMP. CONSTRUCTION ESMT. | 50' TEMP. CONSTRUCTION ESMT.

PROPOSED NAVAJO GALLUP WATER SUPPLY PROJECT REACH 24.1 JAN

PI STA 101+28.06 N=1876814.15 E=1293366.75

PI STA 86+28.06 N=1876849.76 E=1292167.27

SET SMA CONTROL POINT 406 1/2" REBAR W/PLASTIC CAP N = 1877290.44 E = 1295526.76 ELEV = 7069.36

PI STA 104+25.45 N=1876805.33 E=1293664.00

PI STA 122+31.73 N=1876878.54 E=1295442.62

PI STA 137+82.57 N=1877452.02 E=1296883.54

PI STA 142+51.63 N=1877575.09 E=1297336.17
STA: 142+13.59 GAS LINE X-ING (ENCANA)

PI STA 1+19.60 N=1877291.94 E=1283810.29

PI STA 8+41.66 N=1877396.75 E=1284524.70

PI STA 17+00.61 N=1877368.73 E=1285344.49

PI STA 29+77.50 N=1877332.99 E=1286620.88

BEGIN WATERLINE STA -0+39.10 N=1877301.32 E=1283671.26

PROPOSED SURGE TANK (SEE SITE PLAN C-9 THRU C-14)

10 Bureau of Land Management

EXISTING NAVAJO GALLUP WATER SUPPLY PROJECT REACH 24.1/25

FOUND MONUMENT 2 1/2IN BC E1/4 SEC 10 N=1876938.04 E=1287057.11

SET SMA CONTROL POINT 403 1/2" REBAR W/PLASTIC CAP N = 1876441.02 E = 1289347.69 ELEV = 7009.01

11 Bureau of Land Management

PI STA 64+25.53 N=1876909.17 E=1289968.26

STA: 99+19.27 GAS LINE X-ING (ENCANA)

PI STA 97+66.03 N=1876505.94 E=1293176.82

PI STA 94+30.96 N=1876428.54 E=1292850.81

PI STA 117+47.24 N=1876724.40 E=1294983.32

12 Bureau of Land Management

SET SMA CONTROL POINT 405 1/2" REBAR W/PLASTIC CAP N = 1876284.66 E = 1295033.33 ELEV = 7057.92

SET SMA CONTROL POINT 407 1/2" REBAR W/PLASTIC CAP N = 1877020.77 E = 1297243.98 ELEV = 7022.69

FOUND MONUMENT 2.5 BC USGLO .25 S12-7 1948 N=1876645.43 E=1297505.67

SET SMA CONTROL POINT 401 1/2" REBAR W/PLASTIC CAP N = 1875497.63 E = 1283965.36 ELEV = 7065.56

SET SMA CONTROL POINT 7 1/2" REBAR W/PLASTIC CAP N = 1875521.44 E = 1283791.87 ELEV = 7122.15

SET SMA CONTROL POINT 10 1/2" REBAR W/PLASTIC CAP N = 1874665.08 E = 1286537.78 ELEV = 7022.66

FOUND MONUMENT 2 1/2 BC SEC COR 10/11/15/14 N=1874259.93 E=1286977.68

FOUND MONUMENT 2 1/2IN BC N1/4 SEC 14 N=1874167.92 E=1289587.47

FOUND MONUMENT 2 1/2IN BC SEC 11/12/14/13 N=1874075.12 E=1292195.63

FOUND MONUMENT 2 1/2IN BC S1/4 SEC 10 N=1874351.39 E=1284358.42

SET SMA CONTROL POINT 9 1/2" REBAR W/PLASTIC CAP N = 1873221.24 E = 1286393.94 ELEV = 7071.87

FOUND MONUMENT FD BC T22N R6W R5W S12 S7 S13 S18 1948 N=1873978.10 E=1297430.82

R-6-W | R-5-W

Bureau of Land Management

Bureau of Land Management

Bureau of Land Management

15 | 14 | 13

FOUND MONUMENT 3 1/2 AC CLUSTER 1 N=1871588.80 E=1286894.06

FOUND MONUMENT 2 1/2 BC E1/4 SEC 15 N=1871534.74 E=1286897.28

FOUND MONUMENT #5 RBR E1/4 SEC 14 N=1871441.28 E=1292025.23

FOUND MONUMENT 2 1/2IN BC RM2 N=1871315.39 E=1292228.43

SET SMA CONTROL POINT 12 1/2" REBAR W/PLASTIC CAP N = 1870325.99 E = 1285633.72 ELEV = 7158.70

SET SMA CONTROL POINT 13 1/2" REBAR W/PLASTIC CAP N = 1870682.69 E = 1289535.51 ELEV = 7151.98

LEGEND

PROPOSED WATERLINE	CURRENT LAND STATUS (OWNER)
EXISTING WATERLINE	PROPOSED 40' WATERLINE EASEMENT
EXISTING GAS LINE (COLOR YELLOW ON PLANS)	TEMPORARY CONSTRUCTION EASEMENT
EXISTING FENCE	DIRT ROAD
EXISTING OVERHEAD POWER LINE	SECTION NUMBER
PROPOSED OVERHEAD POWER LINE	SEC COR / QTR COR
TOWNSHIP AND RANGE LINE	SMA CONTROL POINT
SECTION LINE	EXISTING UTILITY POLE
QUARTER SECTION LINE	PROPERTY LINE

Tribal Trust

N

0' 500' 1000

0 MILES 1/8 MILE 1/4 MILE

GRAPHIC SCALE

CONTACT INFORMATION:
NAVAJO NATION WATER MANAGEMENT BRANCH
OWNER: JASON JOHN
(928) 729-4004

SOUDER, MILLER & ASSOCIATES
ENGINEER: ANDREW ROBERTSON, P.E.
(505) 299-0942 Office

SURVEYOR: WILLIAM BREWSTER, P.S.
(505) 299-0942 Office

NAVAJO TRIBAL UTILITY AUTHORITY (NTUA)
CROWNPOINT SUB-OFFICE
(800) 528-5011 (ext. 4758)

SURVEY DATUM
New Mexico, USA
Vertical: NAVD 88
Horizontal: NAD83 New Mexico State Plane, Central Zone, US Foot

Revision | Date | Description | By | Chk'd

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Client: The Navajo Nation Location: Reach 24.1 JAN Turnout to JAN Border, NM

SURVEY CONTROL PLAN
NAVAJO GALLUP WATER SUPPLY PROJECT - REACH 24.1 JAN
SANDOVAL COUNTY, NEW MEXICO

Designed AGR | Drawn AAV | Checked WFB

WILLIAM F. BREWSTER 16855 REGISTERED PROFESSIONAL LAND SURVEYOR

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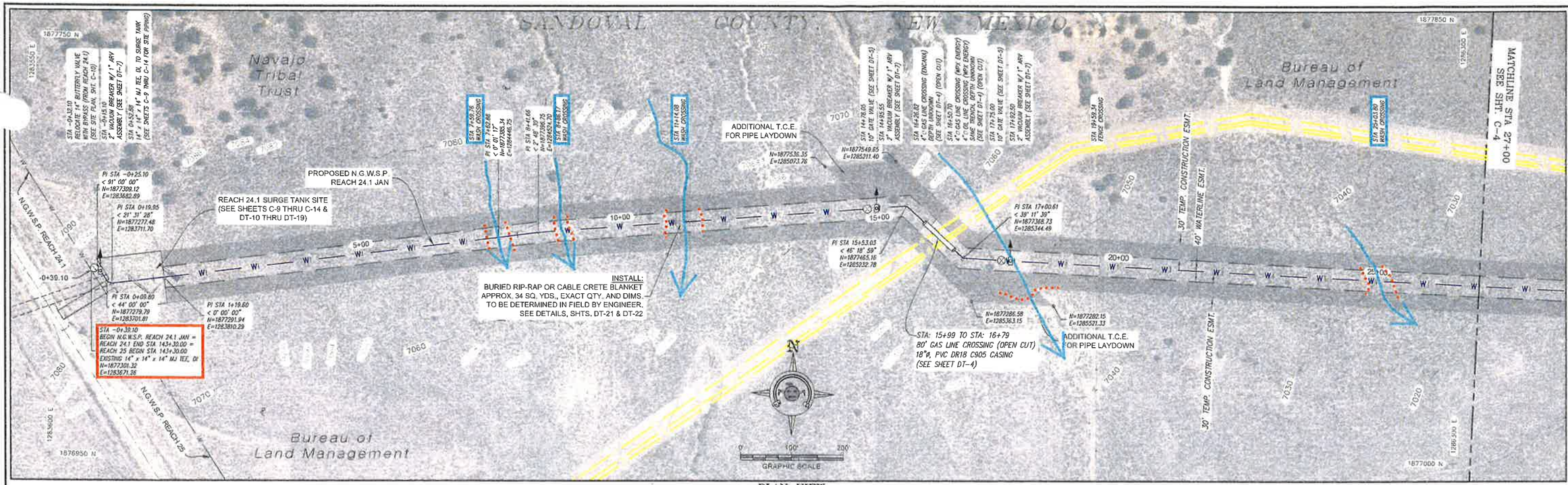
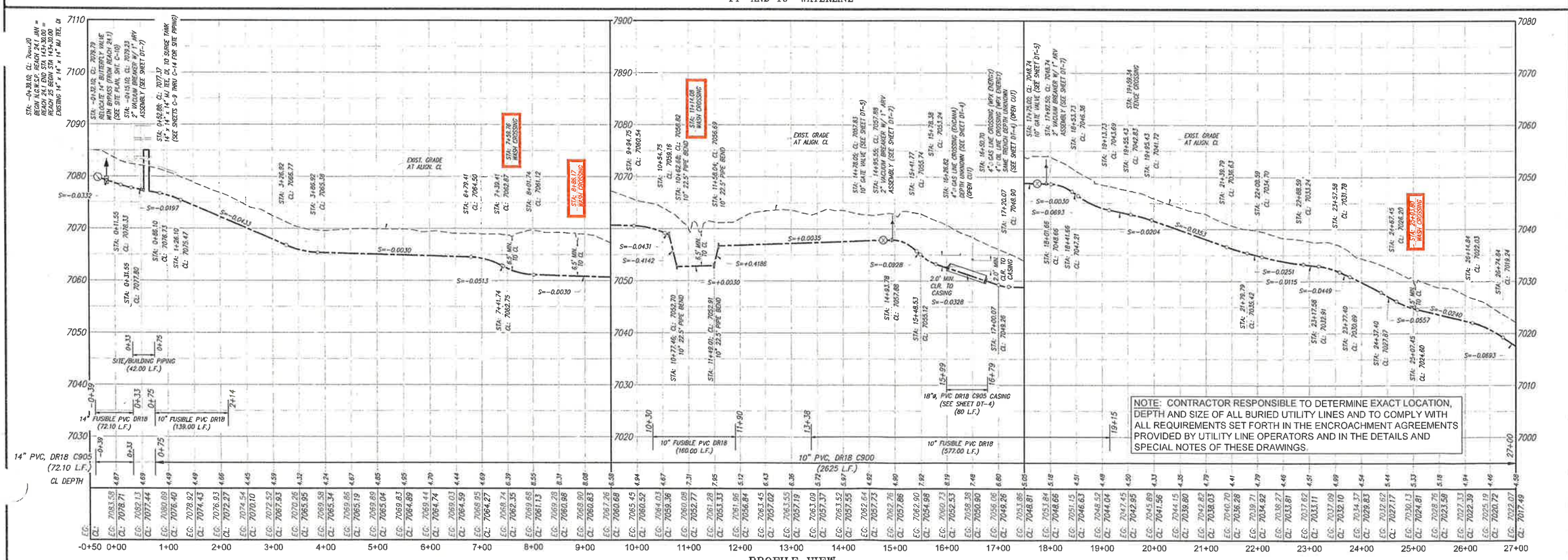
NOTICE OF EXTENDED PAYMENT PROVISION
THIS CONTRACT ALLOWS THE OWNER TO MAKE PAYMENT WITHIN 45 DAYS AFTER SUBMISSION OF AN UNDISPUTED REQUEST FOR PAYMENT.

811 Know what's below. Call before you dig.

Date: October 24, 2016
Scale: Horiz: 1" = 1000' Vert: N/A
Project No: 6921307
Sheet: C-2



PLAN VIEW
14" AND 10" WATERLINE



PROFILE VIEW
14" AND 10" WATERLINE

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Client: The Navajo Nation Location: Reach 24.1 JAN Turnout to JAN Border, NM

PLAN & PROFILE STA -0+39.10 To STA 27+00
SECTION 10, T. 22 N., R. 6 W.
NAVAJO GALLUP WATER SUPPLY
PROJECT - REACH 24.1 JAN
SANDOVAL COUNTY, NEW MEXICO

Designed	Drawn	Checked
AGR	MWM/MJV	AGR

ANDREW ROBERTSON NEW MEXICO 15805 REGISTERED PROFESSIONAL ENGINEER 10/23/16

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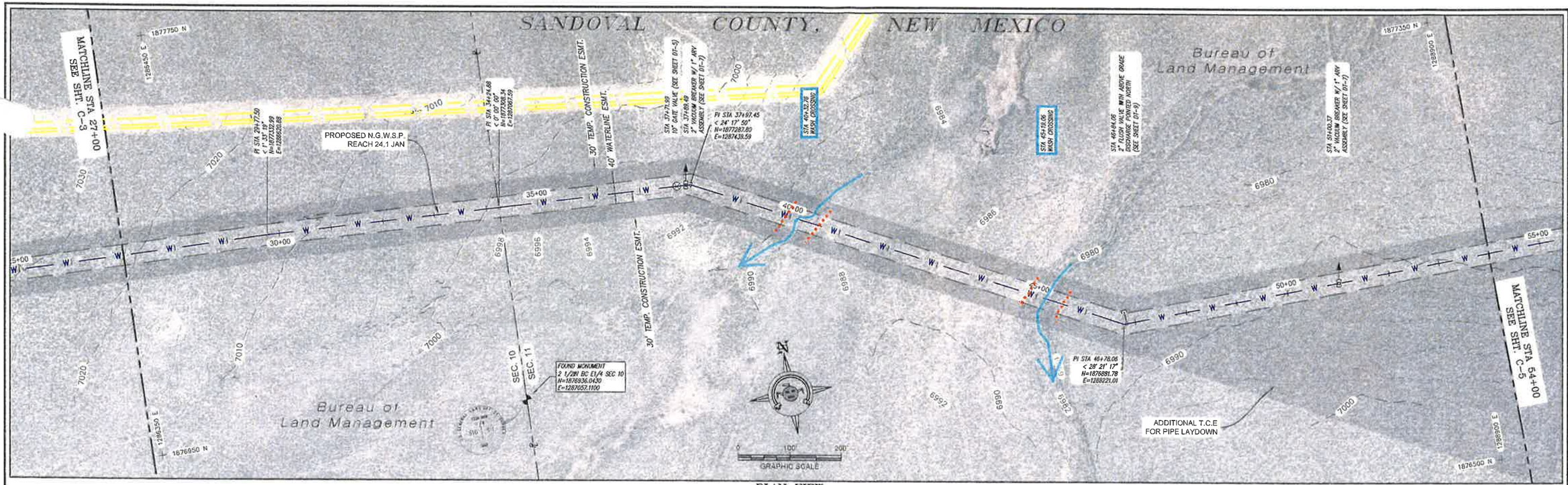
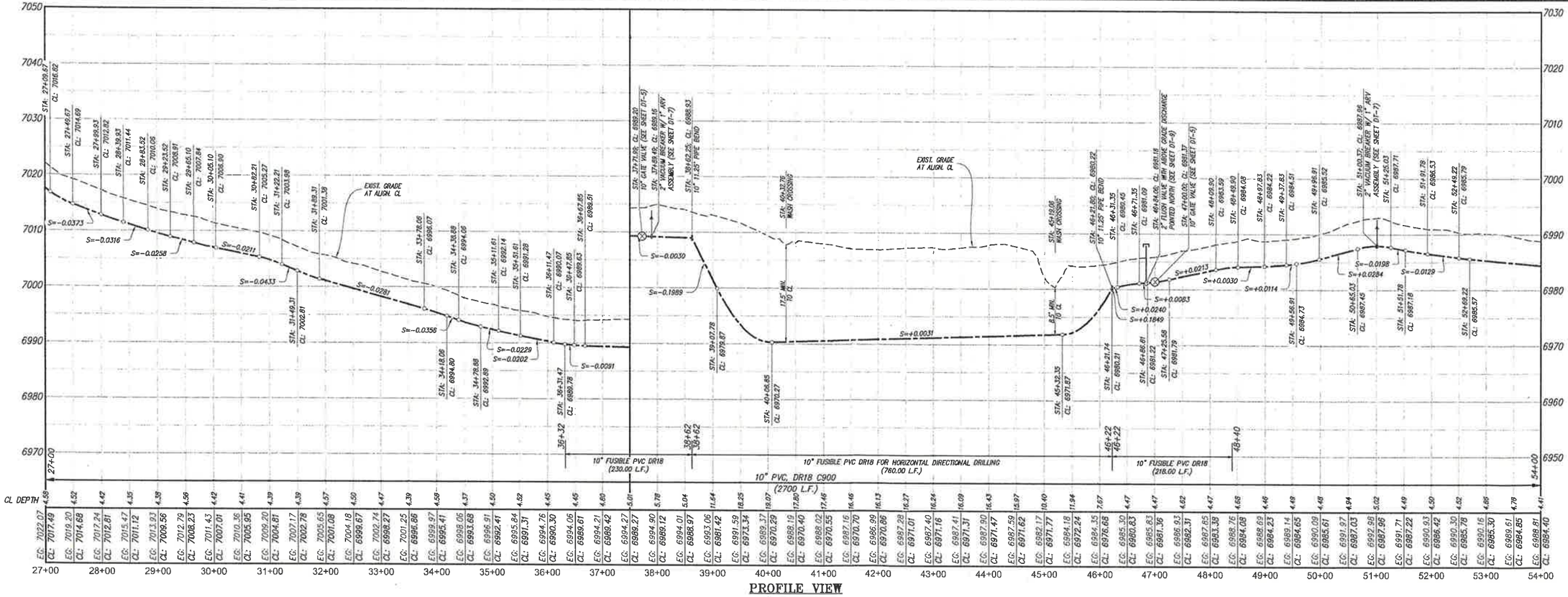
Date: October 24, 2016
Scale: Horiz: 1" = 200'
Vert: 1" = 20'
Project No: 6921307
Sheet: C-3



PLAN VIEW
10" WATERLINE



PROFILE VIEW
10" WATERLINE

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Client: The Navajo Nation Location: Reach 24.1 JAN Turnout to JAN Border, NM

PLAN & PROFILE STA 27+00 To STA 54+00
SECTIONS 10 & 11, T. 22 N., R. 6 W.
NAVAJO GALLUP WATER SUPPLY
PROJECT - REACH 24.1 JAN
SANDOVAL COUNTY, NEW MEXICO

Designed	Drawn	Checked
AGR	MVH/AaV	AGR

ANDREW ROBERTSON NEW MEXICO 15805 10/21/16 REGISTERED PROFESSIONAL ENGINEER

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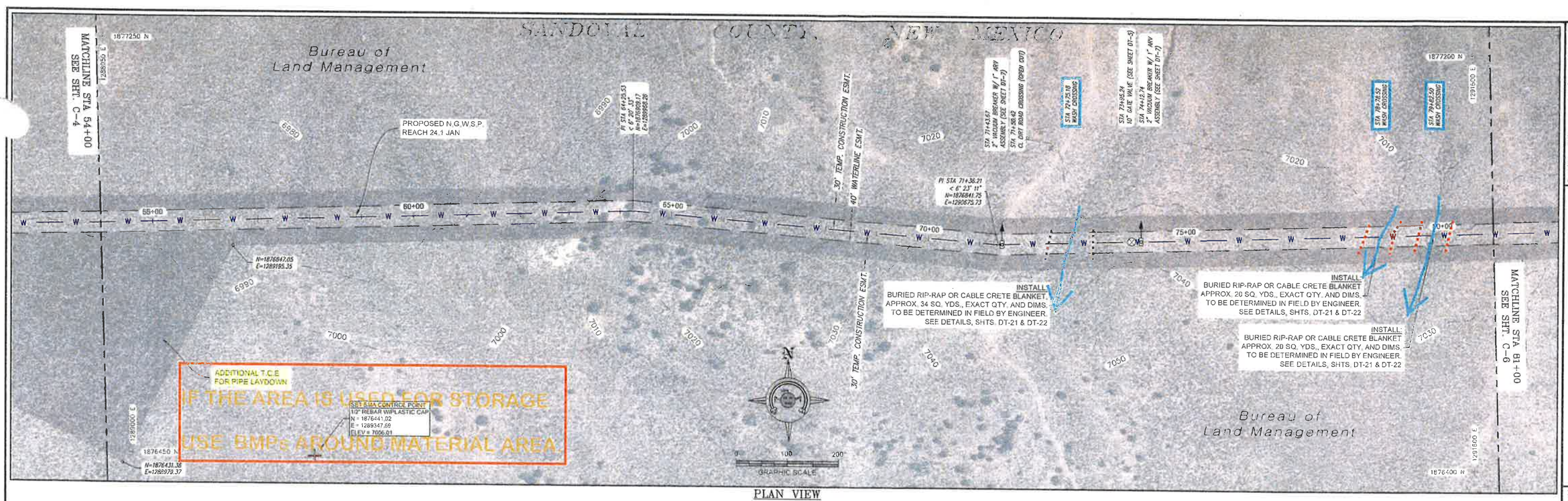
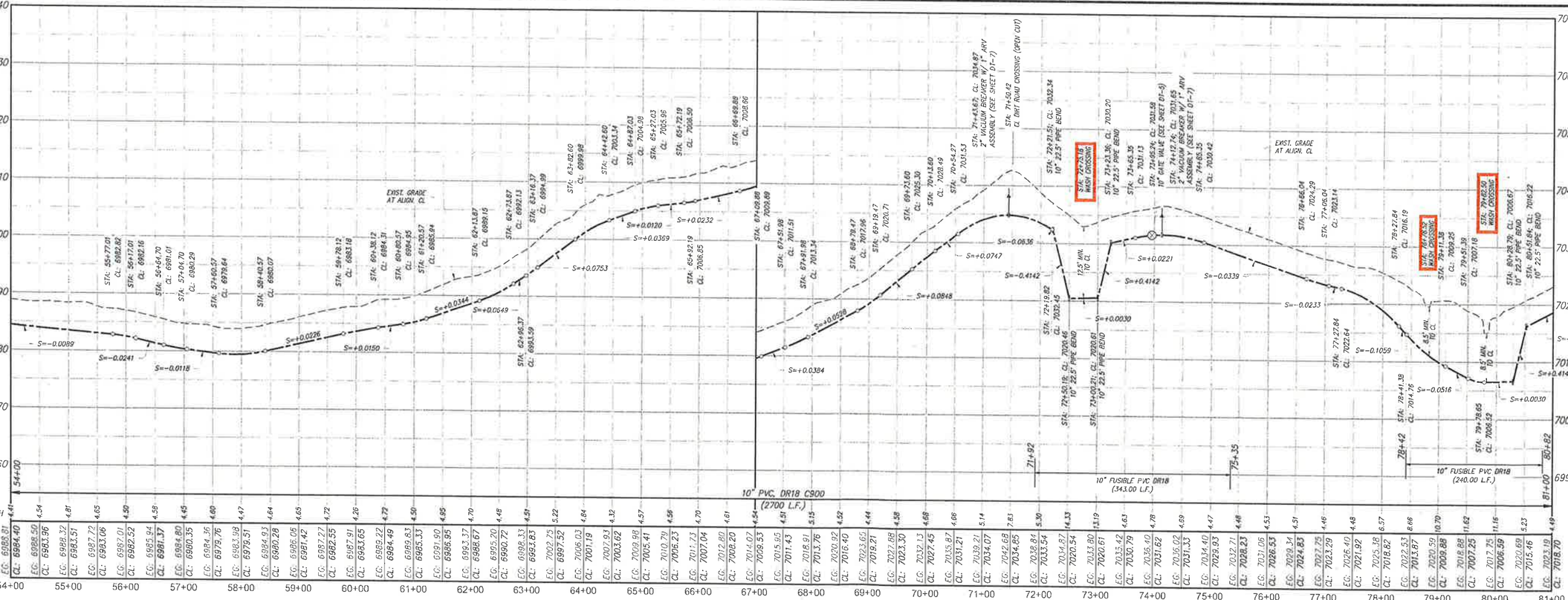
Vert: 1" = 20'
Project No: 6921307
Sheet: C-4



PLAN VIEW
10" WATERLINE



PROFILE VIEW
10" WATERLINE

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Client: The Navajo Nation Location: Reach 24.1 JAN Turnout to JAN Border, NM

PLAN & PROFILE STA 54+00 To STA 81+00
SECTION 11, T. 22 N., R. 6 W.
NAVAJO GALLUP WATER SUPPLY
PROJECT - REACH 24.1 JAN
SANDOVAL COUNTY, NEW MEXICO

Designed	Drawn	Checked
AGR	MvH/PaV	AGR

ANDREW ROBERTSON NEW MEXICO 15805 10/13/16 REGISTERED PROFESSIONAL ENGINEER

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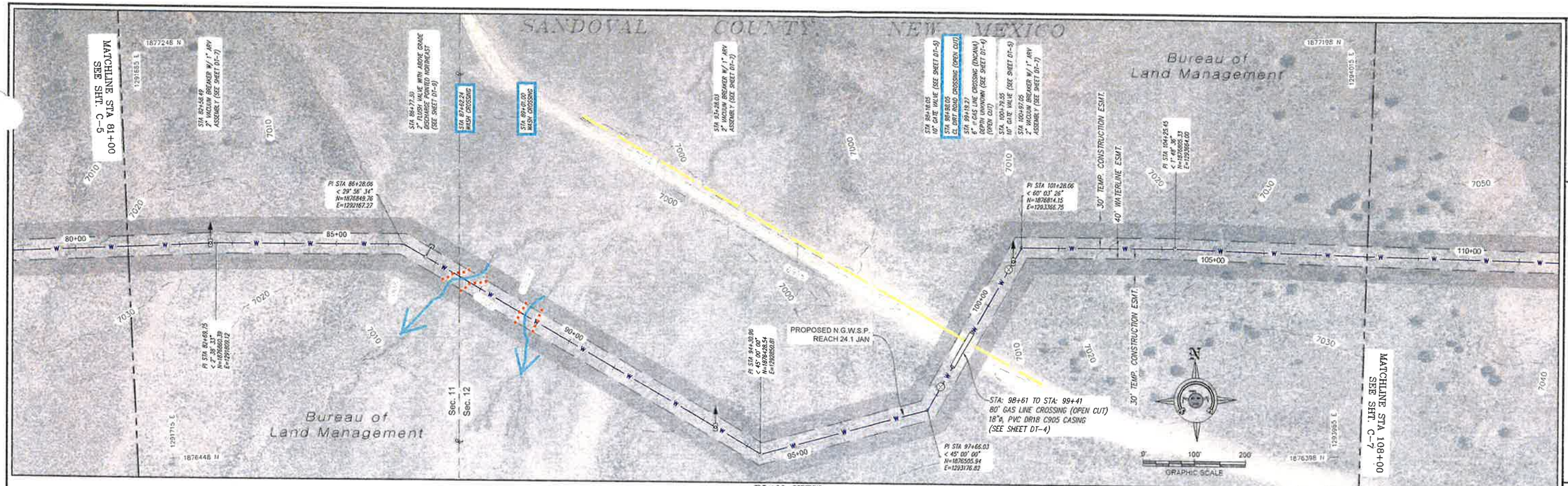
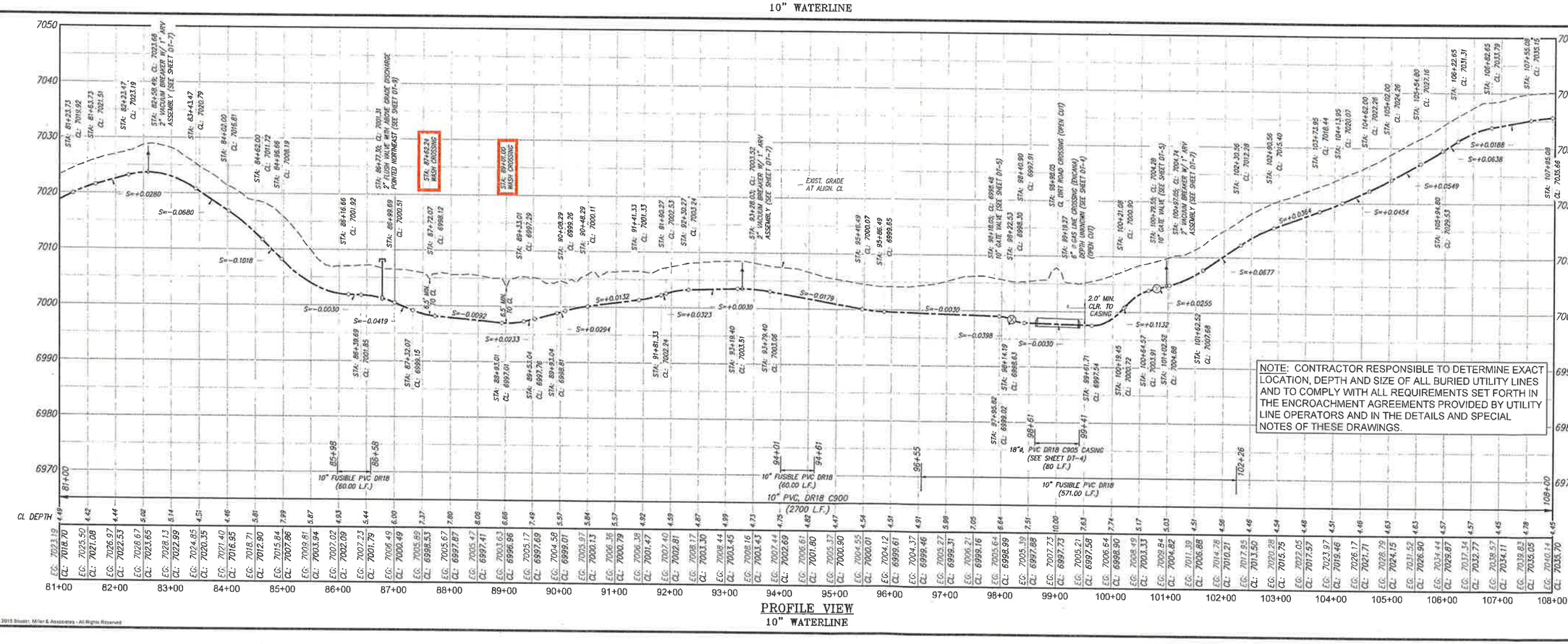
Vert. 1" = 20'
Project No: 6921307
Sheet: C-5



PLAN VIEW
10" WATERLINE



PROFILE VIEW
10" WATERLINE

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VPG - Reach 24.1 JAN Align - (T) - (D).dwg
10/5/2016 1:14:25 PM mm

Client: The Navajo Nation Location: Reach 24.1 JAN Turnout to JAN Border, NM

PLAN & PROFILE STA 81+00 To STA 108+00
SECTIONS 11 & 12, T. 22 N., R. 6 W.
NAVAJO GALLUP WATER SUPPLY
PROJECT - REACH 24.1 JAN
SANDOVAL COUNTY, NEW MEXICO

Designed	Drawn	Checked
AGR	MvM/MaV	AGR

ANDREW ROBERTSON NEW MEXICO 15905 10/23/16 REGISTERED PROFESSIONAL ENGINEER

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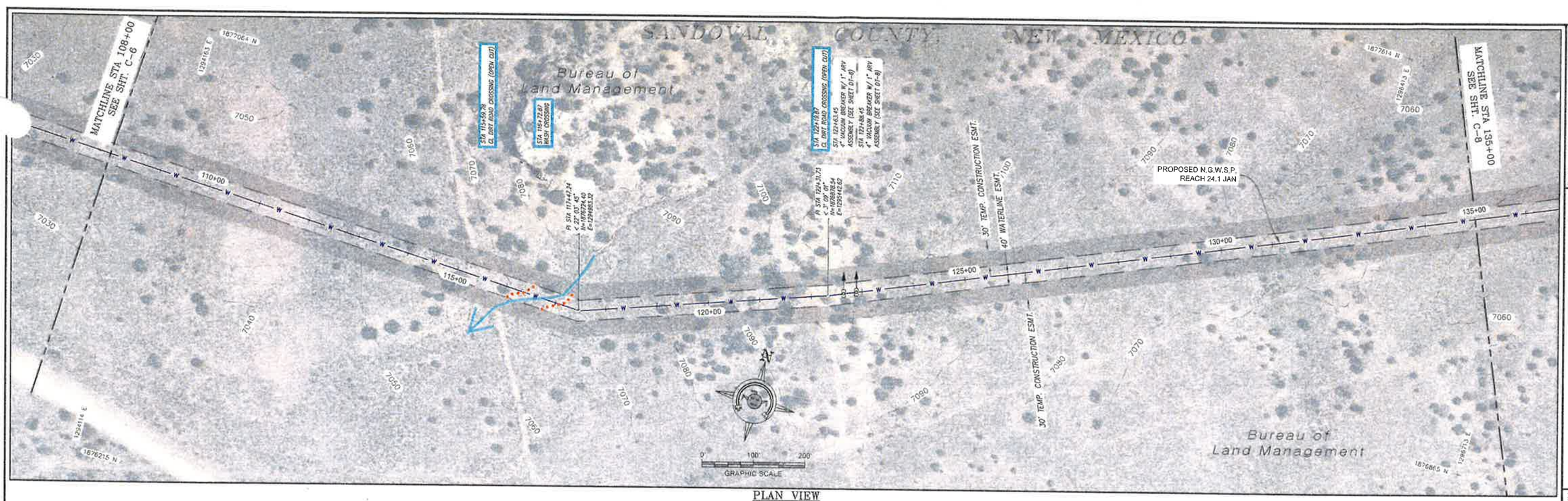
Date: October 24, 2016

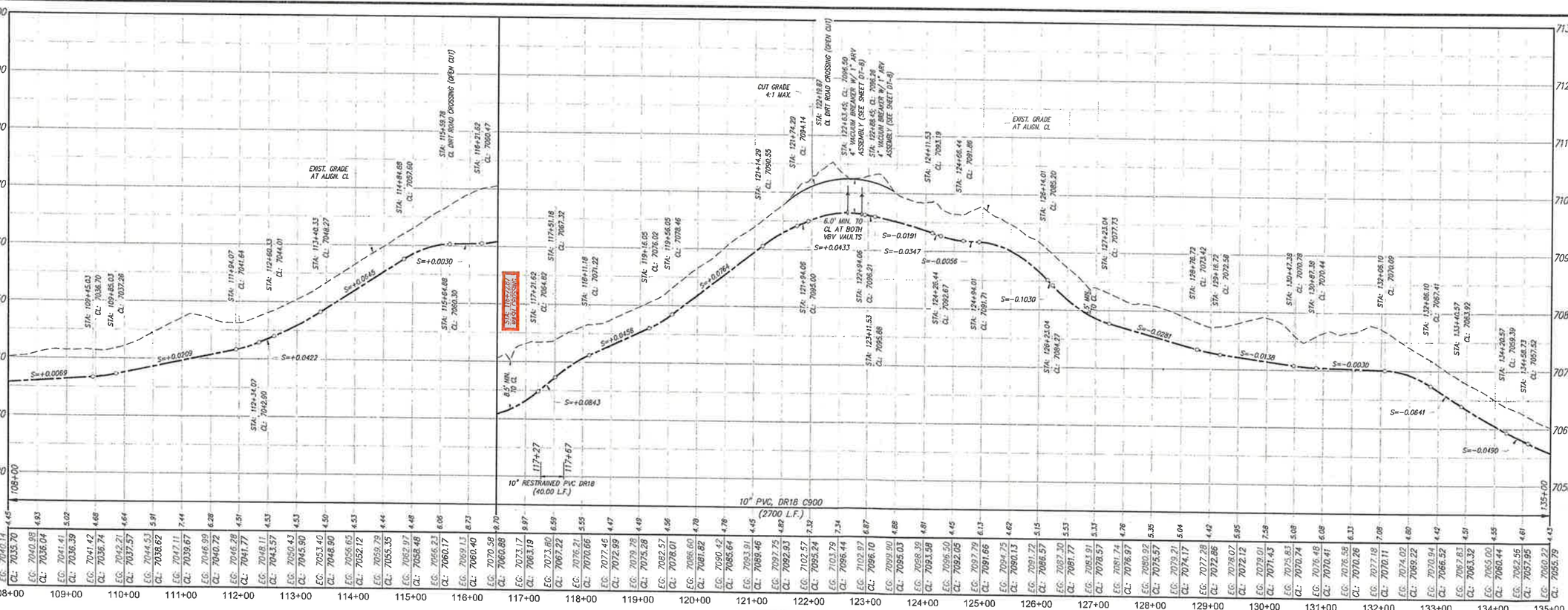
Scale: Horiz: 1" = 200'
Vert: 1" = 20'

Project No 6921307

Sheet: C-6



PLAN VIEW
10" WATERLINE



PROFILE VIEW
10" WATERLINE

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Client: The Navajo Nation Location: Reach 24.1 JAN Turnout to JAN Border, NM

PLAN & PROFILE STA 108+00 To STA 135+00
SECTION 12, T. 22 N., R. 6 W.
NAVAJO GALLUP WATER SUPPLY
PROJECT - REACH 24.1 JAN
SANDOVAL COUNTY, NEW MEXICO

Designed	Drawn	Checked
AGR	Vvt/AaV	AGR

ANDREW ROBERTSON NEW MEXICO 15905 LICENSED PROFESSIONAL ENGINEER 10/21/16

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Vert: 1" = 20'
Project No: 6921307
Sheet: C-7

SANDOVAL COUNTY, NEW MEXICO

Bureau of Land Management

Navajo Tribal Fee

Jicarilla Apache Nation

Jicarilla Apache Indian Reservation Boundary

MATCHLINE STA 135+00 SEE SHT. C-7

PI STA 137+62.57
< 6° 29' 33"
N=1877992.02
E=1296854.54

STA 140+25.56
10" GATE VALVE (SEE SHEET DT-5)

STA 140+43.06
2" VACUUM BREAKER W/ 1" ARV ASSEMBLY (SEE SHEET DT-7)

STA 141+72.64
FENCE CROSSING (SEE NOTE THIS SHEET)

STA 141+24.31
10" 22.5° PIPE BEND

STA 141+13.59
60" GAS LINE CROSSING (DUCTAPE) DEPTH UNKNOWN (SEE SHEET DT-4) (OPEN CUT)

SET SMA CONTROL POINT
1/2" REBAR W/PLASTIC CAP
N = 1877020.77
E = 1297243.98
ELEV = 7022.52

SET SMA CONTROL POINT
1/2" REBAR W/PLASTIC CAP
N = 1878520.95
E = 1297258.74
ELEV = 7011.17

STA 145+23.00
2" VACUUM BREAKER WITH ABOVE GRADE DISCHARGE POINTED EAST (SEE SHEET DT-9)

PI STA 152+08.38
< 45° 00' 00"
N=1879416.50
E=1297416.50

30 L.F. 24" CMP @ 2.67% SLOPE, MIN. 1' COVER, MIN. 10' HORIZ. SEPARATION FROM GASLINE, INVERT IN = 7024.25; INVERT OUT =7023.45 INSTALL SURFACE RIP-RAP OR CABLE CRETE BLANKET APPROX. 10 SQ. YDS, EXACT QTY. AND DIMS. TBD IN FIELD BY ENGINEER. SEE DETAILS, SHTS. DT-21 THRU DT-23. CONTRACTOR TO FIELD VERIFY GASLINE LOCATION PRIOR TO CONSTRUCTION.

ACCESS ROAD EASEMENT SEE DETAIL, THIS SHEET

PROPOSED 20' WIDE ACCESS ROAD (BLADED, NO SURFACING MATERIAL)

PROPOSED N.G.W.S.P. REACH 24.1 JAN

EXIST. STORM WATER CULVERT CROSSING

EXIST. JICARILLA APACHE FENCE

PI STA 158+34.15
(2x) 22.5° FUSIBLE PVC SWEEPS
< 45° 00' 00"
N=1879151.19
E=1297477.85

END N.G.W.S.P. REACH 24.1 JAN
STA. 159+62.69
N=1879232.44
E=1297577.45
10" MJ END CAP

159+62.69

FOUND MONUMENT
FD 2.5 BC USGLO 1928 RE-SW S1-6-7-12 1948
N=1879311.66
E=1297579.65

FUTURE JAN - CUTTER INTER - TIE BY OTHERS

30' TEMP. CONSTRUCTION ESMT.
40' WATERLINE ESMT.

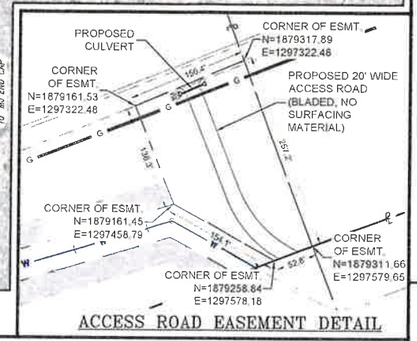
JICARILLA APACHE FENCE CROSSING. INSTALL LOCKABLE TEMPORARY GATE DURING CONSTRUCTION. RETURN FENCE TO ORIGINAL OR BETTER CONDITION PRIOR TO SUBSTANTIAL COMPLETION. DO NOT INSTALL PERMANENT GATE.

PI STA 142+51.63
< 70° 03' 46"
N=1877575.09
E=1297336.17

STA: 141+74 TO STA: 142+34
60" GAS LINE CROSSING (OPEN CUT)
18"ø, SCH. 10 STEEL CASING
(SEE SHEET DT-4)

GRAPHIC SCALE 0 100 200

PLAN VIEW
10" WATERLINE



ACCESS ROAD EASEMENT DETAIL

CORROSIVE SOIL ZONE

NOTE: CONTRACTOR RESPONSIBLE TO DETERMINE EXACT LOCATION, DEPTH AND SIZE OF ALL BURIED UTILITY LINES AND TO COMPLY WITH ALL REQUIREMENTS SET FORTH IN THE ENCROACHMENT AGREEMENTS PROVIDED BY UTILITY LINE OPERATORS AND IN THE DETAILS AND SPECIAL NOTES OF THESE DRAWINGS.

THIS SHEET CONTAINS WORK WITHIN AN AREA OF POTENTIALLY CORROSIVE SOILS, FROM STA. 150+50 TO 159+63. CATHODIC PROTECTION IS REQUIRED FOR ALL BURIED METALLIC COMPONENTS OTHER THAN STAINLESS STEEL IN THIS AREA. NO BURIED METALLIC PIPE COUPLINGS SHALL BE ALLOWED.

10" FUSIBLE PVC DR18 (485.00 L.F.)

18"ø, SCH. 10 STEEL CASING (SEE SHEET DT-4) (60 L.F.)

10" PVC, DR18 C900 (2463 L.F.)

10" FUSIBLE PVC DR18 (239.00 L.F.)

PROFILE VIEW
10" WATERLINE

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Client: The Navajo Nation Location: Reach 24.1 JAN Turnout to JAN Border, NM

PLAN & PROFILE STA 135+00 To STA 159+62.69
PROJECT - REACH 24.1 JAN
NAVAJO GALLUP WATER SUPPLY
SECTION 12, T. 22 N., R. 6 W.
SANDOVAL COUNTY, NEW MEXICO

Designed	Drawn	Checked
AGR	MWM	AGR

ANDREW ROBERTSON NEW MEXICO 15805 10/27/16 REGISTERED PROFESSIONAL ENGINEER

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Date: October 24, 2016

Scale: Horiz. 1" = 200'
Vert. 1" = 20'

Project No: 6921307

Sheet: C-8

SANDOVAL COUNTY, NEW MEXICO
SEC-10, T-22-N, R-6-W
NAVAJO TRIBAL TRUST

PROPOSED N.G.W.S.P. REACH 24.1 JAN

CORNER OF ESMT.
N=1877341.41
E=1283803.00

REACH 24.1
SURGE TANK BUILDING
(SEE DETAIL SHTS.
DT-11 THRU DT-19)

LIMITS OF EASEMENT
100.00'

CORNER OF ESMT.
N=1877242.47
E=1283817.52

NOTE:
FOR ELECTRICAL CONDUCTORS AND OTHER ELECTRICAL APPURTENANCES, SEE SHEET E101JAN.

Navajo
Tribal Trust

Waterline Temp. Const Esmt

Waterline R.O.W.

Hamilton Temp. Const. Esmt.

ESTIMATED LOCATION OF BMPS

EXISTING N.G.W.S.P. REACH 24.1

CORNER OF ESMT.
N=1877323.44
E=1283680.52

0+00

0+39.10

CORNER OF ESMT.
N=1877263.47
E=1283672.55

CORNER OF ESMT.
N=1877231.41
E=1283742.18

EXISTING N.G.W.S.P. REACH 25

PROPOSED 15' WIDE
ACCESS ROAD

CORNER OF ESMT.
N=1877246.65
E=1283683.69

30.00'

5.0'

SINGLE PHASE POWER LINE BY
OTHERS (COORDINATE POLE AND
GUY LOCATIONS WITH UTILITY)
N = 1877257.44
E = 1283634.46

74.91'

LIMITS OF EASEMENT

LIMITS OF EASEMENT
74.91'

CORNER OF ESMT.
N=1877221.77
E=1283610.29

20.00'

CORNER OF ESMT.
N=1877205.16
E=1283621.46

North 1/2 Sec 10
South 1/2 Sec 10

Bureau of
Land Management

20' POWER LINE
EASEMENT

0' 20' 40'
GRAPHIC SCALE

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Revision	Date	Description	By	Check

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Casper, Grand Junction, Gri - Safford, AZ - Moab, UT - El Paso, TX

Client: The Navajo Nation Location: Reach 24.1 JAN Turnout to JAN Border, NM

REACH 24.1 SURGE TANK
OVERALL SITE PLAN
NAVAJO GALLUP WATER SUPPLY
PROJECT - REACH 24.1 JAN
SANDOVAL COUNTY, NEW MEXICO

Designed	Drawn	Checked
AGR	MVH	AGR

ANDREW ROBERTSON
NEW MEXICO
15825
REGISTERED PROFESSIONAL ENGINEER
10/25/16

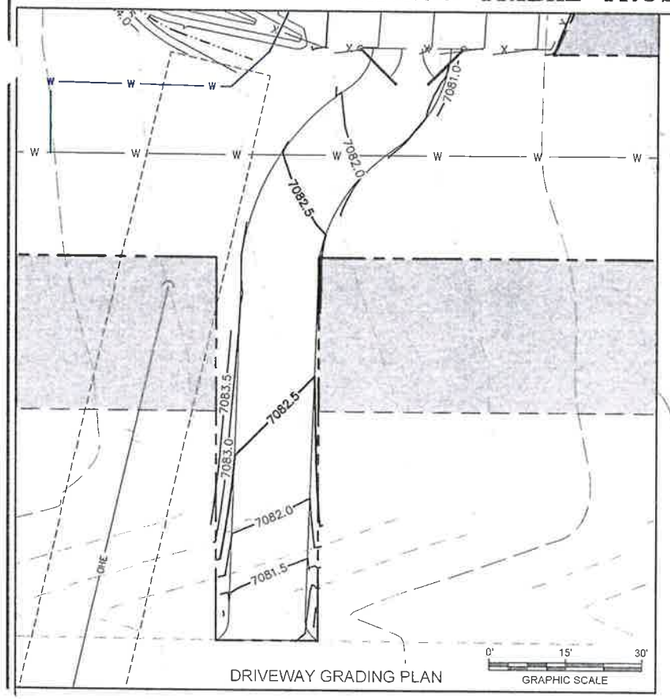
THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED

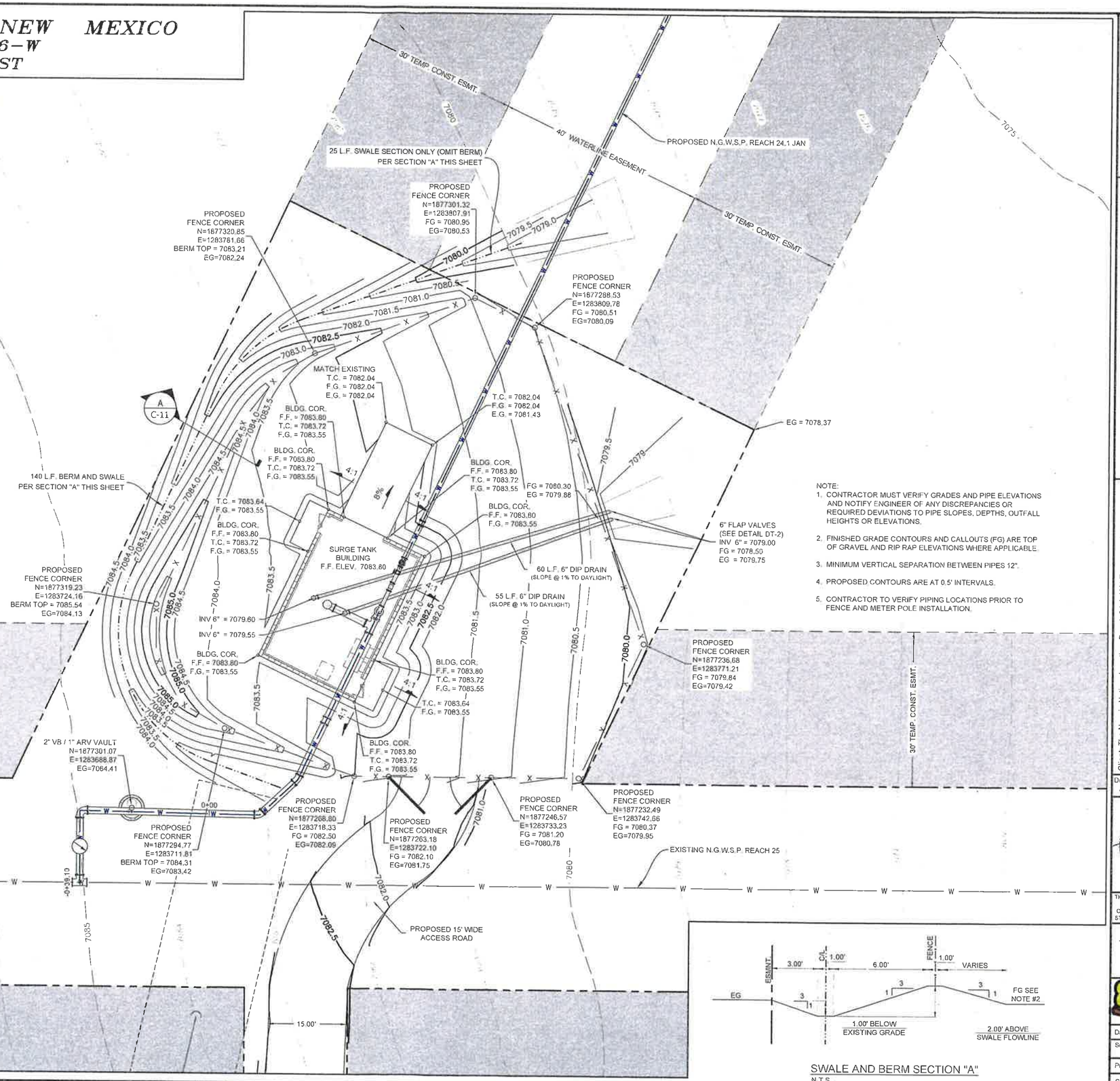
NOTICE OF EXTENDED PAYMENT PROVISION
THIS CONTRACT ALLOWS THE OWNER TO MAKE PAYMENT WITHIN 45 DAYS AFTER SUBMISSION OF AN UNDISPUTED REQUEST FOR PAYMENT.

811 Know what's below. Call before you dig.

Date:	October 24, 2016
Scale: Horiz:	1" = 40'
Vert:	N/A
Project No:	6921307
Sheet:	C-9

SANDOVAL COUNTY, NEW MEXICO
SEC-10, T-22-N, R-6-W
NAVAJO TRIBAL TRUST





NOTE:
1. CONTRACTOR MUST VERIFY GRADES AND PIPE ELEVATIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES OR REQUIRED DEVIATIONS TO PIPE SLOPES, DEPTHS, OUTFALL HEIGHTS OR ELEVATIONS.
2. FINISHED GRADE CONTOURS AND CALLOUTS (FG) ARE TOP OF GRAVEL AND RIP RAP ELEVATIONS WHERE APPLICABLE.
3. MINIMUM VERTICAL SEPARATION BETWEEN PIPES 12".
4. PROPOSED CONTOURS ARE AT 0.5' INTERVALS.
5. CONTRACTOR TO VERIFY PIPING LOCATIONS PRIOR TO FENCE AND METER POLE INSTALLATION.

SWALE AND BERM SECTION "A"
N.T.S.

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Client: The Navajo Nation Location: Reach 24.1 JAN Turnout to JAN Border, NM

REACH 24.1 SURGE TANK
SITE GRADING PLAN
NAVAJO GALLUP WATER SUPPLY
PROJECT - REACH 24.1 JAN
SANDOVAL COUNTY, NEW MEXICO

Designed	Drawn	Checked
AGR	MVH	AGR

ANDREW ROBERTSON NEW MEXICO 15605 REGISTERED PROFESSIONAL ENGINEER 10/21/16

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED

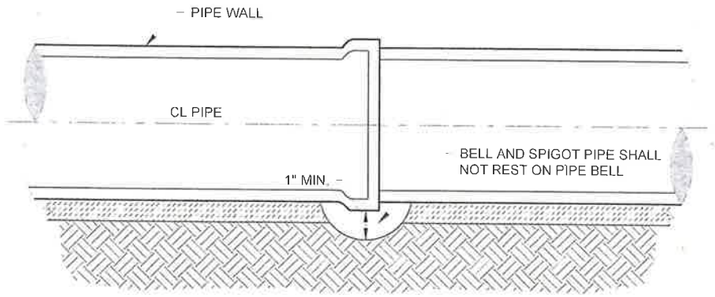
NOTICE OF EXTENDED PAYMENT PROVISION:
THIS CONTRACT ALLOWS THE OWNER TO MAKE PAYMENT WITHIN 45 DAYS AFTER SUBMISSION OF AN UNDISPUTED REQUEST FOR PAYMENT.

811 Know what's below. Call before you dig.

Date: October 24, 2016
Scale: Horiz: 1" = 20' Vert: N/A
Project No: 6921307
Sheet: C-11

NOTES:

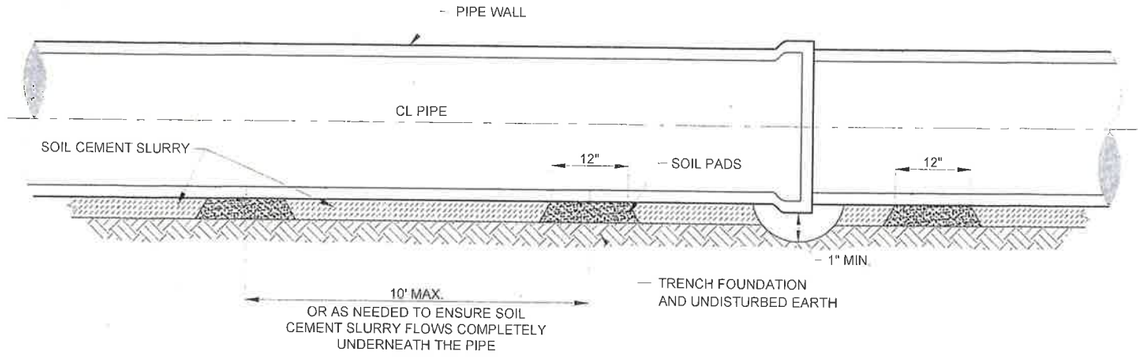
1. SOIL CEMENT SLURRY MAY BE USED IN LIEU OF COMPACTED SELECT MATERIAL AT CONTRACTOR'S OPTION AND EXPENSE.
2. ANY SECTION OF PIPE EMBEDDED IN COMPACTED SELECT MATERIAL THAT FAILS TO MEET SOIL CLASSIFICATION AND/OR COMPACTION REQUIREMENTS SHALL BE DUG UP, RE-BURIED, RE-COMPACTED AND RE-TESTED AT CONTRACTOR'S SOLE EXPENSE.
3. MINIMUM CLEARANCES BETWEEN PIPE AND TRENCH WALL MUST BE MET PRIOR TO PLACING EMBEDMENT (WHETHER COMPACTED SELECT MATERIAL OR SOIL CEMENT SLURRY). INCREASE CLEARANCES AND/OR TRENCH WIDTH AS NEEDED TO ALLOW FOR COMPACTION AND/OR TO ENSURE ADEQUATE SOIL CEMENT SLURRY LAYER THICKNESS IN HAUNCH AREAS AND PIPE SPRING LINE. DO NOT ALLOW PIPE TO REST AGAINST TRENCH WALL.
4. ROUNDED TRENCH BOTTOMS MAY BE USED IN CONJUNCTION WITH SOIL CEMENT SLURRY, PROVIDED THE THICKNESS OF SOIL CEMENT AROUND THE PIPE IS AT NO POINT LESS THAN 3".



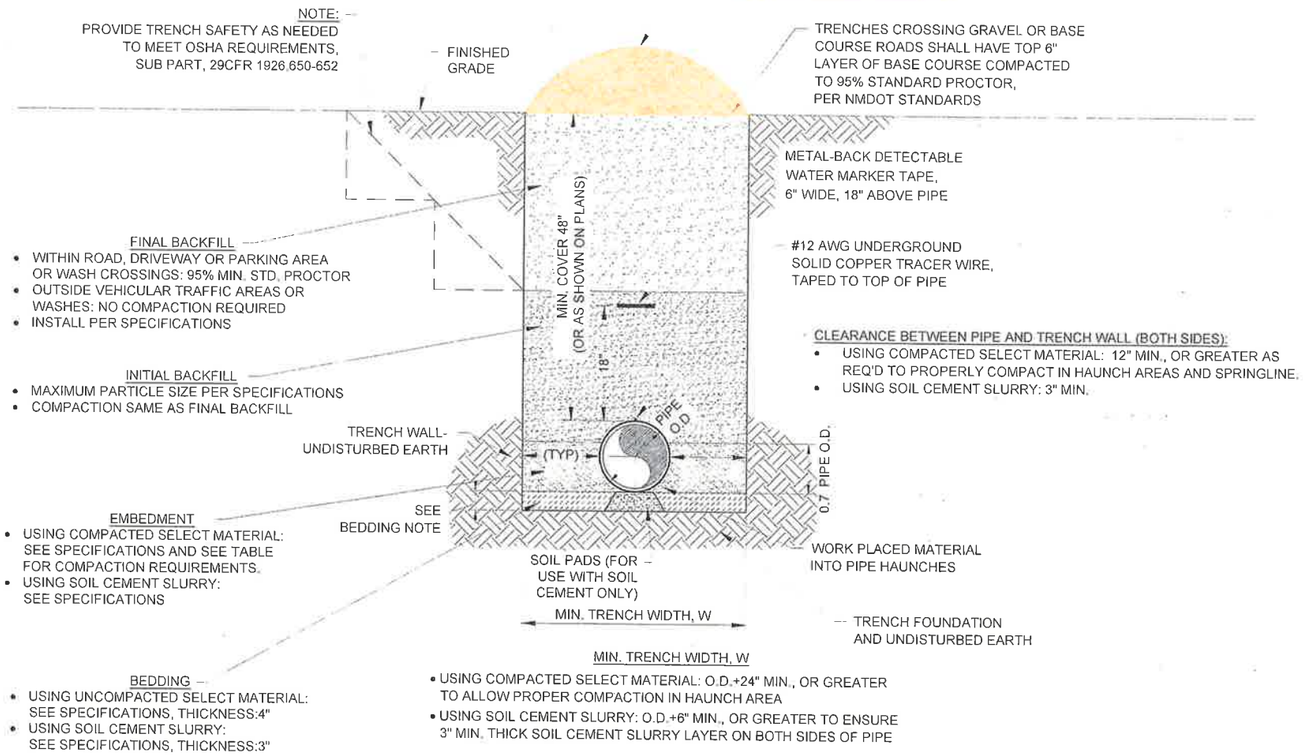
TYPICAL BELL HOLE DETAIL
NOT TO SCALE

MINIMUM PERCENT COMPACTION FOR EMBEDMENT IN NON-TRAFFICKED AREAS	
CLEAN COARSE-GRAINED SOILS	
Cover Depth	Minimum Compaction
4' to 20'	85%
Coarse-grained soils (sand or gravel), GW, GP, SW, SP, with less than 12% fines	
SANDY OR GRAVELLY FINE-GRAINED SOILS & COARSE-GRAINED SOILS WITH FINES	
Cover Depth	Minimum Compaction
4' to 14'	85%
14' to 20'	90%
Fine-grained soils (LL<50) Soils with medium to no plasticity, CL, ML, ML-CL, with more than 30% coarse-grained particles, or Coarse-grained soils (sand or gravel), GM, GC, SM, SC, with more than 12% fines	

NOTES:
1. ALL COMPACTION VALUES BASED ON STD. PROCTOR, ASTM D698. SOIL CLASSIFICATIONS BASED ON ASTM D2487.
2. EMBEDMENT WITHIN DRIVING SURFACES OF ALL ROADS, DRIVEWAYS AND PARKING AREAS SHALL BE COMPACTED TO AT LEAST 95% STD. PROCTOR, REGARDLESS OF SOIL TYPE. SOIL CEMENT MAY BE USED IN LIEU OF COMPACTED SELECT MATERIAL.



SOIL CEMENT INSTALLATION WITH SOIL PADS
NOT TO SCALE



TYPICAL TRENCH DETAIL
NOT TO SCALE

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Client: The Navajo Nation Location: Reach 24.1 JAN Turnout to JAN Border, NM

PIPELINE TRENCHING DETAILS
NAVAJO GALLUP WATER SUPPLY PROJECT - REACH 24.1 JAN
SANDOVAL COUNTY, NEW MEXICO

Designed	Drawn	Checked
AGR	AAV	AGR

ANDREW ROBERTSON NEW MEXICO 15805 LICENSED PROFESSIONAL ENGINEER 10/13/16

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED

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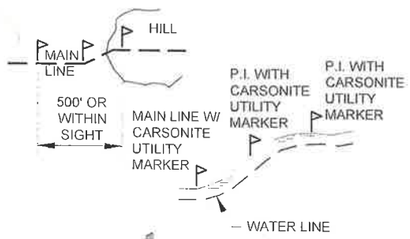
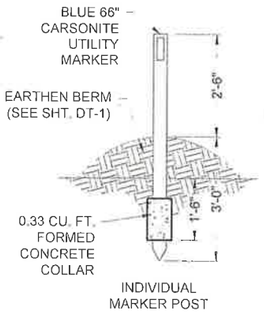
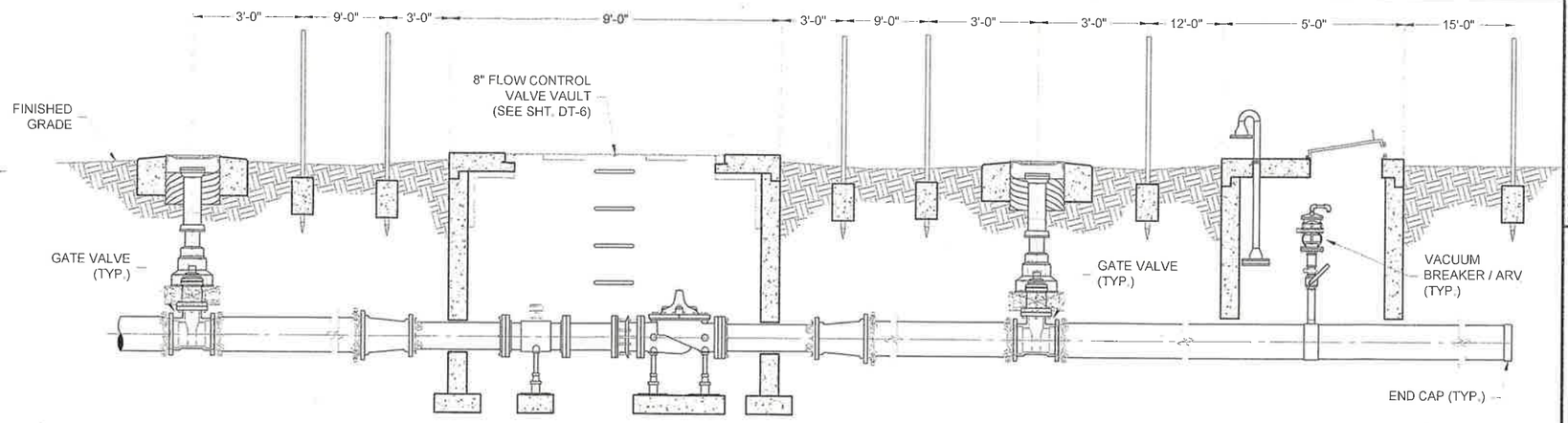
Date: October 24, 2016
Scale: Horiz: NONE Vert: N/A
Project No: 6921307
Sheet: DT-1

NOTE:
1. CARSONITE UTILITY MARKER ON ALL P.I.'S AND GRADE CHANGES.
2. MAXIMUM DISTANCE BETWEEN CARSONITE UTILITY MARKERS SHALL BE 1500 LF.

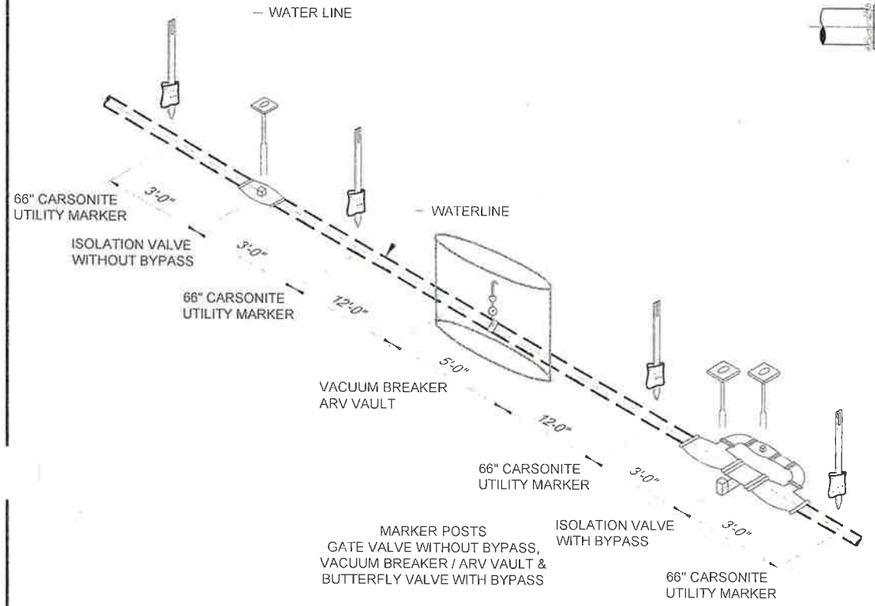




INDIVIDUAL MARKER POST

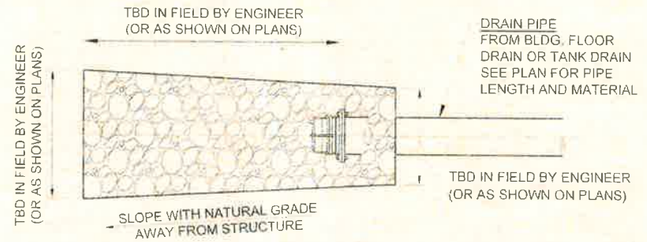


MARKER POSTS
FLOW CONTROL VALVE VAULT

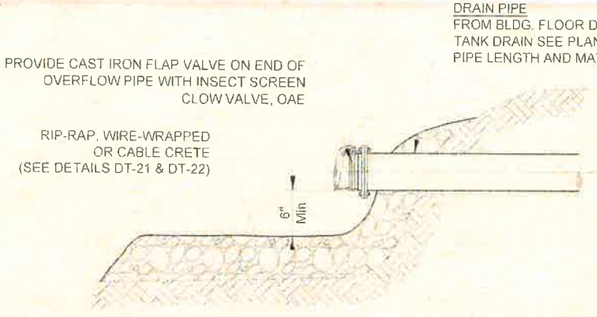


MARKER POSTS
GATE VALVE WITHOUT BYPASS,
VACUUM BREAKER / ARV VAULT &
BUTTERFLY VALVE WITH BYPASS

MARKER POST DETAIL

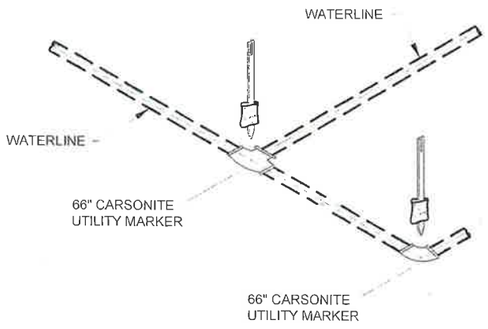


PLAN VIEW



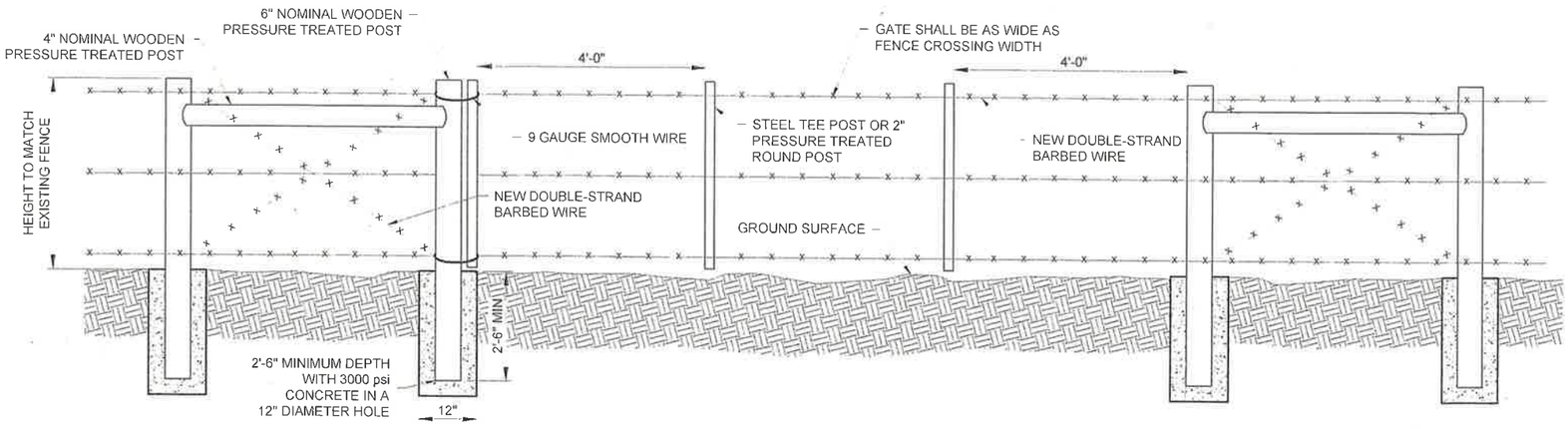
ELEVATION VIEW

TYPICAL SPLASH PAD DETAIL
NOT TO SCALE



MARKER POSTS
TEE & ELL

TYPICAL MARKER POSTS
NOT TO SCALE



NOTES:
1. EXISTING FENCE SHALL NOT BE CUT UNTIL SECURED TO H-BRACE ASSEMBLY.
2. INSTALL RANCHER STYLE GATE AT ALL FENCE CROSSINGS UNLESS SPECIFICALLY NOTED OTHERWISE ON PLANS.

"RANCHER STYLE" GATE WITH H-BRACE PULL ASSEMBLY AT FENCE CROSSING
NOT TO SCALE

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Client: The Navajo Nation Location: Reach 24.1 JAN Turnout to JAN Border, NM

MISCELLANEOUS CONSTRUCTION DETAILS

NAVAJO GALLUP WATER SUPPLY PROJECT - REACH 24.1 JAN

SANDOVAL COUNTY, NEW MEXICO

Designed	Drawn	Checked
AGR	AAV	AGR

ANDREW ROBERTSON NEW MEXICO 17809 10/23/16 REGISTERED PROFESSIONAL ENGINEER

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED.

NOTICE OF EXTENDED PAYMENT PROVISION
THIS CONTRACT ALLOWS THE OWNER TO MAKE PAYMENT WITHIN 45 DAYS AFTER SUBMISSION OF AN UNDISPUTED REQUEST FOR PAYMENT.

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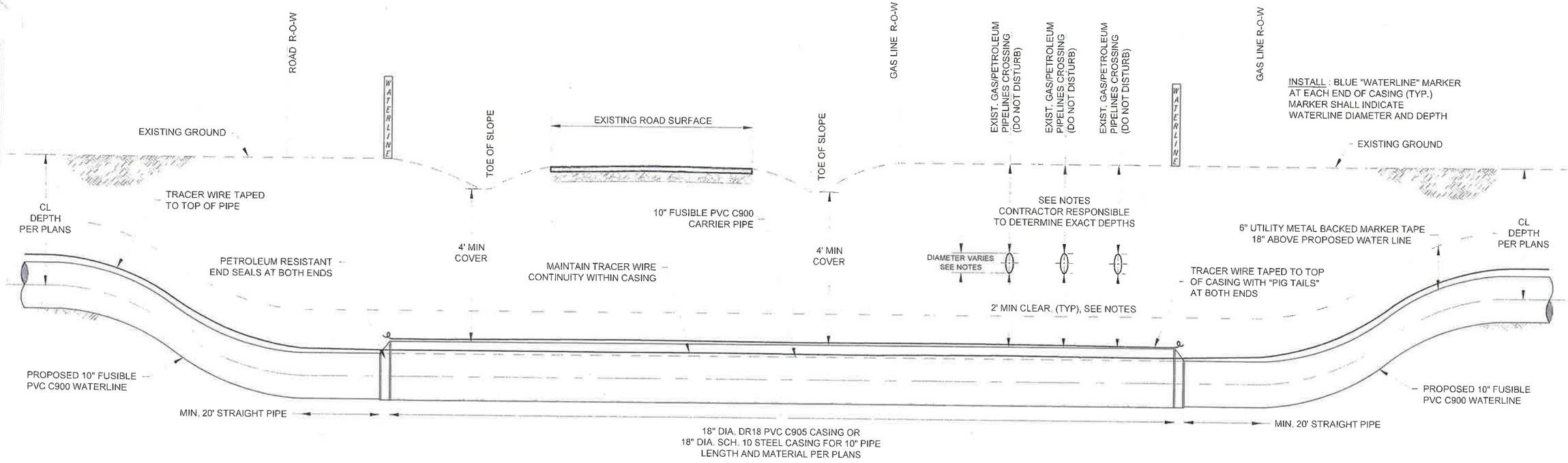
Date: October 24, 2016
Scale: Horiz: NONE Vert: N/A
Project No: 6921307
Sheet: DT-2



TYPICAL SINGLE/MULTIPLE GAS PIPELINE AND ACCESS ROAD CROSSING DETAIL

NOT TO SCALE

SPECIAL NOTES AND CONTACTS-UTILITY PIPELINE CROSSINGS

NOTES:

1. NOTIFY GAS LINE COMPANIES 30 WORKING DAYS AND CALL NM ONE-CALL AT LEAST 3 WORKING DAYS PRIOR TO GRADING, CROSSING, MATERIAL STORAGE, OR EQUIPMENT MOVING ACROSS GAS LINE RIGHT-OF-WAY OR ADJACENT ACCESS ROADS.
2. GAS LINE COMPANY REPRESENTATIVE MUST BE PRESENT DURING ALL CONSTRUCTION ACTIVITIES WITHIN GAS LINE RIGHT-OF-WAY, INCLUDING GRADING, EXCAVATION, AND CLEANUP.
3. CONTRACTOR RESPONSIBLE TO LOCATE AND EXPOSE ALL EXISTING GAS / PETROLEUM LINES, IN ACCORDANCE WITH GAS COMPANY REQUIREMENTS.
4. EXCAVATE BY HAND OR VACUUM DRILL WITHIN 2 FEET OF GAS LINE (OR MORE AS REQUIRED BY GAS COMPANY). IF GAS LINE COMPANY APPROVES, CONTRACTOR MAY INSTALL CASING BY BORING, USING FUSIBLE PVC CASING WITH INTERIOR WELD BEAD REMOVED.
5. CROSS UNDER GAS LINE (2' MIN. CLEARANCE TO TOP OF CASING), UNLESS OTHERWISE NOTED. WHERE MULTIPLE GAS LINES ARE CROSSED IN THE SAME ROW, MAINTAIN MIN. CLEARANCE UNDER THE LOWEST GAS LINE.
6. COMPLETE ANY AND ALL ENCROACHMENT AGREEMENTS REQUIRED BY GAS LINE COMPANIES. ABIDE BY ALL CONDITIONS STIPULATED BY GAS LINE COMPANIES.
7. CONTRACTOR SHALL NOT SUSPEND EXISTING GAS LINE PIPE MORE THAN 12 FEET WITHOUT SOIL BEDDING OR OTHER SUPPORT APPROVED BY GAS LINE COMPANY.
8. HEAVY EQUIPMENT MUST CROSS PIPELINE ONLY AT CROSSING LOCATIONS APPROVED BY GAS LINE COMPANIES.
9. FOR MINIMUM FUSIBLE PVC PIPE RESTRAINT REQUIREMENTS ON EACH SIDE OF CASING, SEE TABLE DETAIL DT-3. ALL REMAINING CARRIER PIPE WITHIN A 200 FT. RADIUS OF GAS LINE SHALL EITHER BE FUSIBLE PVC OR BELL-AND-SPIGOT PVC WITH PETROLEUM RESISTANT GASKETS. CASING SHALL EITHER BE FUSIBLE PVC WITH INTERIOR WELD BEAD REMOVED OR BELL AND SPIGOT PVC WITH PETROLEUM RESISTANT GASKETS.
10. TRACER WIRE CONTINUITY SHALL BE MAINTAINED ACROSS THE CASING.
11. THE INSIDE OF THE CASING AND THE OUTSIDE OF THE CARRIER PIPE MUST BE FREE OF ANY IRREGULARITIES THAT WOULD CAUSE A POINT LOAD ON CARRIER PIPE. ENGINEER RESERVES THE RIGHT TO REQUIRE SPACERS (MAX. 10' APART) IF CASING OR CARRIER PIPE ARE NOT SUFFICIENTLY SMOOTH AND REGULAR. EXTERIOR WELD BEADS SHALL BE REMOVED FROM FUSIBLE PVC CARRIER PIPE.
12. EXCAVATIONS OUTSIDE THE ROADWAY FORESLOPES SHALL BE COMPACTED AS SPECIFIED IN THE CONSTRUCTION DOCUMENTS. EXCAVATION WITHIN THE TOE OF THE FORESLOPES SHALL BE COMPACTED TO 95% MAXIMUM DRY DENSITY (STANDARD PROCTOR).

(1) = STA: 16+26.82 (APPROX.)
ENCANA
CONSTRUCTION COORDINATOR: WESLEY RODGERS
505-599-2404 OR 720-357-3736
LEAD INSPECTOR: BUD KRAMME 505-330-7096
PRODUCTION COORDINATOR:
TONY FERRARI 505-258-3875
GAS PIPELINE (4" DIA., DEPTH UNKNOWN)
SEC-10, T-22-N, R-6-W

(2) = STA: 16+50.70 (APPROX.)
WPX ENERGY (2 LINES)
FIELD CONTACT: MARK LEPICH 505-320-1338 OR
505-333-1803
FIELD CONTACT: ROBERT BRADSHAW 505-386-8887
GAS PIPELINE (4" DIA., DEPTH UNKNOWN)
OIL PIPELINE (4" DIA., DEPTH UNKNOWN)
SEC-10, T-22-N, R-6-W

(3) = STA: 99+19.27 (APPROX.)
ENCANA
CONSTRUCTION COORDINATOR: WESLEY RODGERS
505-599-2404 OR 720-357-3736
LEAD INSPECTOR: BUD KRAMME 505-330-7096
PRODUCTION COORDINATOR:
TONY FERRARI 505-258-3875
GAS PIPELINE (6" DIA., DEPTH UNKNOWN)
SEC-12, T-22-N, R-6-W

(4) = STA: 142+13.59 (APPROX.)
ENCANA
CONSTRUCTION COORDINATOR: WESLEY RODGERS
505-599-2404 OR 720-357-3736
LEAD INSPECTOR: BUD KRAMME 505-330-7096
PRODUCTION COORDINATOR:
TONY FERRARI 505-258-3875
GAS PIPELINE (4" DIA., DEPTH UNKNOWN)
SEC-12, T-22-N, R-6-W

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Client: The Navajo Nation Location: Reach 24.1 JAN Turnout to JAN Border, NM

GAS LINE AND ROAD CROSSING DETAIL

NAVAJO GALLUP WATER SUPPLY
PROJECT - REACH 24.1 JAN
SANDOVAL COUNTY, NEW MEXICO

Designed	Drawn	Checked
GMM	MLS	AGR

ANDREW ROBERTSON NEW MEXICO 15805 LICENSED PROFESSIONAL ENGINEER 10/23/16

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811 Know what's below. Call before you dig.

Date: October 24, 2016

Scale: Horiz: NONE
Vert: N/A

Project No: 6921307

Sheet: DT-4

TWISTED MESH MATTRESS
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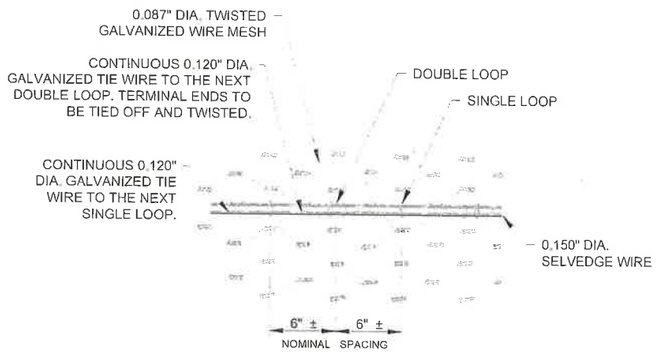
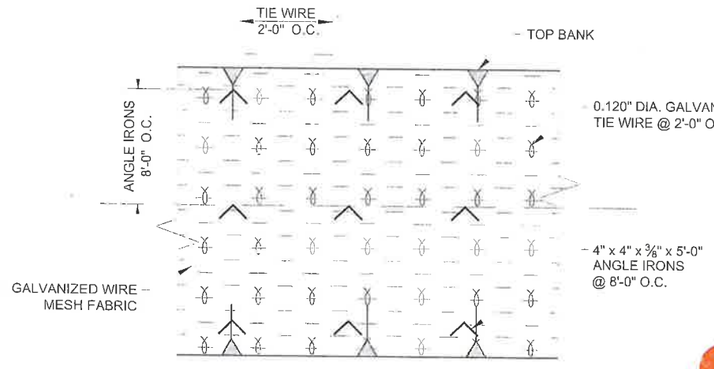
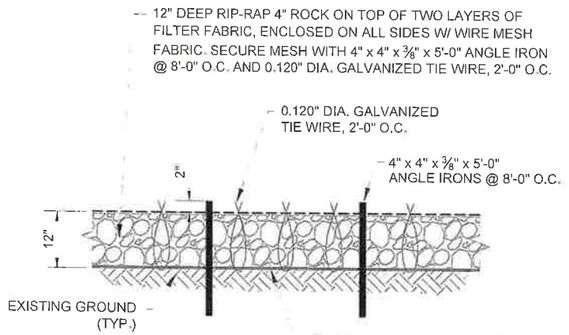


STANDARD JOINT CONNECTION DETAIL
NOT TO SCALE

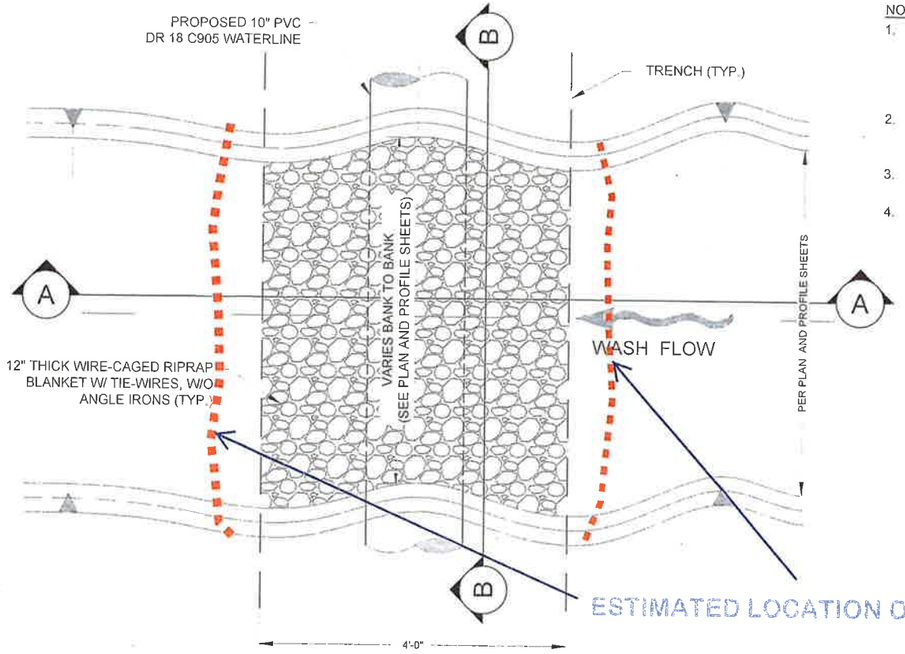


TYP. 12" RIP-RAP CAGE & ANCHORING
NOT TO SCALE



CROSS SECTION

TYPICAL 12" RIP-RAP DETAIL
NOT TO SCALE



ESTIMATED LOCATION OF BMPS WASH CROSSING

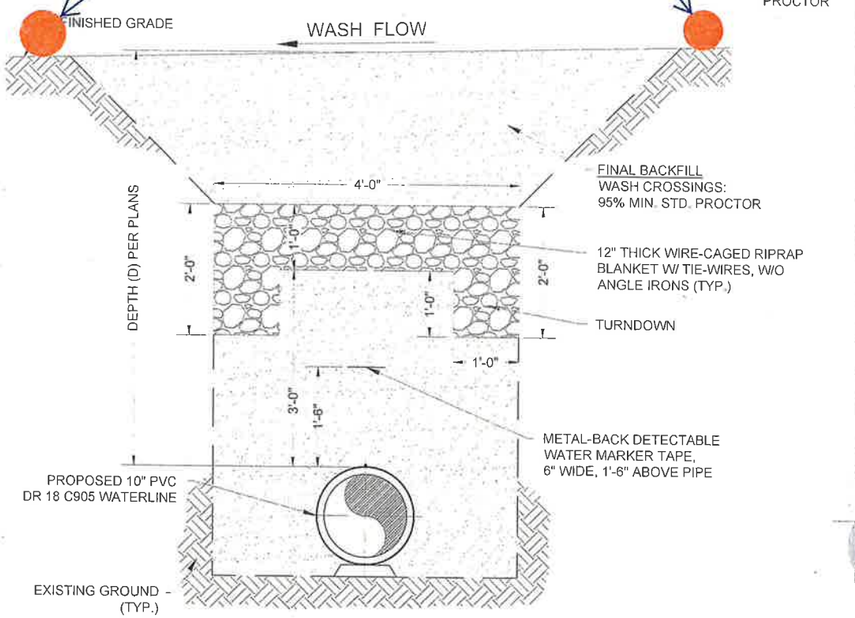
PLAN VIEW

NOTE:

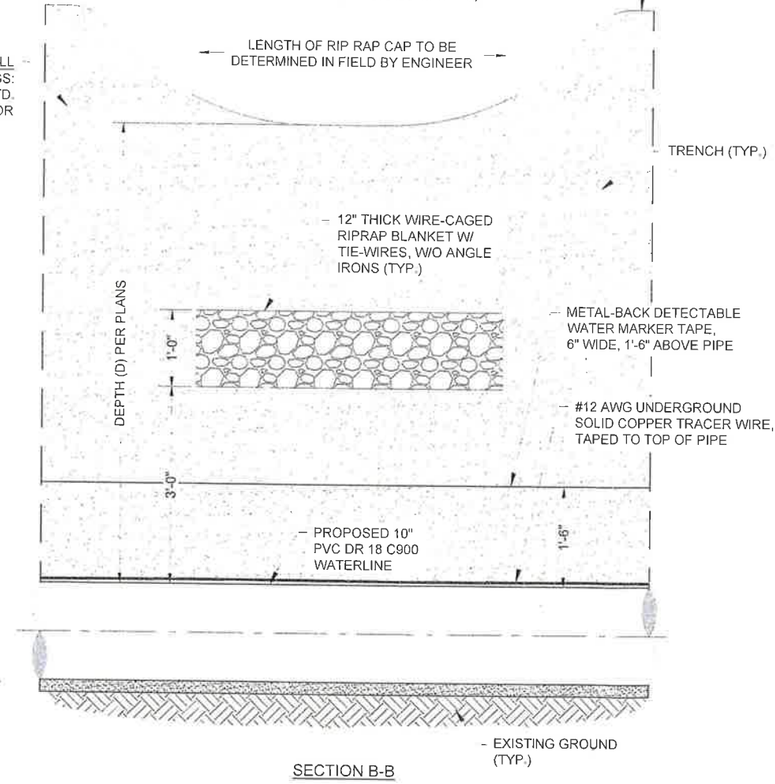
1. FOR RIPRAP BLANKETS IN NATURAL WATERWAYS (EXCEPT FLUSH VALVE OUTLETS), BLANKET SHALL BE BURIED AS SHOWN. COVER BLANKET WITH NATURAL SOIL AND REGRADE TO RESTORE WASH FLOWLINE TO NATURAL GRADE.
2. RIPRAP BLANKETS AT SITES, FLUSH VALVE OUTLETS AND CULVERT OUTLETS SHALL BE INSTALLED FLUSH WITH SURROUNDING FINISHED GRADE.
3. FINAL QUANTITIES, DIMENSIONS AND LOCATIONS TO BE DETERMINED IN FIELD BY ENGINEER.
4. FOR ALL WASH CROSSINGS, CULVERT OUTFALLS, AND FLUSH VALVE OUTLETS, EITHER RIPRAP OR CABLE CONCRETE MAY BE USED AT CONTRACTOR'S OPTION.

ESTIMATED LOCATION OF BMPS

REMOVE WHEN PREVIOUS FLOW LINE IS ESTABLISH



SECTION A-A



SECTION B-B

TYPICAL BURIED 12" RIPRAP MATTRESS FOR WASH CROSSINGS
NOT TO SCALE

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Cortez, Grand Junction, CO - Milford, UT - Moab, UT - El Paso, TX

Client: The Navajo Nation Location: Reach 24.1 JAN Turnout to JAN Border, NM

EROSION CONTROL DETAILS (1 of 3)
NAVAJO GALLUP WATER SUPPLY
PROJECT - REACH 24.1 JAN
SANDOVAL COUNTY, NEW MEXICO

Designed	Drawn	Checked
AGR	AAV	AGR

ANDREW ROBERTSON NEW MEXICO 15805 REGISTERED PROFESSIONAL ENGINEER 10/23/16

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NOTICE OF EXTENDED PAYMENT PROVISION:
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Date: October 24, 2016
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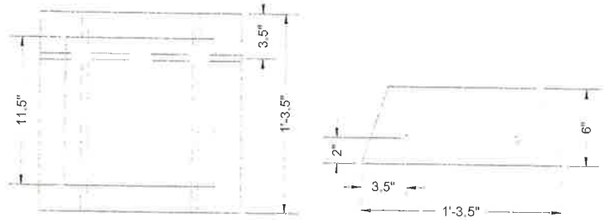
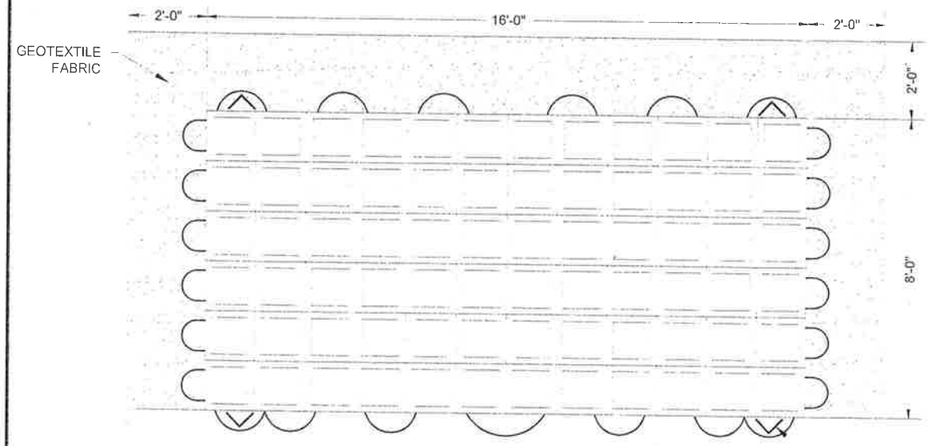
Project No: 6921307
Sheet: DT-21



PLAN VIEW ELEVATION VIEW



TYPICAL 6" CC-45 CLOSED CELL CABLE CONCRETE DETAIL

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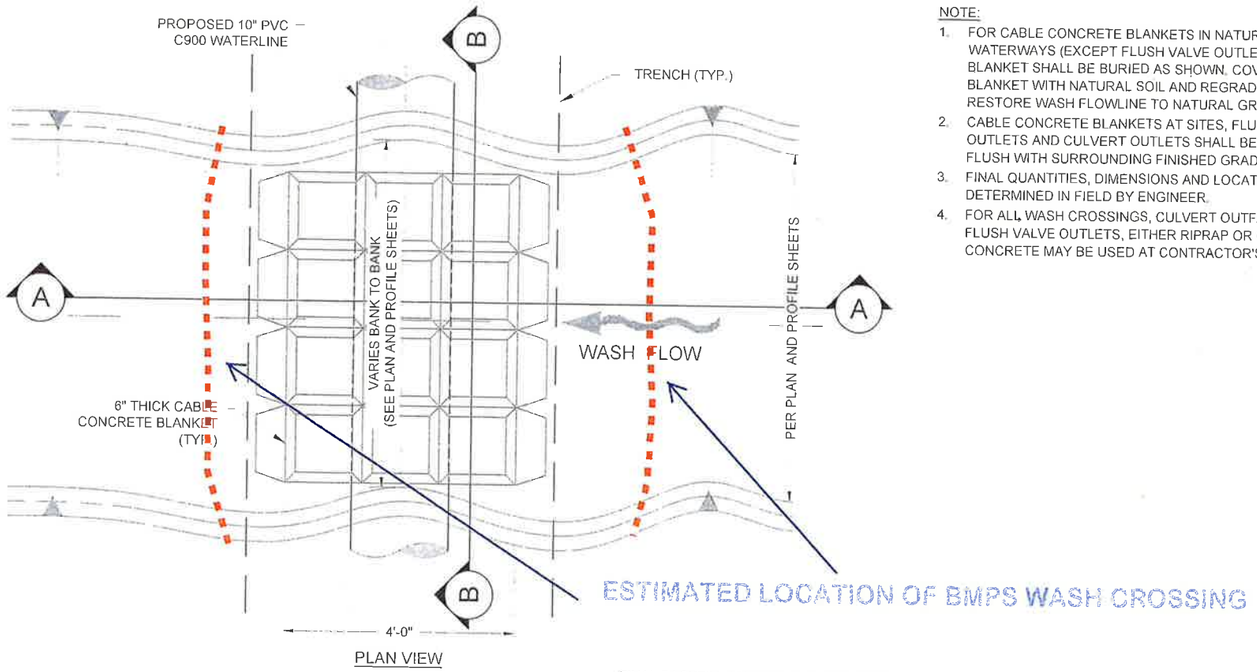
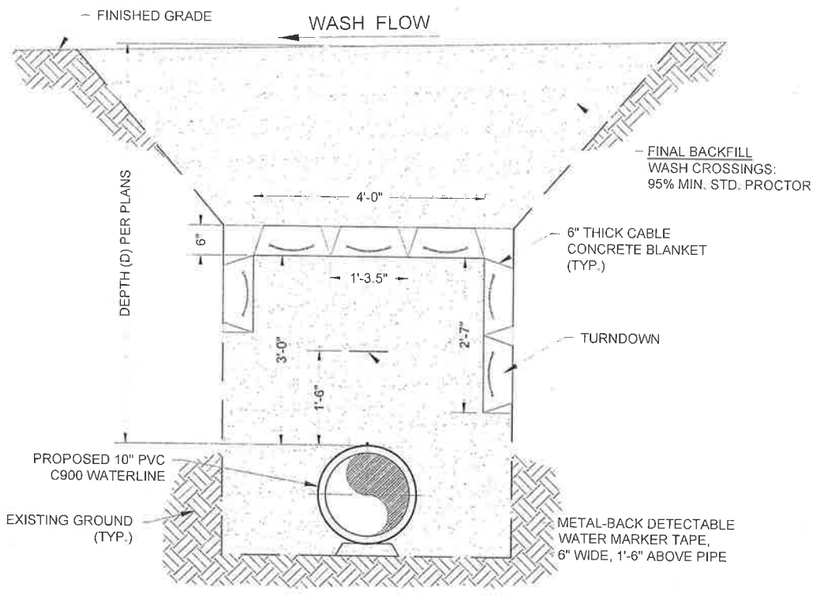


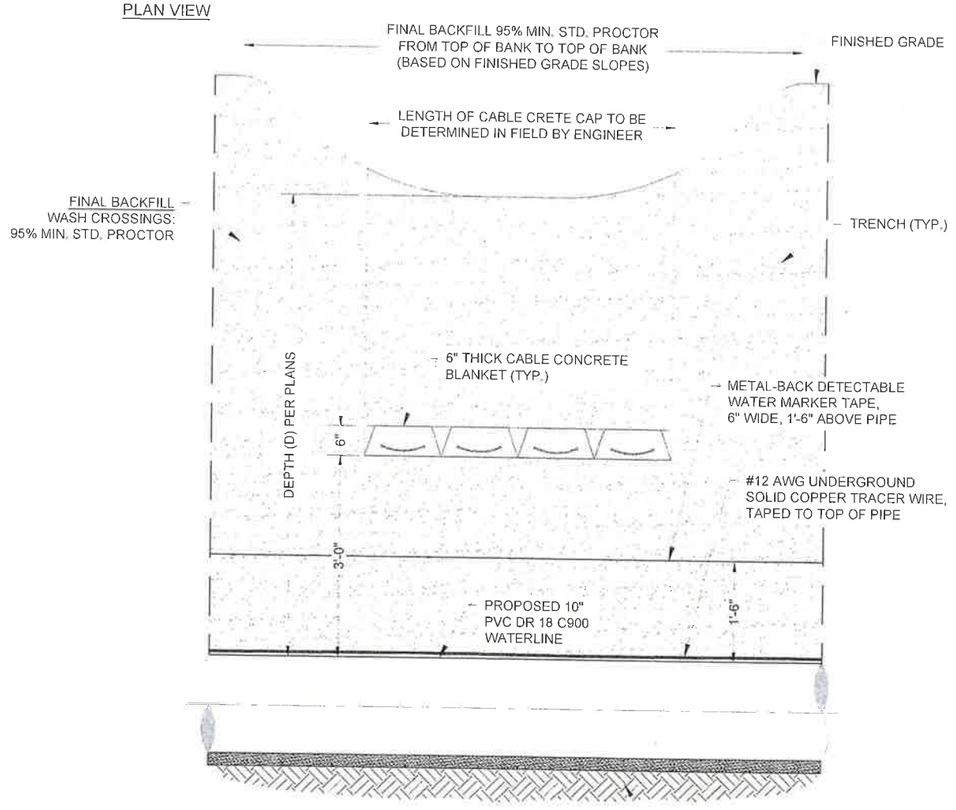
PLAN VIEW

NOTE:

1. FOR CABLE CONCRETE BLANKETS IN NATURAL WATERWAYS (EXCEPT FLUSH VALVE OUTLETS), BLANKET SHALL BE BURIED AS SHOWN. COVER BLANKET WITH NATURAL SOIL AND REGRADE TO RESTORE WASH FLOWLINE TO NATURAL GRADE.
2. CABLE CONCRETE BLANKETS AT SITES, FLUSH VALVE OUTLETS AND CULVERT OUTLETS SHALL BE INSTALLED FLUSH WITH SURROUNDING FINISHED GRADE.
3. FINAL QUANTITIES, DIMENSIONS AND LOCATIONS TO BE DETERMINED IN FIELD BY ENGINEER.
4. FOR ALL WASH CROSSINGS, CULVERT OUTFALLS, AND FLUSH VALVE OUTLETS, EITHER RIPRAP OR CABLE CONCRETE MAY BE USED AT CONTRACTOR'S OPTION.



SECTION A-A



SECTION B-B

TYPICAL BURIED 6" CABLE CONCRETE MATTRESS FOR WASH CROSSINGS

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Client: The Navajo Nation Location: Reach 24.1 JAN Turnout to JAN Border, NM

EROSION CONTROL DETAILS (2 of 3)

NAVAJO GALLUP WATER SUPPLY
PROJECT - REACH 24.1 JAN
SANDOVAL COUNTY, NEW MEXICO

Designed	Drawn	Checked
AGR	AAV	AGR

ANDREW ROBERTSON NEW MEXICO 15805 10/27/16 REGISTERED PROFESSIONAL ENGINEER

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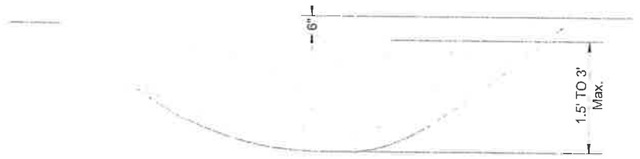
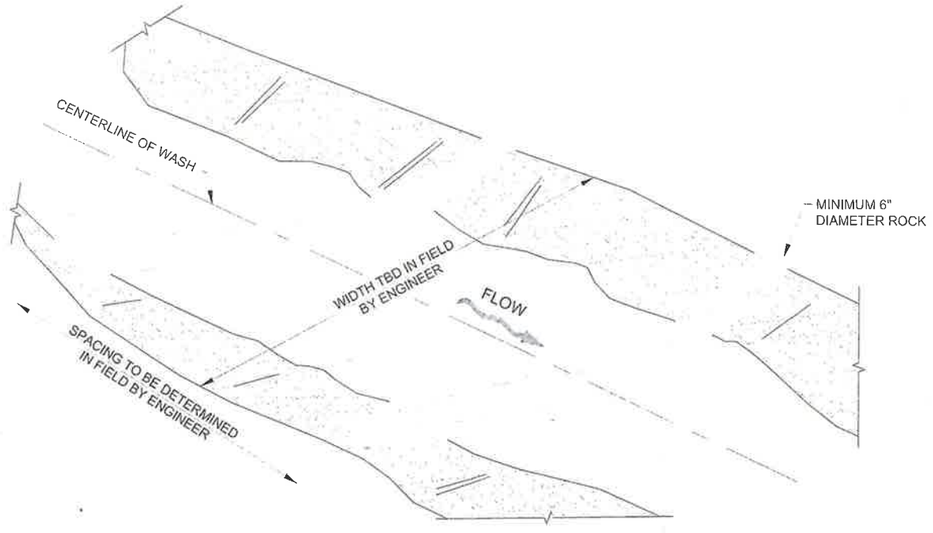
Project No: 6921307

Sheet: DT-22



ELEVATION VIEW

TYPICAL ROCK DAM SECTION

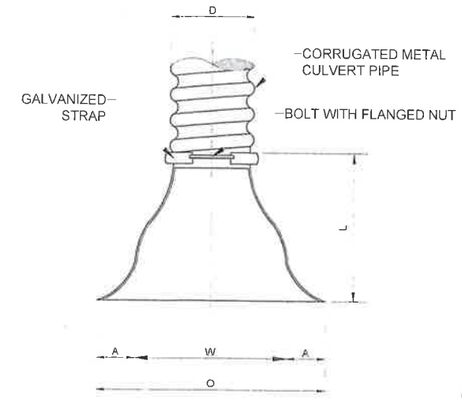


ISOMETRIC VIEW

ROCK CHECK DAM DETAIL

NOT TO SCALE

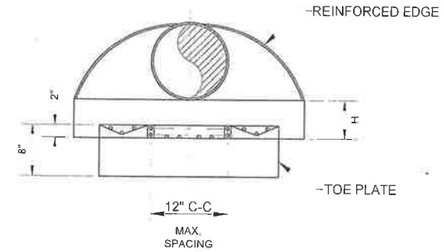
END SECTIONS FOR ROUND PIPE							
D (Pipe Diameter) (Inches)	Culvert Length (Feet)	Pipe Gage	A (± 1") (Inches)	H (Min) (Inches)	L (± 2") (Inches)	W (± 2") (Inches)	O (Overall Width) (± 4") (Inches)
24"	30'-0"	16	10"	6"	41"	48"	68"



PLAN VIEW

NOTES:

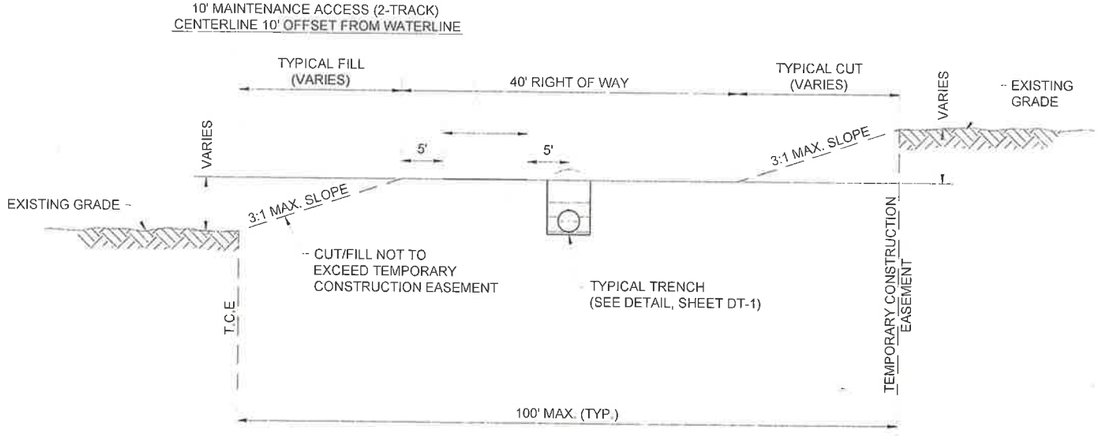
1. ALL 3 PIECE BODIES TO HAVE 12 GA. SIDES AND 10 GA. CENTER PANELS. WIDTH OF CENTER PANELS TO BE GREATER THAN 20% OF THE PIPE PERIPHERY. MULTIPLE PANEL BODIES TO HAVE LAP SEAMS WHICH ARE TO BE TIGHTLY JOINED BY ~6" GALVANIZED RIVETS OR BOLTS.
2. WELDING WILL NOT BE PERMITTED IN CONNECTING END SECTIONS TO CONNECTOR SECTIONS OR CONNECTOR SECTIONS TO PIPE.
3. TYPE 1 PIPE MAY BE USED WITH WELDED SEAM OR LOCKSEAM CONNECTED HELICALLY CORRUGATED PIPE WITH RE-ROLLED ENDS. RE-ROLLED ENDS SHALL INCLUDE A MINIMUM OF 2 ANNULAR CORRUGATIONS OF THE SAME SIZE AS THE PIPE CORRUGATIONS.
4. INSTALL 4x 66" YELLOW CARSONITE UTILITY MARKERS WITH REFLECTORS, 2x AT EACH END, AT ALL CULVERT CROSSINGS OFFSET 12" FROM THE ROAD OR DRIVEWAY SURFACE.
5. ALL FILL TO BE COMPACTED EARTH, 95% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D1557.



ELEVATION VIEW

STANDARD END SECTION FOR CORRUGATED METAL CULVERT PIPE

NOT TO SCALE



TYPICAL PIPELINE ROW FINISHED GRADING DETAIL

NOT TO SCALE

NOTES:

1. ALL DISTURBED EARTH SHALL BE COMPACTED AND RESEEDED AS REQUIRED PER DT-1 AND SPECIFICATIONS.
2. TOTAL WIDTH IS REDUCED IN AREAS WHERE TEMPORARY CONSTRUCTION EASEMENT IS TRUNCATED DUE TO ADJACENT CULTURALLY SENSITIVE AREAS, ROADWAYS, PRIVATE PROPERTIES, ETC.
3. FINAL GRADING AND SLOPE STABILIZATION MUST BE APPROVED BY ENGINEER AND BLM.

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Client: The Navajo Nation Location: Reach 24.1 JAN Turnout to JAN Border, NM

EROSION CONTROL DETAILS (3 of 3)
AND R-O-W GRADING
NAVAJO GALLUP WATER SUPPLY
PROJECT - REACH 24.1 JAN
SANDOVAL COUNTY, NEW MEXICO

Designed	Drawn	Checked
AGR	AAV	AGR

ANDREW ROBERTSON NEW MEXICO 15895 REGISTERED PROFESSIONAL ENGINEER 6/23/16

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Project No: 6921307
Sheet: DT-23

Appendix B – Copy of 2017 USEPA CGP

National Pollutant Discharge Elimination System
General Permit for Discharges from
Construction Activities

In compliance with the provisions of the Clean Water Act, 33 U.S.C. §1251 et. seq., (hereafter CWA), as amended by the Water Quality Act of 1987, P.L. 100-4, "operators" of construction activities (defined in Appendix A) that meet the requirements of Part 1.1 of this National Pollutant Discharge Elimination System (NPDES) general permit, are authorized to discharge pollutants in accordance with the effluent limitations and conditions set forth herein. Permit coverage is required from the "commencement of construction activities" (see Appendix A) until one of the conditions for terminating CGP coverage has been met (see Part 8.2).

This permit becomes effective on **February 16, 2017**.

This permit and the authorization to discharge expire at 11:59pm, **February 16, 2022.**

Signed and issued this 11th day of January 2017

Deborah Szaro,
Acting Regional Administrator, EPA Region 1

Signed and issued this 11th day of January 2017

William K. Honker, P.E.,
Director, Water Division, EPA Region 6

Signed and issued this 11th day of January 2017

Javier Laureano, Ph.D.,
Director, Clean Water Division, EPA Region 2

Signed and issued this 11th day of January 2017

Karen Flournoy,
Director, Water, Wetlands, and Pesticides Division, EPA Region 7

Signed and issued this 11th day of January 2017

Jose C. Font,
Acting Director, Caribbean Environmental Protection Division, EPA Region 2.

Signed and issued this 11th day of January 2017

Darcy O'Connor,
Assistant Regional Administrator, Office of Water Protection, EPA Region 8

Signed and issued this 11th day of January 2017

Dominique Lueckenhoff,
Acting Director, Water Protection Division, EPA Region 3

Signed and issued this 11th day of January 2017

Kristin Gullatt
Deputy Director, Water Division, EPA Region 9

Signed and issued this 11th day of January 2017

César A. Zapata,
Deputy Director, Water Protection Division, EPA Region 4

Signed and issued this 11th day of January 2017

Daniel D. Opalski,
Director, Office of Water and Watersheds, EPA Region 10

Signed and issued this 11th day of January 2017

Christopher Korleski,
Director, Water Division, EPA Region 5

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1 HOW TO OBTAIN COVERAGE UNDER THE CONSTRUCTION GENERAL PERMIT (CGP)

To be covered under this permit, you must meet the eligibility conditions and follow the requirements for obtaining permit coverage in this Part.

1.1 ELIGIBILITY CONDITIONS

1.1.1 You are an "operator" of a construction site for which discharges will be covered under this permit. For the purposes of this permit and in the context of stormwater discharges associated with construction activity, an "operator" is any party associated with a construction project that meets either of the following two criteria:

a. The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications *(e.g., in most cases this is the owner of the site)*; or

b. The party has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions *(e.g., they are authorized to direct workers at a site to carry out activities required by the permit; in most cases this is the general contractor (as defined in Appendix A) of the project)*.

Where there are multiple operators associated with the same project, all operators must obtain permit coverage.[1] Subcontractors generally are not considered operators for the purposes of this permit.

1.1.2 Your site's construction activities:

a. Will disturb one or more acres of land, or will disturb less than one acre of land but are part of a common plan of development or sale that will ultimately disturb one or more acres of land; or

b. Have been designated by EPA as needing permit coverage under 40 CFR 122.26(a)(1)(v) or 40 CFR 122.26(b)(15)(ii);

1.1.3 Your site is located in an area where EPA is the permitting authority (see Appendix B);

1.1.4 Discharges from your site are not:

a. Already covered by a different NPDES permit for the same discharge; or

b. In the process of having coverage under a different NPDES permit for the same discharge denied, terminated, or revoked.[2, 3]

1.1.5 You are able to demonstrate that you meet one of the criteria listed in Appendix D with respect to the protection of species that are federally listed as endangered or threatened under the Endangered Species Act (ESA) and federally designated critical habitat;

---

[1] If the operator of a "construction support activity" (see Part 1.2.1c) is different than the operator of the main site, that operator must also obtain permit coverage. See Part 7.1 for clarification on the sharing of liability between and among operators on the same site and for conditions that apply to developing a SWPPP for multiple operators associated with the same site.

[2] Parts 1.1.4a and 1.1.4b do not include sites currently covered under the 2012 CGP that are in the process of obtaining coverage under this permit, nor sites covered under this permit that are transferring coverage to a different operator.

[3] Notwithstanding a site being made ineligible for coverage under this permit because it falls under the description of Parts 1.1.4a or 1.1.4b, above, EPA may waive the applicable eligibility requirement after specific review if it determines that coverage under this permit is appropriate.

1.1.6 You have completed the screening process in Appendix E relating to the protection of historic properties; and

1.1.7 You have complied with all requirements in Part 9 imposed by the applicable state, Indian tribe, or territory in which your construction activities and/or discharge will occur.

1.1.8 For "new sources" (as defined in Appendix A) only:

a. EPA has not, prior to authorization under this permit, determined that discharges from your site will cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standard. Where such a determination is made prior to authorization, EPA may notify you that an individual permit application is necessary. However, EPA may authorize your coverage under this permit after you have included appropriate controls and implementation procedures designed to bring your discharge into compliance with this permit, specifically the requirement to meet water quality standards. In the absence of information demonstrating otherwise, EPA expects that compliance with the requirements of this permit, including the requirements applicable to such discharges in Part 3, will result in discharges that will not cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standard.

b. Discharges from your site to a Tier 2, Tier 2.5, or Tier 3 water[4] will not lower the water quality of the applicable water. In the absence of information demonstrating otherwise, EPA expects that compliance with the requirements of this permit, including the requirements applicable to such discharges in Part 3.2, will result in discharges that will not lower the water quality of such waters.

1.1.9 If you plan to add "cationic treatment chemicals" (as defined in Appendix A) to stormwater and/or authorized non-stormwater prior to discharge, you may not submit your Notice of Intent (NOI) unless and until you notify your applicable EPA Regional Office (see Appendix L) in advance and the EPA Regional Office authorizes coverage under this permit after you have included appropriate controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to discharges that cause an exceedance of water quality standards.

1.2 TYPES OF DISCHARGES AUTHORIZED[5]

1.2.1 The following stormwater discharges are authorized under this permit provided that appropriate stormwater controls are designed, installed, and maintained (see Parts 2 and 3):

a. Stormwater discharges, including stormwater runoff, snowmelt runoff, and surface runoff and drainage, associated with construction activity under 40 CFR 122.26(b)(14) or 122.26(b)(15)(i);

[4] Note: Your site will be considered to discharge to a Tier 2, Tier 2.5, or Tier 3 water if the first water to which you discharge is identified by a state, tribe, or EPA as a Tier 2, Tier 2.5, or Tier 3 water. For discharges that enter a storm sewer system prior to discharge, the first water of the U.S. to which you discharge is the waterbody that receives the stormwater discharge from the storm sewer system. See list of Tier 2, Tier 2.5, and Tier 3 waters in Appendix F.

[5] See "Discharge" as defined in Appendix A. Note: Any discharges not expressly authorized in this permit cannot become authorized or shielded from liability under CWA section 402(k) by disclosure to EPA, state, or local authorities after issuance of this permit via any means, including the Notice of Intent (NOI) to be covered by the permit, the SWPPP, or during an inspection.

b. Stormwater discharges designated by EPA as needing a permit under 40 CFR 122.26(a)(1)(v) or 122.26(b)(15)(ii);

c. Stormwater discharges from construction support activities *(e.g., concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, borrow areas)* provided that:

   i. The support activity is directly related to the construction site required to have permit coverage for stormwater discharges;

   ii. The support activity is not a commercial operation, nor does it serve multiple unrelated construction sites;

   iii. The support activity does not continue to operate beyond the completion of the construction activity at the site it supports; and

   iv. Stormwater controls are implemented in accordance with Part 2 and Part 3 for discharges from the support activity areas.

d. Stormwater discharges from earth-disturbing activities associated with the construction of staging areas and the construction of access roads conducted prior to active mining.

1.2.2 The following non-stormwater discharges associated with your construction activity are authorized under this permit provided that, with the exception of water used to control dust and to irrigate vegetation in stabilized areas, these discharges are not routed to areas of exposed soil on your site and you comply with any applicable requirements for these discharges in Parts 2 and 3:

a. Discharges from emergency fire-fighting activities;

b. Fire hydrant flushings;

c. Landscape irrigation;

d. Water used to wash vehicles and equipment, provided that there is no discharge of soaps, solvents, or detergents used for such purposes;

e. Water used to control dust;

f. Potable water including uncontaminated water line flushings;

g. External building washdown, provided soaps, solvents, and detergents are not used, and external surfaces do not contain hazardous substances (as defined in Appendix A) *(e.g., paint or caulk containing polychlorinated biphenyls (PCBs))*;

h. Pavement wash waters, provided spills or leaks of toxic or hazardous substances have not occurred (unless all spill material has been removed) and where soaps, solvents, and detergents are not used. You are prohibited from directing pavement wash waters directly into any water of the U.S., storm drain inlet, or stormwater conveyance, unless the conveyance is connected to a sediment basin, sediment trap, or similarly effective control;

i. Uncontaminated air conditioning or compressor condensate;

j. Uncontaminated, non-turbid discharges of ground water or spring water;

k. Foundation or footing drains where flows are not contaminated with process materials such as solvents or contaminated ground water; and

l. Construction dewatering water discharged in accordance with Part 2.4.

1.2.3 Also authorized under this permit are discharges of stormwater listed above in Part 1.2.1, or authorized non-stormwater discharges listed above in Part 1.2.2, commingled with a discharge authorized by a different NPDES permit and/or a discharge that does not require NPDES permit authorization.

1.3 PROHIBITED DISCHARGES[6]

1.3.1 Wastewater from washout of concrete, unless managed by an appropriate control as described in Part 2.3.4;

1.3.2 Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials;

1.3.3 Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;

1.3.4 Soaps, solvents, or detergents used in vehicle and equipment washing or external building washdown; and

1.3.5 Toxic or hazardous substances from a spill or other release.

To prevent the above-listed prohibited non-stormwater discharges, operators must comply with the applicable pollution prevention requirements in Part 2.3.

1.4 SUBMITTING YOUR NOTICE OF INTENT (NOI)

All "operators" (as defined in Appendix A) associated with your construction site, who meet the Part 1.1 eligibility requirements, and who seek coverage under this permit, must submit to EPA a complete and accurate NOI in accordance with the deadlines in **Table 1** prior to commencing construction activities.

Exception: If you are conducting construction activities in response to a public emergency *(e.g., mud slides, earthquake, extreme flooding conditions, widespread disruption in essential public services)*, and the related work requires immediate authorization to avoid imminent endangerment to human health, public safety, or the environment, or to reestablish essential public services, you may discharge on the condition that a complete and accurate NOI is submitted within 30 calendar days after commencing construction activities (see Table 1) establishing that you are eligible for coverage under this permit. You must also provide documentation in your Stormwater Pollution Prevention Plan (SWPPP) to substantiate the occurrence of the public emergency.

1.4.1 Prerequisite for Submitting Your NOI

You must develop a SWPPP consistent with Part 7 before submitting your NOI for coverage under this permit.

1.4.2 How to Submit Your NOI

You must use EPA's NPDES eReporting Tool (NeT) to electronically prepare and submit your NOI for coverage under the 2017 CGP, unless you received a waiver from your EPA Regional Office.

To access NeT, go to https://www.epa.gov/npdes/stormwater-discharges-construction-activities#ereporting.

[6] EPA includes these prohibited non-stormwater discharges here as a reminder to the operator that the only non-stormwater discharges authorized by this permit are at Part 1.2.2. Any unauthorized non-stormwater discharges must be covered under an individual permit or alternative general permit.

Waivers from electronic reporting may be granted based on one of the following conditions:

a. If your operational headquarters is physically located in a geographic area *(i.e., ZIP code or census tract)* that is identified as under-served for broadband Internet access in the most recent report from the Federal Communications Commission; or

b. If you have limitations regarding available computer access or computer capability.

If the EPA Regional Office grants you approval to use a paper NOI, and you elect to use it, you must complete the form in Appendix J.

1.4.3 Deadlines for Submitting Your NOI and Your Official Date of Permit Coverage

Table 1 provides the deadlines for submitting your NOI and the official start date of your permit coverage, which differ depending on when you commence construction activities.

Table 1 NOI Submittal Deadlines and Official Start Date for Permit Coverage.

Type of Operator	NOI Submittal Deadline[7]	Permit Authorization Date[8]
Operator of a new site *(i.e., a site where construction activities commence on or after February 16, 2017)*	At least 14 calendar days before commencing construction activities.	14 calendar days after EPA notifies you that it has received a complete NOI, unless EPA notifies you that your authorization is delayed or denied.
Operator of an existing site *(i.e., a site with 2012 CGP coverage where construction activities commenced prior to February 16, 2017)*	No later than **May 17, 2017.**	
New operator of a permitted site *(i.e., an operator that through transfer of ownership and/or operation replaces the operator of an already permitted construction site that is either a "new site" or an "existing site")*	At least 14 calendar days before the date the transfer to the new operator will take place.	
Operator of an "emergency-related project" *(i.e., a project initiated in response to a public emergency (e.g., mud slides, earthquake, extreme flooding conditions, disruption in essential public services), for which the related work requires immediate authorization to avoid imminent endangerment to human health or the environment, or to reestablish essential public services)*	No later than 30 calendar days after commencing construction activities.	You are considered provisionally covered under the terms and conditions of this permit immediately, and fully covered 14 calendar days after EPA notifies you that it has received a complete NOI, unless EPA notifies you that your authorization is delayed or denied.

[7] If you miss the deadline to submit your NOI, any and all discharges from your construction activities will continue to be unauthorized under the CWA until they are covered by this or a different NPDES permit. EPA may take enforcement action for any unpermitted discharges that occur between the commencement of construction activities and discharge authorization.

[8] Discharges are not authorized if your NOI is incomplete or inaccurate or if you are not eligible for permit coverage.

1.4.4 Modifying your NOI

If after submitting your NOI you need to correct or update any fields, you may do so by submitting a "Change NOI" form using NeT. Waivers from electronic reporting may be granted as specified in Part 1.4.1. If the EPA Regional Office has granted you approval to submit a paper NOI modification, you may indicate any NOI changes on the same NOI form in Appendix J.

When there is a change to the site's operator, the new operator must submit a new NOI, and the previous operator must submit a Notice of Termination (NOT) form as specified in Part 8.3.

1.4.5 Your Official End Date of Permit Coverage

Once covered under this permit, your coverage will last until the date that:

a. You terminate permit coverage consistent with Part 8; or

b. You receive permit coverage under a different NPDES permit or a reissued or replacement version of this permit after expiring on February 16, 2022; or

c. You fail to submit an NOI for coverage under a revised or replacement version of this permit before the deadline for existing construction sites where construction activities continue after this permit has expired.

1.5 REQUIREMENT TO POST A NOTICE OF YOUR PERMIT COVERAGE

You must post a sign or other notice of your permit coverage at a safe, publicly accessible location in close proximity to the construction site. The notice must be located so that it is visible from the public road that is nearest to the active part of the construction site, and it must use a font large enough to be readily viewed from a public right-of-way.[9] At a minimum, the notice must include:

a. The NPDES ID (*i.e., permit tracking number assigned to your NOI*);

b. A contact name and phone number for obtaining additional construction site information;

c. The Uniform Resource Locator (URL) for the SWPPP (if available), or the following statement: "If you would like to obtain a copy of the Stormwater Pollution Prevention Plan (SWPPP) for this site, contact the EPA Regional Office at [*include the appropriate CGP Regional Office contact information found at https://www.epa.gov/npdes/contact-us-stormwater#regional*];" and

d. The following statement "If you observe indicators of stormwater pollutants in the discharge or in the receiving waterbody, contact the EPA through the following website: https://www.epa.gov/enforcement/report-environmental-violations."

2 TECHNOLOGY-BASED EFFLUENT LIMITATIONS

You must comply with the following technology-based effluent limitations in this Part for all authorized discharges.[10]

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[9] If the active part of the construction site is not visible from a public road, then place the notice of permit coverage in a position that is visible from the nearest public road and as close as possible to the construction site.

[10] For each of the effluent limits in Part 2, as applicable to your site, you must include in your SWPPP (1) a

2.1 GENERAL STORMWATER CONTROL DESIGN, INSTALLATION, AND MAINTENANCE REQUIREMENTS

You must design, install, and maintain stormwater controls required in Parts 2.2 and 2.3 to minimize the discharge of pollutants in stormwater from construction activities. To meet this requirement, you must:

2.1.1 Account for the following factors in designing your stormwater controls:

a. The expected amount, frequency, intensity, and duration of precipitation;

b. The nature of stormwater runoff and run-on at the site, including factors such as expected flow from impervious surfaces, slopes, and site drainage features. You must design stormwater controls to control stormwater volume, velocity, and peak flow rates to minimize discharges of pollutants in stormwater and to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points; and

c. The soil type and range of soil particle sizes expected to be present on the site.

2.1.2 Design and install all stormwater controls in accordance with good engineering practices, including applicable design specifications.[11]

2.1.3 Complete installation of stormwater controls by the time each phase of construction activities has begun.

a. By the time construction activity in any given portion of the site begins, install and make operational any downgradient sediment controls (*e.g., buffers, perimeter controls, exit point controls, storm drain inlet protection*) that control discharges from the initial site clearing, grading, excavating, and other earth-disturbing activities.[12]

b. Following the installation of these initial controls, install and make operational all stormwater controls needed to control discharges prior to subsequent earth-disturbing activities.

2.1.4 Ensure that all stormwater controls are maintained and remain in effective operating condition during permit coverage and are protected from activities that would reduce their effectiveness.

a. Comply with any specific maintenance requirements for the stormwater controls listed in this permit, as well as any recommended by the manufacturer.[13]

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description of the specific control(s) to be implemented to meet the effluent limit; (2) any applicable design specifications; (3) routine maintenance specifications; and (4) the projected schedule for its (their) installation/implementation. See Part 7.2.6.

[11] Design specifications may be found in manufacturer specifications and/or in applicable erosion and sediment control manuals or ordinances. Any departures from such specifications must reflect good engineering practices and must be explained in your SWPPP. You must also comply with any additional design and installation requirements specified for the effluent limits in Parts 2.2 and 2.3.

[12] Note that the requirement to install stormwater controls prior to each phase of construction activities for the site does not apply to the earth disturbance associated with the actual installation of these controls. Operators should take all reasonable actions to minimize the discharges of pollutants during the installation of stormwater controls.

[13] Any departures from such maintenance recommendations made by the manufacturer must reflect good engineering practices and must be explained in your SWPPP.

b. If at any time you find that a stormwater control needs routine maintenance, you must immediately initiate the needed maintenance work, and complete such work by the close of the next business day.

c. If at any time you find that a stormwater control needs repair or replacement, you must comply with the corrective action requirements in Part 5.

2.2 EROSION AND SEDIMENT CONTROL REQUIREMENTS

You must implement erosion and sediment controls in accordance with the following requirements to minimize the discharge of pollutants in stormwater from construction activities.

2.2.1 Provide and maintain natural buffers and/or equivalent erosion and sediment controls when a water of the U.S. is located within 50 feet of the site's earth disturbances.

a. **Compliance Alternatives.** For any discharges to waters of the U.S. located within 50 feet of your site's earth disturbances, you must comply with one of the following alternatives:

i. Provide and maintain a 50-foot undisturbed natural buffer; or

ii. Provide and maintain an undisturbed natural buffer that is less than 50 feet and is supplemented by erosion and sediment controls that achieve, in combination, the sediment load reduction equivalent to a 50-foot undisturbed natural buffer; or

iii. If infeasible to provide and maintain an undisturbed natural buffer of any size, implement erosion and sediment controls to achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

See Appendix G, Part G.2 for additional conditions applicable to each compliance alternative.

b. **Exceptions.** See Appendix G, Part G.2 for exceptions to the compliance alternatives.

2.2.2 Direct stormwater to vegetated areas and maximize stormwater infiltration and filtering to reduce pollutant discharges, unless infeasible.

2.2.3 Install sediment controls along any perimeter areas of the site that will receive pollutant discharges.[14]

a. Remove sediment before it has accumulated to one-half of the above-ground height of any perimeter control.

b. **Exception.** For areas at "linear construction sites" (as defined in Appendix A) where perimeter controls are infeasible *(e.g., due to a limited or restricted right-of-way)*, implement other practices as necessary to minimize pollutant discharges to perimeter areas of the site.

2.2.4 Minimize sediment track-out.

a. Restrict vehicle use to properly designated exit points;

b. Use appropriate stabilization techniques[15] at all points that exit onto paved roads.

[14] Examples of perimeter controls include filter berms, silt fences, vegetative strips, and temporary diversion dikes.

[15] Examples of appropriate stabilization techniques include the use of aggregate stone with an underlying geotextile or non-woven filter fabric, and turf mats.

i. **Exception:** Stabilization is not required for exit points at linear utility construction sites that are used only episodically and for very short durations over the life of the project, provided other exit point controls[16] are implemented to minimize sediment track-out;

c. Implement additional track-out controls[17] as necessary to ensure that sediment removal occurs prior to vehicle exit; and

d. **Where sediment has been tracked-out from your site onto paved roads,** sidewalks, or other paved areas **outside of your site, remove the deposited sediment by the end of the same business day in which the track-out occurs or by the end of the next business day if track-out occurs on a non-business day. Remove the track-out by sweeping, shoveling,** or vacuuming these surfaces, or by using other similarly effective means of sediment removal. **You are prohibited** from hosing or **sweeping tracked-out sediment into any stormwater conveyance, storm drain inlet, or water of the U.S.**[18]

2.2.5 **Manage stockpiles or land clearing debris piles composed, in whole or in part, of sediment and/or soil:**

a. **Locate the piles outside of any natural buffers** established under Part 2.2.1 and away from any stormwater conveyances, drain inlets, and areas where stormwater flow is concentrated;

b. **Install a sediment barrier along all downgradient perimeter areas;**[19]

c. **For piles that will be unused for 14 or more days, provide cover**[20] **or appropriate temporary stabilization** (consistent with Part 2.2.14);

d. You are **prohibited** from hosing down or **sweeping soil or sediment accumulated on pavement or other impervious surfaces into any stormwater conveyance,** storm drain inlet, or **water of the U.S.**

2.2.6 **Minimize dust.** On areas of exposed soil, minimize the generation of dust through the appropriate application of water or other dust suppression techniques.

2.2.7 **Minimize steep slope disturbances.** Minimize the disturbance of "steep slopes" (as defined in Appendix A).

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[16] Examples of other exit point controls include preventing the use of exit points during wet periods; minimizing exit point use by keeping vehicles on site to the extent possible; limiting exit point size to the width needed for vehicle and equipment usage; using scarifying and compaction techniques on the soil; and avoiding establishing exit points in environmentally sensitive areas *(e.g., karst areas; steep slopes)*.

[17] Examples of additional track-out controls include the use of wheel washing, rumble strips, and rattle plates.

[18] Fine grains that remain visible *(i.e., staining)* on the surfaces of off-site streets, other paved areas, and sidewalks after you have implemented sediment removal practices are not a violation of Part 2.2.4.

[19] Examples of sediment barriers include berms, dikes, fiber rolls, silt fences, sandbags, gravel bags, or straw bale.

[20] Examples of cover include tarps, blown straw and hydroseeding.

2.2.8 Preserve native topsoil, unless infeasible.[21]

2.2.9 Minimize soil compaction.[22] In areas of your site where final vegetative stabilization will occur or where infiltration practices will be installed:

a. Restrict vehicle and equipment use in these locations to avoid soil compaction; and

b. Before seeding or planting areas of exposed soil that have been compacted, use techniques that rehabilitate and condition the soils as necessary to support vegetative growth.

2.2.10 Protect storm drain inlets.

a. Install inlet protection measures that remove sediment from discharges prior to entry into any storm drain inlet that carries stormwater flow from your site to a water of the U.S., provided you have authority to access the storm drain inlet;[23] and

b. Clean, or remove and replace, the protection measures as sediment accumulates, the filter becomes clogged, and/or performance is compromised. Where there is evidence of sediment accumulation adjacent to the inlet protection measure, remove the deposited sediment by the end of the same business day in which it is found or by the end of the following business day if removal by the same business day is not feasible.

2.2.11 Minimize erosion of stormwater conveyance channels and their embankments, outlets, adjacent streambanks, slopes, and downstream waters. Use erosion controls and velocity dissipation devices[24] within and along the length of any stormwater conveyance channel and at any outlet to slow down runoff to minimize erosion.

2.2.12 If you install a sediment basin or similar impoundment:

a. Situate the basin or impoundment outside of any water of the U.S. and any natural buffers established under Part 2.2.1;

b. Design the basin or impoundment to avoid collecting water from wetlands;

c. Design the basin or impoundment to provide storage for either:

i. The calculated volume of runoff from a 2-year, 24-hour storm (see Appendix H); or

ii. 3,600 cubic feet per acre drained.

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[21] Stockpiling topsoil at off-site locations, or transferring topsoil to other locations, is an example of a practice that is consistent with the requirements in Part 2.2.8. Preserving native topsoil is not required where the intended function of a specific area of the site dictates that the topsoil be disturbed or removed. For example, some sites may be designed to be highly impervious after construction, and therefore little or no vegetation is intended to remain, or may not have space to stockpile native topsoil on site for later use, in which case, it may not be feasible to preserve topsoil.

[22] Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted.

[23] Inlet protection measures can be removed in the event of flood conditions or to prevent erosion.

[24] Examples of velocity dissipation devices include check dams, sediment traps, riprap, and grouted riprap at outlets.

d. Utilize outlet structures that withdraw water from the surface of the sediment basin or similar impoundment, unless infeasible;[25]

e. Use erosion controls and velocity dissipation devices to prevent erosion at inlets and outlets; and

f. Remove accumulated sediment to maintain at least one-half of the design capacity and conduct all other appropriate maintenance to ensure the basin or impoundment remains in effective operating condition.

2.2.13 If using treatment chemicals *(e.g., polymers, flocculants, coagulants)*:

a. **Use conventional erosion and sediment controls before and after the application of treatment chemicals.** Chemicals may only be applied where treated stormwater is directed to a sediment control *(e.g., sediment basin, perimeter control)* before discharge.

b. **Select appropriate treatment chemicals.** Chemicals must be appropriately suited to the types of soils likely to be exposed during construction and present in the discharges being treated *(i.e., the expected turbidity, pH, and flow rate of stormwater flowing into the chemical treatment system or area)*.

c. **Minimize discharge risk from stored chemicals.** Store all treatment chemicals in leak-proof containers that are kept under storm-resistant cover and surrounded by secondary containment structures *(e.g., spill berms, decks, spill containment pallets)*, or provide equivalent measures designed and maintained to minimize the potential discharge of treatment chemicals in stormwater or by any other means *(e.g., storing chemicals in a covered area, having a spill kit available on site and ensuring personnel are available to respond expeditiously in the event of a leak or spill)*.

d. **Comply with state/local requirements.** Comply with applicable state and local requirements regarding the use of treatment chemicals.

e. **Use chemicals in accordance with good engineering practices and specifications of the chemical provider/supplier.** Use treatment chemicals and chemical treatment systems in accordance with good engineering practices, and with dosing specifications and sediment removal design specifications provided by the provider/supplier of the applicable chemicals, or document in your SWPPP specific departures from these specifications and how they reflect good engineering practice.

f. **Ensure proper training.** Ensure that all persons who handle and use treatment chemicals at the construction site are provided with appropriate, product-specific training. Among other things, the training must cover proper dosing requirements.

g. **Perform additional measures specified by the EPA Regional Office for the authorized use of cationic chemicals.** If you have been authorized to use cationic chemicals at your site pursuant to Part 1.1.9, you must perform all additional measures as conditioned by your authorization to ensure that the use of such chemicals will not cause an exceedance of water quality standards.

[25] The circumstances in which it is infeasible to design outlet structures in this manner are rare. Exceptions may include areas with extended cold weather, where using surface outlets may not be feasible during certain time periods (although they must be used during other periods). If you determine that it is infeasible to meet this requirement, you must provide documentation in your SWPPP to support your determination, including the specific conditions or time periods when this exception will apply.

2.2.14 Stabilize exposed portions of the site. Implement and maintain stabilization measures (*e.g., seeding protected by erosion controls until vegetation is established, sodding, mulching, erosion control blankets, hydromulch, gravel*) that minimize erosion from exposed portions of the site in accordance with Parts 2.2.14a and 2.2.14b.

a. **Stabilization Deadlines:**[26]

Total Amount of Land Disturbance Occurring At Any One Time[27]	**Deadline**
i. **Five acres or less (≤5.0)** **Note: this includes sites disturbing more than five acres (>5.0) total over the course of a project, but that limit disturbance at any one time *(i.e., phase the disturbance)* to five acres or less (≤5.0)**	• Initiate the installation of stabilization measures immediately[28] in any areas of exposed soil where construction activities have permanently ceased or will be temporarily inactive for 14 or more calendar days[29] and • Complete the installation of stabilization measures as soon as practicable, but no later than 14 calendar days after stabilization has been initiated.[30]

[26] EPA may determine, based on an inspection carried out under Part 4.8 and corrective actions required under Part 5.3, that the level of sediment discharge on the site makes it necessary to require a faster schedule for completing stabilization. For instance, if sediment discharges from an area of exposed soil that is required to be stabilized are compromising the performance of existing stormwater controls, EPA may require stabilization to correct this problem.

[27] Limiting disturbances to five (5) acres or less at any one time means that at no time during the project do the cumulative earth disturbances exceed five (5) acres. The following examples would qualify as limiting disturbances at any one time to five (5) acres or less:

1. The total area of disturbance for a project is five (5) acres or less.
2. The total area of disturbance for a project will exceed five (5) acres, but the operator ensures that no more than five (5) acres will be disturbed at any one time through implementation of stabilization measures. In this way, site stabilization can be used to "free up" land that can be disturbed without exceeding the five (5)-acre cap to qualify for the 14-day stabilization deadline. For instance, if an operator completes stabilization of two (2) acres of land on a five (5)-acre disturbance, then two (2) additional acres could be disturbed while still qualifying for the longer 14-day stabilization deadline.

[28] The following are examples of activities that would constitute the immediate initiation of stabilization:

1. Prepping the soil for vegetative or non-vegetative stabilization as long as seeding, planting, and/or installation of non-vegetative stabilization products takes place as soon as practicable, but no later than one (1) calendar day of completing soil preparation;
2. Applying mulch or other non-vegetative product to the exposed area;
3. Seeding or planting the exposed area;
4. Starting any of the activities in # 1 – 3 on a portion of the entire area that will be stabilized; and
5. Finalizing arrangements to have stabilization product fully installed in compliance with the deadlines for completing stabilization.

[29] The requirement to initiate stabilization immediately is triggered as soon as you know that construction work on a portion of the site is temporarily ceased and will not resume for 14 or more days, or as soon as you know that construction work is permanently ceased. In the context of this provision, "immediately" means as soon as practicable, but no later than the end of the next business day, following the day when the construction activities have temporarily or permanently ceased.

[30] If vegetative stabilization measures are being implemented, stabilization is considered "installed" when all activities necessary to seed or plant the area are completed. If non-vegetative stabilization measures are being implemented, stabilization is considered "installed" when all such measures are implemented or applied.

ii. **More than five acres (>5.0)**	• Initiate the installation of stabilization measures immediately[31] in any areas of exposed soil where construction activities have permanently ceased or will be temporarily inactive for 14 or more calendar days;[32] and • Complete the installation of stabilization measures as soon as practicable, but no later than seven (7) calendar days after stabilization has been initiated.[33]

iii. **Exceptions:**

(a) Arid, semi-arid, and drought-stricken areas (as defined in Appendix A). If it is the seasonally dry period or a period in which drought is occurring, and vegetative stabilization measures are being used:

(i) Immediately initiate and, within 14 calendar days of a temporary or permanent cessation of work in any portion of your site, complete the installation of temporary non-vegetative stabilization measures to the extent necessary to prevent erosion;

(ii) As soon as practicable, given conditions or circumstances on the site, complete all activities necessary to seed or plant the area to be stabilized; and

(iii) If construction is occurring during the seasonally dry period, indicate in your SWPPP the beginning and ending dates of the seasonally dry period and your site conditions. Also include the schedule you will follow for initiating and completing vegetative stabilization.

(b) Operators that are affected by unforeseen circumstances[34] that delay the initiation and/or completion of vegetative stabilization:

(i) Immediately initiate and, within 14 calendar days, complete the installation of temporary non-vegetative stabilization measures to prevent erosion;

(ii) Complete all soil conditioning, seeding, watering or irrigation installation, mulching, and other required activities related to the planting and initial establishment of vegetation as soon as conditions or circumstances allow it on your site; and

(iii) Document in the SWPPP the circumstances that prevent you from meeting the deadlines in Part 2.2.14a and the schedule you will follow for initiating and completing stabilization.

(c) Discharges to a sediment- or nutrient-impaired water or to a water that is identified by your state, tribe, or EPA as Tier 2, Tier 2.5, or Tier 3 for antidegradation purposes. Complete stabilization as soon as

[31] See footnote 27

[32] See footnote 28

[33] See footnote 29

[34] Examples include problems with the supply of seed stock or with the availability of specialized equipment and unsuitability of soil conditions due to excessive precipitation and/or flooding.

practicable, but no later than seven (7) calendar days after stabilization has been initiated.

b. **Final Stabilization Criteria** (for any areas not covered by permanent structures):

i. Establish uniform, perennial vegetation *(i.e., evenly distributed, without large bare areas)* that provides 70 percent or more of the cover that is provided by vegetation native to local undisturbed areas; and/or

ii. Implement permanent non-vegetative stabilization measures[35] to provide effective cover.

iii. **Exceptions:**

(a) Arid, semi-arid, and drought-stricken areas (as defined in Appendix A). Final stabilization is met if the area has been seeded or planted to establish vegetation that provides 70 percent or more of the cover that is provided by vegetation native to local undisturbed areas within three (3) years and, to the extent necessary to prevent erosion on the seeded or planted area, non-vegetative erosion controls have been applied that provide cover for at least three years without active maintenance.

(b) Disturbed areas on agricultural land that are restored to their preconstruction agricultural use. The Part 2.2.14b final stabilization criteria does not apply.

(c) **Areas that need to remain disturbed.** In limited circumstances, stabilization may not be required if the intended function of a specific area of the site necessitates that it remain disturbed, and only the minimum area needed remains disturbed *(e.g., dirt access roads, utility pole pads, areas being used for storage of vehicles, equipment, materials)*.

2.3 POLLUTION PREVENTION REQUIREMENTS[36]

You must implement pollution prevention controls in accordance with the following requirements to minimize the discharge of pollutants in stormwater and to prevent the discharge of pollutants from spilled or leaked materials from construction activities.

2.3.1 For equipment and vehicle fueling and maintenance:

a. Provide an effective means of eliminating the discharge of spilled or leaked chemicals, including fuels and oils, from these activities;[37]

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[35] Examples of permanent non-vegetative stabilization measures include riprap, gravel, gabions, and geotextiles.

[36] Under this permit, you are not required to minimize exposure for any products or materials where the exposure to precipitation and to stormwater will not result in a discharge of pollutants, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use).

[37] Examples of effective means include:

- Locating activities away from waters of the U.S. and stormwater inlets or conveyances so that stormwater coming into contact with these activities cannot reach waters of the U.S.;
- Providing secondary containment *(e.g., spill berms, decks, spill containment pallets)* and cover where appropriate; and
- Having a spill kit available on site and ensuring personnel are available to respond expeditiously in the event of a leak or spill.

b. If applicable, comply with the Spill Prevention Control and Countermeasures (SPCC) requirements in 40 CFR part 112 and Section 311 of the CWA;

c. Ensure adequate supplies are available at all times to handle spills, leaks, and disposal of used liquids;

d. Use drip pans and absorbents under or around leaky vehicles;

e. Dispose of or recycle oil and oily wastes in accordance with other federal, state, tribal, or local requirements; and

f. Clean up spills or contaminated surfaces immediately, using dry clean up measures (do not clean contaminated surfaces by hosing the area down), and eliminate the source of the spill to prevent a discharge or a continuation of an ongoing discharge.

2.3.2 For equipment and vehicle washing:

a. Provide an effective means of minimizing the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other types of wash waters;[38]

b. Ensure there is no discharge of soaps, solvents, or detergents in equipment and vehicle wash water; and

c. For storage of soaps, detergents, or solvents, provide either (1) cover *(e.g., plastic sheeting, temporary roofs)* to minimize the exposure of these detergents to precipitation and to stormwater, or (2) a similarly effective means designed to minimize the discharge of pollutants from these areas.

2.3.3 For storage, handling, and disposal of building products, materials, and wastes:

a. *For building materials and building products*[39], provide either (1) cover *(e.g., plastic sheeting, temporary roofs)* to minimize the exposure of these products to precipitation and to stormwater, or (2) a similarly effective means designed to minimize the discharge of pollutants from these areas.

b. *For pesticides, herbicides, insecticides, fertilizers, and landscape materials*:

i. In storage areas, provide either (1) cover *(e.g., plastic sheeting, temporary roofs)* to minimize the exposure of these chemicals to precipitation and to stormwater, or (2) a similarly effective means designed to minimize the discharge of pollutants from these areas; and

ii. Comply with all application and disposal requirements included on the registered pesticide, herbicide, insecticide, and fertilizer label (see also Part 2.3.5).

c. *For diesel fuel, oil, hydraulic fluids, other petroleum products, and other chemicals*:

i. Store chemicals in water-tight containers, and provide either (1) cover *(e.g., plastic sheeting, temporary roofs)* to minimize the exposure of these containers to precipitation and to stormwater, or (2) a similarly effective means designed to minimize the discharge of pollutants from these areas *(e.g., having a spill kit available on site and ensuring personnel are available to respond expeditiously in*

[38] Examples of effective means include locating activities away from waters of the U.S. and stormwater inlets or conveyances and directing wash waters to a sediment basin or sediment trap, using filtration devices, such as filter bags or sand filters, or using other similarly effective controls.

[39] Examples of building materials and building products typically present at construction sites include asphalt sealants, copper flashing, roofing materials, adhesives, concrete admixtures, and gravel and mulch stockpiles.

the event of a leak or spill), or provide secondary containment *(e.g., spill berms, decks, spill containment pallets)*; and

ii. Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly. You are prohibited from hosing the area down to clean surfaces or spills. Eliminate the source of the spill to prevent a discharge or a furtherance of an ongoing discharge.

d. *For hazardous or toxic wastes:*[40]

i. Separate hazardous or toxic waste from construction and domestic waste;

ii. Store waste in sealed containers, which are constructed of suitable materials to prevent leakage and corrosion, and which are labeled in accordance with applicable Resource Conservation and Recovery Act (RCRA) requirements and all other applicable federal, state, tribal, or local requirements;

iii. Store all outside containers within appropriately-sized secondary containment *(e.g., spill berms, decks, spill containment pallets)* to prevent spills from being discharged, or provide a similarly effective means designed to prevent the discharge of pollutants from these areas *(e.g., storing chemicals in a covered area, having a spill kit available on site);*

iv. Dispose of hazardous or toxic waste in accordance with the manufacturer's recommended method of disposal and in compliance with federal, state, tribal, and local requirements;

v. Clean up spills immediately, using dry clean-up methods, and dispose of used materials properly. You are prohibited from hosing the area down to clean surfaces or spills. Eliminate the source of the spill to prevent a discharge or a furtherance of an ongoing discharge; and

vi. Follow all other federal, state, tribal, and local requirements regarding hazardous or toxic waste.

e. *For construction and domestic wastes:*[41]

i. Provide waste containers *(e.g., dumpster, trash receptacle)* of sufficient size and number to contain construction and domestic wastes;

ii. Keep waste container lids closed when not in use and close lids at the end of the business day for those containers that are actively used throughout the day. For waste containers that do not have lids, provide either (1) cover *(e.g., a tarp, plastic sheeting, temporary roof)* to minimize exposure of wastes to precipitation, or (2) a similarly effective means designed to minimize the discharge of pollutants *(e.g., secondary containment)*;

iii. On business days, clean up and dispose of waste in designated waste containers; and

iv. Clean up immediately if containers overflow.

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[40] Examples of hazardous or toxic waste that may be present at construction sites include paints, caulks, sealants, fluorescent light ballasts, solvents, petroleum-based products, wood preservatives, additives, curing compounds, and acids.

[41] Examples of construction and domestic waste include packaging materials, scrap construction materials, masonry products, timber, pipe and electrical cuttings, plastics, styrofoam, concrete, demolition debris; and other trash or building materials.

f. For sanitary waste, position portable toilets so that they are secure and will not be tipped or knocked over, and located away from waters of the U.S. and stormwater inlets or conveyances.

2.3.4 For washing applicators and containers used for stucco, paint, concrete, form release oils, curing compounds, or other materials:

a. Direct wash water into a leak-proof container or leak-proof and lined pit designed so that no overflows can occur due to inadequate sizing or precipitation;

b. Handle washout or cleanout wastes as follows:

   i. Do not dump liquid wastes in storm sewers or waters of the U.S.;

   ii. Dispose of liquid wastes in accordance with applicable requirements in Part 2.3.3; and

   iii. Remove and dispose of hardened concrete waste consistent with your handling of other construction wastes in Part 2.3.3; and

c. Locate any washout or cleanout activities as far away as possible from waters of the U.S. and stormwater inlets or conveyances, and, to the extent feasible, designate areas to be used for these activities and conduct such activities only in these areas.

2.3.5 For the application of fertilizers:

a. Apply at a rate and in amounts consistent with manufacturer's specifications, or document in the SWPPP departures from the manufacturer specifications where appropriate in accordance with Part 7.2.6.b.ix;

b. Apply at the appropriate time of year for your location, and preferably timed to coincide as closely as possible to the period of maximum vegetation uptake and growth;

c. Avoid applying before heavy rains that could cause excess nutrients to be discharged;

d. Never apply to frozen ground;

e. Never apply to stormwater conveyance channels; and

f. Follow all other federal, state, tribal, and local requirements regarding fertilizer application.

2.3.6 Emergency Spill Notification Requirements

Discharges of toxic or hazardous substances from a spill or other release are prohibited, consistent with Part 1.3.5. Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR 110, 40 CFR 117, or 40 CFR 302 occurs during a 24-hour period, you must notify the National Response Center (NRC) at (800) 424-8802 or, in the Washington, DC metropolitan area, call (202) 267-2675 in accordance with the requirements of 40 CFR 110, 40 CFR 117, and 40 CFR 302 as soon as you have knowledge of the release. You must also, within seven (7) calendar days of knowledge of the release, provide a description of the release, the circumstances leading to the release, and the date of the release. State, tribal, or local requirements may necessitate additional reporting of spills or discharges to local emergency response, public health, or drinking water supply agencies.

2.4 CONSTRUCTION DEWATERING REQUIREMENTS

Comply with the following requirements to minimize the discharge of pollutants in ground water or accumulated stormwater that is removed from excavations, trenches, foundations, vaults, or other similar points of accumulation, in accordance with Part 1.2.2.[42]

2.4.1 Treat dewatering discharges with controls to minimize discharges of pollutants;[43]

2.4.2 Do not discharge visible floating solids or foam;

2.4.3 Use an oil-water separator or suitable filtration device (such as a cartridge filter) that is designed to remove oil, grease, or other products if dewatering water is found to contain these materials;

2.4.4 To the extent feasible, use vegetated, upland areas of the site to infiltrate dewatering water before discharge. You are prohibited from using waters of the U.S. as part of the treatment area;

2.4.5 At all points where dewatering water is discharged, comply with the velocity dissipation requirements of Part 2.2.11;

2.4.6 With backwash water, either haul it away for disposal or return it to the beginning of the treatment process; and

2.4.7 Replace and clean the filter media used in dewatering devices when the pressure differential equals or exceeds the manufacturer's specifications.

3 WATER QUALITY-BASED EFFLUENT LIMITATIONS

3.1 GENERAL EFFLUENT LIMITATION TO MEET APPLICABLE WATER QUALITY STANDARDS

Discharges must be controlled as necessary to meet applicable water quality standards. Discharges must also comply with any additional state or tribal requirements that are in Part 9.

In the absence of information demonstrating otherwise, EPA expects that compliance with the conditions in this permit will result in stormwater discharges being controlled as necessary to meet applicable water quality standards. If at any time you become aware, or EPA determines, that discharges are not being controlled as necessary to meet applicable water quality standards, you must take corrective action as required in Parts 5.1 and 5.2, and document the corrective actions as required in Part 5.4.

EPA may insist that you install additional controls (to meet the narrative water quality-based effluent limit above) on a site-specific basis, or require you to obtain coverage under an individual permit, if information in your NOI or from other sources indicates that your discharges are not controlled as necessary to meet applicable water quality standards. This includes situations where additional controls are necessary to comply with a wasteload allocation in an EPA-established or approved TMDL.

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[42] Uncontaminated, clear (non-turbid) dewatering water can be discharged without being routed to a control.

[43] Appropriate controls include sediment basins or sediment traps, sediment socks, dewatering tanks, tube settlers, weir tanks, filtration systems (*e.g., bag or sand filters*), and passive treatment systems that are designed to remove sediment. Appropriate controls to use downstream of dewatering controls to minimize erosion include vegetated buffers, check dams, riprap, and grouted riprap at outlets.

If during your coverage under a previous permit, you were required to install and maintain stormwater controls specifically to meet the assumptions and requirements of an EPA-approved or established TMDL (for any parameter) or to otherwise control your discharge to meet water quality standards, you must continue to implement such controls as part of your coverage under this permit.

3.2 DISCHARGE LIMITATIONS FOR SITES DISCHARGING TO SENSITIVE WATERS[44]

For any portion of the site that discharges to a sediment or nutrient-impaired water or to a water that is identified by your state, tribe, or EPA as Tier 2, Tier 2.5, or Tier 3 for antidegradation purposes, you must comply with the inspection frequency specified in 4.3 and you must comply with the stabilization deadline specified in Part 2.2.14.a.iii.(c).[45]

If you discharge to a water that is impaired for a parameter other than a sediment-related parameter or nutrients, EPA will inform you if any additional controls are necessary for your discharge to be controlled as necessary to meet water quality standards, including for it to be consistent with the assumptions of any available wasteload allocation in any applicable TMDL, or if coverage under an individual permit is necessary.

In addition, on a case-by-case basis, EPA may notify operators of new sites or operators of existing sites with increased discharges that additional analyses, stormwater controls, or other measures are necessary to comply with the applicable antidegradation requirements, or notify you that an individual permit application is necessary.

If you discharge to a water that is impaired for polychlorinated biphenyls (PCBs) and are engaging in demolition of any structure with at least 10,000 square feet of floor space built or renovated before January 1, 1980, you must:

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[44] Sensitive waters include waters that are impaired and Tier 2, Tier 2.5, and Tier 3 waters.

"Impaired waters" are those waters identified by the state, tribe, or EPA as not meeting an applicable water quality standard and (1) requires development of a TMDL (pursuant to section 303(d) of the CWA; or (2) is addressed by an EPA-approved or established TMDL; or (3) is not in either of the above categories but the waterbody is covered by a pollution control program that meets the requirements of 40 CFR 130.7(b)(1). Your construction site will be considered to discharge to an impaired water if the first water of the U.S. to which you discharge is an impaired water for the pollutants contained in the discharge from your site. For discharges that enter a storm sewer system prior to discharge, the first water of the U.S. to which you discharge is the waterbody that receives the stormwater discharge from the storm sewer system. For assistance in determining whether your site discharges to impaired waters, EPA has developed a tool that is available both within the electronic NOI form in NeT, and at https://water.epa.gov/polwaste/npdes/stormwater/discharge.cfm.

Tiers 2, 2.5 and 3 refer to waters either identified by the state as high quality waters or Outstanding National Resource Waters under 40 CFR 131.12(a)(2) and (3). For the purposes of this permit, you are considered to discharge to a Tier 2, Tier 2.5, or Tier 3 water if the first water of the U.S. to which you discharge is identified by a state, tribe, or EPA as Tier 2, Tier 2.5, or Tier 3. For discharges that enter a storm sewer system prior to discharge, the water of the U.S. to which you discharge is the first water of the U.S. that receives the stormwater discharge from the storm sewer system. See list of Tier 2, Tier 2.5, and Tier 3 waters in Appendix F.

EPA may determine on a case-by-case basis that a site discharges to a sensitive water.

[45] If you qualify for any of the reduced inspection frequencies in Part 4.4, you may conduct inspections in accordance with Part 4.4 for any portion of your site that discharges to a sensitive water.

a. Implement controls[46] to minimize the exposure of PCB-containing building materials, including paint, caulk, and pre-1980 fluorescent lighting fixtures, to precipitation and to stormwater; and

b. Ensure that disposal of such materials is performed in compliance with applicable state, federal, and local laws.

4 SITE INSPECTION REQUIREMENTS

4.1 PERSON(S) RESPONSIBLE FOR INSPECTING SITE

The person(s) inspecting your site may be a person on your staff or a third party you hire to conduct such inspections. You are responsible for ensuring that the person who conducts inspections is a "qualified person."[47]

4.2 FREQUENCY OF INSPECTIONS.[48]

At a minimum, you must conduct a site inspection in accordance with one of the two schedules listed below, unless you are subject to the Part 4.3 site inspection frequency for discharges to sensitive waters or qualify for a Part 4.4 reduction in the inspection frequency:

4.2.1 At least once every seven (7) calendar days; *or*

4.2.2 Once every 14 calendar days *and* within 24 hours of the occurrence of a storm event of 0.25 inches or greater, or the occurrence of runoff from snowmelt sufficient to cause a discharge.[49] To determine if a storm event of 0.25 inches or greater has occurred on your site, you must either keep a properly maintained rain gauge on your site, or obtain the storm event information from a weather station that is representative of your location. For any day of rainfall during normal business hours that measures 0.25 inches or greater, you must record the total rainfall measured for that day in accordance with Part 4.7.1d.

4.3 INCREASE IN INSPECTION FREQUENCY FOR SITES DISCHARGING TO SENSITIVE WATERS.

For any portion of the site that discharges to a sediment or nutrient-impaired water or to a water that is identified by your state, tribe, or EPA as Tier 2, Tier 2.5, or Tier 3 for antidegradation purposes (see Part 3.2), instead of the inspection frequency specified in

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[46] Examples of controls to minimize exposure of PCBs to precipitation and stormwater include separating work areas from non-work areas and selecting appropriate personal protective equipment and tools, constructing a containment area so that all dust or debris generated by the work remains within the protected area, using tools that minimize dust and heat (<212°F). For additional information, refer to Part 2.3.3 of the CGP Fact Sheet.

[47] A "qualified person" is a person knowledgeable in the principles and practice of erosion and sediment controls and pollution prevention, who possesses the appropriate skills and training to assess conditions at the construction site that could impact stormwater quality, and the appropriate skills and training to assess the effectiveness of any stormwater controls selected and installed to meet the requirements of this permit.

[48] Inspections are only required during the site's normal working hours.

[49] "Within 24 hours of the occurrence of a storm event" means that you must conduct an inspection within 24 hours once a storm event has produced 0.25 inches within a 24-hour period, even if the storm event is still continuing. Thus, if you have elected to inspect bi-weekly in accordance with Part 4.2.2 and there is a storm event at your site that continues for multiple days, and each day of the storm produces 0.25 inches or more of rain, you must conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the end of the storm.

Part 4.2, you must conduct inspections in accordance with the following inspection frequencies:

Once every seven (7) calendar days *and* within 24 hours of the occurrence of a storm event of 0.25 inches or greater, or the occurrence of runoff from snowmelt sufficient to cause a discharge. To determine if a storm event of 0.25 inches or greater has occurred on your site, you must either keep a properly maintained rain gauge on your site, or obtain the storm event information from a weather station that is representative of your location. For any day of rainfall during normal business hours that measures 0.25 inches or greater, you must record the total rainfall measured for that day in accordance with Part 4.7.1d.

4.4 REDUCTIONS IN INSPECTION FREQUENCY

4.4.1 Stabilized areas.

a. You may reduce the frequency of inspections to twice per month for the first month, no more than 14 calendar days apart, then once per month in any area of your site where the stabilization steps in 2.2.14a have been completed. If construction activity resumes in this portion of the site at a later date, the inspection frequency immediately increases to that required in Parts 4.2 and 4.3, as applicable. You must document the beginning and ending dates of this period in your SWPPP.

b. **Exception.** For "linear construction sites" (as defined in Appendix A) where disturbed portions have undergone final stabilization at the same time active construction continues on others, you may reduce the frequency of inspections to twice per month for the first month, no more than 14 calendar days apart, in any area of your site where the stabilization steps in 2.2.14a have been completed. After the first month, inspect once more within 24 hours of the occurrence of a storm event of 0.25 inches or greater. If there are no issues or evidence of stabilization problems, you may suspend further inspections. If "wash-out" of stabilization materials and/or sediment is observed, following re-stabilization, inspections must resume at the inspection frequency required in Part 4.4.1a Inspections must continue until final stabilization is visually confirmed following a storm event of 0.25 inches or greater.

4.4.2 Arid, semi-arid, or drought-stricken areas (as defined in Appendix A).

If it is the seasonally dry period or a period in which drought is occurring, you may reduce the frequency of inspections to once per month and within 24 hours of the occurrence of a storm event of 0.25 inches or greater. You must document that you are using this reduced schedule and the beginning and ending dates of the seasonally dry period in your SWPPP. To determine if a storm event of 0.25 inches or greater has occurred on your site, you must either keep a properly maintained rain gauge on your site, or obtain the storm event information from a weather station that is representative of your location. For any day of rainfall during normal business hours that measures 0.25 inches or greater, you must record the total rainfall measured for that day in accordance with Part 4.7.1d.

4.4.3 Frozen conditions:

a. If you are suspending construction activities due to frozen conditions, you may temporarily suspend inspections on your site until thawing conditions (as defined in Appendix A) begin to occur if:

i. Runoff is unlikely due to continuous frozen conditions that are likely to continue at your site for at least three (3) months based on historic seasonal averages. If unexpected weather conditions (such as above freezing temperatures or rain

events) make discharges likely, you must immediately resume your regular inspection frequency as described in Parts 4.2 and 4.3, as applicable;

ii. Land disturbances have been suspended; and

iii. All disturbed areas of the site have been stabilized in accordance with Part 2.2.14a.

b. If you are still conducting construction activities during frozen conditions, you may reduce your inspection frequency to once per month if:

i. Runoff is unlikely due to continuous frozen conditions that are likely to continue at your site for at least three (3) months based on historic seasonal averages. If unexpected weather conditions (such as above freezing temperatures or rain events) make discharges likely, you must immediately resume your regular inspection frequency as described in Parts 4.2 and 4.3, as applicable; and

ii. Except for areas in which you are actively conducting construction activities, disturbed areas of the site have been stabilized in accordance with Part 2.2.14a.

You must document the beginning and ending dates of this period in your SWPPP.

4.5 AREAS THAT MUST BE INSPECTED

During your site inspection, you must at a minimum inspect the following areas of your site:

4.5.1 All areas that have been cleared, graded, or excavated and that have not yet completed stabilization consistent with Part 2.2.14a;

4.5.2 All stormwater controls (including pollution prevention controls) installed at the site to comply with this permit;[50]

4.5.3 Material, waste, borrow, and equipment storage and maintenance areas that are covered by this permit;

4.5.4 All areas where stormwater typically flows within the site, including drainageways designed to divert, convey, and/or treat stormwater;

4.5.5 All points of discharge from the site; and

4.5.6 All locations where stabilization measures have been implemented.

You are not required to inspect areas that, at the time of the inspection, are considered unsafe to your inspection personnel.

4.6 REQUIREMENTS FOR INSPECTIONS

During your site inspection, you must at a minimum:

4.6.1 Check whether all stormwater controls *(i.e., erosion and sediment controls and pollution prevention controls)* are properly installed, appear to be operational, and are working as intended to minimize pollutant discharges;

4.6.2 Check for the presence of conditions that could lead to spills, leaks, or other accumulations of pollutants on the site;

[50] This includes the requirement to inspect for sediment that has been tracked out from the site onto paved roads, sidewalks, or other paved areas consistent with Part 2.2.4.

4.6.3 Identify any locations where new or modified stormwater controls are necessary to meet the requirements of Parts 2 and/or 3;

4.6.4 Check for signs of visible erosion and sedimentation *(i.e., sediment deposits)* that have occurred and are attributable to your discharge at points of discharge and, if applicable, the banks of any waters of the U.S. flowing within or immediately adjacent to the site;

4.6.5 Identify any incidents of noncompliance observed;

4.6.6 If a discharge is occurring during your inspection:

a. Identify all discharge points at the site; and

b. Observe and document the visual quality of the discharge, and take note of the characteristics of the stormwater discharge, including color; odor; floating, settled, or suspended solids; foam; oil sheen; and other indicators of stormwater pollutants.

4.6.7 Based on the results of your inspection, complete any necessary maintenance under Part 2.1.4 and corrective action under Part 5.

4.7 INSPECTION REPORT

4.7.1 You must complete an inspection report within 24 hours of completing any site inspection. Each inspection report must include the following:

a. The inspection date;

b. Names and titles of personnel making the inspection;

c. A summary of your inspection findings, covering at a minimum the observations you made in accordance with Part 4.6, including any necessary maintenance or corrective actions;

d. If you are inspecting your site at the frequency specified in Part 4.2.2, Part 4.3, or Part 4.4.1b, and you conducted an inspection because of rainfall measuring 0.25 inches or greater, you must include the applicable rain gauge or weather station readings that triggered the inspection; and

e. If you determined that it is unsafe to inspect a portion of your site, you must describe the reason you found it to be unsafe and specify the locations to which this condition applies.

4.7.2 Each inspection report must be signed in accordance with Appendix I, Part I.11 of this permit.

4.7.3 You must keep a copy of all inspection reports at the site or at an easily accessible location, so that it can be made available at the time of an on-site inspection or upon request by EPA.

4.7.4 You must retain all inspection reports completed for this Part for at least three (3) years from the date that your permit coverage expires or is terminated.

4.8 INSPECTIONS BY EPA

You must allow EPA, or an authorized representative of EPA, to conduct the following activities at reasonable times. To the extent that you are utilizing shared controls that are

not on site to comply with this permit, you must make arrangements for EPA to have access at all reasonable times to those areas where the shared controls are located.

4.8.1 Enter onto all areas of the site, including any construction support activity areas covered by this permit, any off-site areas where shared controls are utilized to comply with this permit, discharge locations, adjoining waterbodies, and locations where records are kept under the conditions of this permit;

4.8.2 Access and copy any records that must be kept under the conditions of this permit;

4.8.3 Inspect your construction site, including any construction support activity areas covered by this permit (see Part 1.2.1c), any stormwater controls installed and maintained at the site, and any off-site shared controls utilized to comply with this permit; and

4.8.4 Sample or monitor for the purpose of ensuring compliance.

5 CORRECTIVE ACTIONS

5.1 CONDITIONS TRIGGERING CORRECTIVE ACTION.

You must take corrective action to address any of the following conditions identified at your site:

5.1.1 A stormwater control needs repair or replacement (beyond routine maintenance required under Part 2.1.4); or

5.1.2 A stormwater control necessary to comply with the requirements of this permit was never installed, or was installed incorrectly; or

5.1.3 Your discharges are causing an exceedance of applicable water quality standards; or

5.1.4 A prohibited discharge has occurred (see Part 1.3).

5.2 CORRECTIVE ACTION DEADLINES

For any corrective action triggering conditions in Part 5.1, you must:

5.2.1 Immediately take all reasonable steps to address the condition, including cleaning up any contaminated surfaces so the material will not discharge in subsequent storm events;

5.2.2 When the problem does not require a new or replacement control or significant repair, the corrective action must be completed by the close of the next business day;

5.2.3 When the problem requires a new or replacement control or significant repair, install the new or modified control and make it operational, or complete the repair, by no later than seven (7) calendar days from the time of discovery. If it is infeasible to complete the installation or repair within seven (7) calendar days, you must document in your records why it is infeasible to complete the installation or repair within the 7-day timeframe and document your schedule for installing the stormwater control(s) and making it operational as soon as feasible after the 7-day timeframe. Where these actions result in changes to any of the stormwater controls or procedures documented in your SWPPP, you must modify your SWPPP accordingly within seven (7) calendar days of completing this work.

5.3 CORRECTIVE ACTION REQUIRED BY EPA

You must comply with any corrective actions required by EPA as a result of permit violations found during an inspection carried out under Part 4.8.

5.4 CORRECTIVE ACTION REPORT

For each corrective action taken in accordance with this Part, you must complete a report in accordance with the following:

5.4.1 Within 24 hours of identifying the corrective action condition, document the specific condition and the date and time it was identified.

5.4.2 Within 24 hours of completing the corrective action (in accordance with the deadlines in Part 5.2), document the actions taken to address the condition, including whether any SWPPP modifications are required.

5.4.3 Each corrective action report must be signed in accordance with Appendix I, Part I.11 of this permit.

5.4.4 You must keep a copy of all corrective action reports at the site or at an easily accessible location, so that it can be made available at the time of an on-site inspection or upon request by EPA.

5.4.5 You must retain all corrective action reports completed for this Part for at least three (3) years from the date that your permit coverage expires or is terminated.

6 STAFF TRAINING REQUIREMENTS

Each operator, or group of multiple operators, must assemble a "stormwater team" to carry out compliance activities associated with the requirements in this permit.

6.1 Prior to the commencement of construction activities, you must ensure that the following personnel[51] on the stormwater team understand the requirements of this permit and their specific responsibilities with respect to those requirements:

a. Personnel who are responsible for the design, installation, maintenance, and/or repair of stormwater controls (including pollution prevention controls);
b. Personnel responsible for the application and storage of treatment chemicals (if applicable);
c. Personnel who are responsible for conducting inspections as required in Part 4.1; and
d. Personnel who are responsible for taking corrective actions as required in Part 5.

6.2 You are responsible for ensuring that all activities on the site comply with the requirements of this permit. You are not required to provide or document formal training for subcontractors or other outside service providers, but you must ensure that such personnel understand any requirements of this permit that may be affected by the work they are subcontracted to perform.

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[51] If the person requiring training is a new employee who starts after you commence construction activities, you must ensure that this person has the proper understanding as required above prior to assuming particular responsibilities related to compliance with this permit.

For emergency-related projects, the requirement to train personnel prior to commencement of construction activities does not apply, however, such personnel must have the required training prior to NOI submission.

6.3 At a minimum, members of the stormwater team must be trained to understand the following if related to the scope of their job duties *(e.g., only personnel responsible for conducting inspections need to understand how to conduct inspections)*:

a. The permit deadlines associated with installation, maintenance, and removal of stormwater controls and with stabilization;

b. The location of all stormwater controls on the site required by this permit and how they are to be maintained;

c. The proper procedures to follow with respect to the permit's pollution prevention requirements; and

d. When and how to conduct inspections, record applicable findings, and take corrective actions.

6.4 Each member of the stormwater team must have easy access to an electronic or paper copy of applicable portions of this permit, the most updated copy of your SWPPP, and other relevant documents or information that must be kept with the SWPPP.

7. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

7.1 GENERAL REQUIREMENTS

All operators associated with a construction site under this permit must develop a SWPPP consistent with the requirements in Part 7 prior to their submittal of the NOI.[52, 53] The SWPPP must be kept up-to-date throughout coverage under this permit.

If a SWPPP was prepared under a previous version of this permit, the operator must review and update the SWPPP to ensure that this permit's requirements are addressed prior to submitting an NOI for coverage under this permit.

7.2 SWPPP CONTENTS

At a minimum, the SWPPP must include the information specified in this Part and as

[52] The SWPPP does not establish the effluent limits that apply to your site's discharges; these limits are established in this permit in Parts 2 and 3.

[53] You have the option of developing a group SWPPP where you are one of several operators at your site. For instance, if both the owner and the general contractor of the construction site are operators and thus are both required to obtain a permit, the owner may be the party undertaking SWPPP development, and the general contractor (or any other operator at the site) can choose to use this same SWPPP, as long as the SWPPP addresses the general contractor's (or other operator's) scope of construction work and functions to be performed under the SWPPP. Regardless of whether there is a group SWPPP or several individual SWPPPs, all operators would be jointly and severally liable for compliance with the permit.

Where there are multiple operators associated with the same site through a common plan of development or sale, operators may assign to themselves various permit-related functions under the SWPPP provided that each SWPPP, or a group SWPPP, documents which operator will perform each function under the SWPPP. However, dividing the functions to be performed under each SWPPP, or a single group SWPPP, does not relieve an individual operator from liability for complying with the permit should another operator fail to implement any measures that are necessary for that individual operator to comply with the permit, e.g., the installation and maintenance of any shared controls. In addition, all operators must ensure, either directly or through coordination with other operators, that their activities do not cause a violation and/or render any other operators' controls and/or any shared controls ineffective. All operators who rely on a shared control to comply with the permit are jointly and severally liable for violations of the permit resulting from the failure to properly install, operate and/or maintain the shared control.

specified in other parts of this permit.

7.2.1 **All Site Operators.** Include a list of all other operators who will be engaged in construction activities at the site, and the areas of the site over which each operator has control.

7.2.2 **Stormwater Team.** Identify the personnel (by name or position) that are part of the stormwater team, as well as their individual responsibilities, including which members are responsible for conducting inspections.

7.2.3 **Nature of Construction Activities.**[54] Include the following:

a. A description of the nature of your construction activities, including the age or dates of past renovations for structures that are undergoing demolition;

b. The size of the property (in acres or length in miles if a linear construction site);

c. The total area expected to be disturbed by the construction activities (to the nearest quarter acre or nearest quarter mile if a linear construction site);

d. A description of any on-site and off-site construction support activity areas covered by this permit (see Part 1.2.1c);

e. The maximum area expected to be disturbed at any one time, including on-site and off-site construction support activity areas;

f. A description and projected schedule for the following:

i. Commencement of construction activities in each portion of the site, including clearing and grubbing, mass grading, demolition activities, site preparation (*i.e., excavating, cutting and filling*), final grading, and creation of soil and vegetation stockpiles requiring stabilization;

ii. Temporary or permanent cessation of construction activities in each portion of the site;

iii. Temporary or final stabilization of exposed areas for each portion of the site; and

iv. Removal of temporary stormwater controls and construction equipment or vehicles, and the cessation of construction-related pollutant-generating activities.

g. A list and description of all pollutant-generating activities[55] on the site. For each pollutant-generating activity, include an inventory of pollutants or pollutant constituents (*e.g., sediment, fertilizers, pesticides, paints, caulks, sealants, fluorescent light ballasts, contaminated substrates, solvents, fuels*) associated with that activity, which could be discharged in stormwater from your construction site. You must take into account where potential spills and leaks could occur that contribute pollutants to stormwater discharges, and any known hazardous or toxic substances, such as PCBs and asbestos, that will be disturbed or removed during construction;

h. Business days and hours for the project;

i. If you are conducting construction activities in response to a public emergency (see Part 1.4), a description of the cause of the public emergency (*e.g., mud slides,*

[54] If plans change due to unforeseen circumstances or for other reasons, the requirement to describe the sequence and estimated dates of construction activities is not meant to "lock in" the operator to meeting these dates. When departures from initial projections are necessary, this should be documented in the SWPPP itself, or in associated records, as appropriate.

[55] Examples of pollutant-generating activities include paving operations; concrete, paint, and stucco washout and waste disposal; solid waste storage and disposal; and dewatering operations.

earthquake, extreme flooding conditions, widespread disruption in essential public services), information substantiating its occurrence *(e.g., state disaster declaration or similar state or local declaration)*, and a description of the construction necessary to reestablish affected public services.

7.2.4 Site Map. Include a legible map, or series of maps, showing the following features of the site:

a. Boundaries of the property;

b. Locations where construction activities will occur, including:

i. Locations where earth-disturbing activities will occur (note any phasing), including any demolition activities;

ii. Approximate slopes before and after major grading activities (note any steep slopes (as defined in Appendix A));

iii. Locations where sediment, soil, or other construction materials will be stockpiled;

iv. Any water of the U.S. crossings;

v. Designated points where vehicles will exit onto paved roads;

vi. Locations of structures and other impervious surfaces upon completion of construction; and

vii. Locations of on-site and off-site construction support activity areas covered by this permit (see Part 1.2.1c).

c. Locations of all waters of the U.S. within and one mile downstream of the site's discharge point. Also identify if any are listed as impaired, or are identified as a Tier 2, Tier 2.5, or Tier 3 water;

d. Areas of federally listed critical habitat within the site and/or at discharge locations;

e. Type and extent of pre-construction cover on the site (*e.g., vegetative cover, forest, pasture, pavement, structures*);

f. Drainage patterns of stormwater and authorized non-stormwater before and after major grading activities;

g. Stormwater and authorized non-stormwater discharge locations, including:

i. Locations where stormwater and/or authorized non-stormwater will be discharged to storm drain inlets;[56] and

ii. Locations where stormwater or authorized non-stormwater will be discharged directly to waters of the U.S.

h. Locations of all potential pollutant-generating activities identified in Part 7.2.3g;

i. Locations of stormwater controls, including natural buffer areas and any shared controls utilized to comply with this permit; and

j. Locations where polymers, flocculants, or other treatment chemicals will be used and stored.

[56] The requirement to show storm drain inlets in the immediate vicinity of the site on your site map only applies to those inlets that are easily identifiable from your site or from a publicly accessible area immediately adjacent to your site.

7.2.5 **Non-Stormwater Discharges.** Identify all authorized non-stormwater discharges in Part 1.2.2 that will or may occur.

7.2.6 **Description of Stormwater Controls.**

a. For each of the Part 2.2 erosion and sediment control effluent limits, Part 2.3 pollution prevention effluent limits, and Part 2.4 construction dewatering effluent limits, as applicable to your site, you must include the following:

i. A description of the specific control(s) to be implemented to meet the effluent limit;

ii. Any applicable stormwater control design specifications (including references to any manufacturer specifications and/or erosion and sediment control manuals/ordinances relied upon);[57]

iii. Routine stormwater control maintenance specifications; and

iv. The projected schedule for stormwater control installation/implementation.

b. You must also include any of the following additional information as applicable.

i. **Natural buffers and/or equivalent sediment controls** (see Part 2.2.1 and Appendix G). You must include the following:

(a) The compliance alternative to be implemented;

(b) If complying with alternative 2, the width of natural buffer retained;

(c) If complying with alternative 2 or 3, the erosion and sediment control(s) you will use to achieve an equivalent sediment reduction, and any information you relied upon to demonstrate the equivalency;

(d) If complying with alternative 3, a description of why it is infeasible for you to provide and maintain an undisturbed natural buffer of any size;

(e) For "linear construction sites" where it is infeasible to implement compliance alternative 1, 2, or 3, a rationale for this determination, and a description of any buffer width retained and/or supplemental erosion and sediment controls installed; and

(f) A description of any disturbances that are exempt under Part 2.2.1 that occur within 50 feet of a water of the U.S.

ii. **Perimeter controls for a "linear construction site"** (see Part 2.2.3). For areas where perimeter controls are not feasible, include documentation to support this determination and a description of the other practices that will be implemented to minimize discharges of pollutants in stormwater associated with construction activities.

Note: Routine maintenance specifications for perimeter controls documented in the SWPPP must include the Part 2.2.3a requirement that sediment be removed before it has accumulated to one-half of the above-ground height of any perimeter control.

iii. **Sediment track-out controls** (see Parts 2.2.4b and 2.2.4c). Document the specific stabilization techniques and/or controls that will be implemented to remove sediment prior to vehicle exit.

iv. **Sediment basins** (see Part 2.2.12). In circumstances where it is infeasible to utilize outlet structures that withdraw water from the surface, include documentation to

[57] Design specifications may be found in manufacturer specifications and/or in applicable erosion and sediment control manuals or ordinances. Any departures from such specifications must reflect good engineering practice and must be explained in the SWPPP.

support this determination, including the specific conditions or time periods when this exception will apply.

v. **Treatment chemicals** (see Part 2.2.13), you must include the following:

(a) A listing of the soil types that are expected to be exposed during construction in areas of the project that will drain to chemical treatment systems. Also include a listing of soil types expected to be found in fill material to be used in these same areas, to the extent you have this information prior to construction;

(b) A listing of all treatment chemicals to be used at the site and why the selection of these chemicals is suited to the soil characteristics of your site;

(c) If the applicable EPA Regional Office authorized you to use cationic treatment chemicals for sediment control, include the specific controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to an exceedance of water quality standards;

(d) The dosage of all treatment chemicals to be used at the site or the methodology to be used to determine dosage;

(e) Information from any applicable Safety Data Sheet (SDS);

(f) Schematic drawings of any chemically enhanced stormwater controls or chemical treatment systems to be used for application of the treatment chemicals;

(g) A description of how chemicals will be stored consistent with Part 2.2.13c;

(h) References to applicable state or local requirements affecting the use of treatment chemicals, and copies of applicable manufacturer's specifications regarding the use of your specific treatment chemicals and/or chemical treatment systems; and

(i) A description of the training that personnel who handle and apply chemicals have received prior to permit coverage, or will receive prior to use of the treatment chemicals at your site.

vi. **Stabilization measures** (see Part 2.2.14). You must include the following:

(a) The specific vegetative and/or non-vegetative practices that will be used;

(b) The stabilization deadline that will be met in accordance with Part 2.2.14.a.i-ii;

(c) If complying with the deadlines for sites in arid, semi-arid, or drought-stricken areas, the beginning and ending dates of the seasonally dry period and the schedule you will follow for initiating and completing vegetative stabilization; and

(d) If complying with deadlines for sites affected by unforeseen circumstances that delay the initiation and/or completion of vegetative stabilization, document the circumstances and the schedule for initiating and completing stabilization.

vii. **Spill prevention and response procedures** (see Part 1.3.5 and Part 2.3). You must include the following:

(a) Procedures for expeditiously stopping, containing, and cleaning up spills, leaks, and other releases. Identify the name or position of the employee(s)

responsible for detection and response of spills or leaks; and

(b) Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity consistent with Part 2.3.6 and established under either 40 CFR 110, 40 CFR 117, or 40 CFR 302, occurs during a 24-hour period. Contact information must be in locations that are readily accessible and available to all employees.

You may also reference the existence of Spill Prevention Control and Countermeasure (SPCC) plans developed for the construction activity under Part 311 of the CWA, or spill control programs otherwise required by an NPDES permit for the construction activity, provided that you keep a copy of that other plan on site.[58]

viii. **Waste management procedures** (see Part 2.3.3). Describe the procedures you will follow for handling, storing and disposing of all wastes generated at your site consistent with all applicable federal, state, tribal, and local requirements, including clearing and demolition debris, sediment removed from the site, construction and domestic waste, hazardous or toxic waste, and sanitary waste.

ix. **Application of fertilizers** (see Part 2.3.5). Document any departures from the manufacturer specifications where appropriate.

7.2.7 **Procedures for Inspection, Maintenance, and Corrective Action.** Describe the procedures you will follow for maintaining your stormwater controls, conducting site inspections, and, where necessary, taking corrective actions, in accordance with Part 2.1.4, Part 4, and Part 5 of this permit. Also include:

a. The inspection schedule you will follow, which is based on whether your site is subject to Part 4.2 or Part 4.3, or whether your site qualifies for any of the reduced inspection frequencies in Part 4.4;

b. If you will be conducting inspections in accordance with the inspection schedule in Part 4.2.2, Part 4.3, or Part 4.4.1b, the location of the rain gauge or the address of the weather station you will be using to obtain rainfall data;

c. If you will be reducing your inspection frequency in accordance with Part 4.4.1b, the beginning and ending dates of the seasonally defined arid period for your area or the valid period of drought;

d. If you will be reducing your inspection frequency in accordance with Part 4.4.3, the beginning and ending dates of frozen conditions on your site; and

e. Any maintenance or inspection checklists or other forms that will be used.

7.2.8 **Staff Training.** Include documentation that the required personnel were, or will be, trained in accordance with Part 6.

7.2.9 **Compliance with Other Requirements.**

a. **Threatened and Endangered Species Protection.** Include documentation required in Appendix D supporting your eligibility with regard to the protection of threatened and endangered species and designated critical habitat.

[58] Even if you already have an SPCC or other spill prevention plan in existence, your plans will only be considered adequate if they meet all of the requirements of this Part, either as part of your existing plan or supplemented as part of the SWPPP.

b. **Historic Properties.** Include documentation required in Appendix E supporting your eligibility with regard to the protection of historic properties.

c. **Safe Drinking Water Act Underground Injection Control (UIC) Requirements for Certain Subsurface Stormwater Controls.** If you are using any of the following stormwater controls at your site, document any contact you have had with the applicable state agency[59] or EPA Regional Office responsible for implementing the requirements for underground injection wells in the Safe Drinking Water Act and EPA's implementing regulations at 40 CFR 144 -147. Such controls would generally be considered Class V UIC wells:

   i. Infiltration trenches (if stormwater is directed to any bored, drilled, driven shaft or dug hole that is deeper than its widest surface dimension, or has a subsurface fluid distribution system);

   ii. Commercially manufactured pre-cast or pre-built proprietary subsurface detention vaults, chambers, or other devices designed to capture and infiltrate stormwater flow; and

   iii. Drywells, seepage pits, or improved sinkholes (if stormwater is directed to any bored, drilled, driven shaft or dug hole that is deeper than its widest surface dimension, or has a subsurface fluid distribution system).

7.2.10 SWPPP Certification. You must sign and date your SWPPP in accordance with Appendix I, Part I.11.

7.2.11 Post-Authorization Additions to the SWPPP. Once you are authorized for coverage under this permit, you must include the following documents as part of your SWPPP:

a. A copy of your NOI submitted to EPA along with any correspondence exchanged between you and EPA related to coverage under this permit;

b. A copy of the acknowledgment letter you receive from NeT assigning your NPDES ID (*i.e., permit tracking number*);

c. A copy of this permit (an electronic copy easily available to the stormwater team is also acceptable).

7.3 ON-SITE AVAILABILITY OF YOUR SWPPP

You must keep a current copy of your SWPPP at the site or at an easily accessible location so that it can be made available at the time of an on-site inspection or upon request by EPA; a state, tribal, or local agency approving stormwater management plans; the operator of a storm sewer system receiving discharges from the site; or representatives of the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS).

EPA may provide access to portions of your SWPPP to a member of the public upon request. Confidential Business Information (CBI) will be withheld from the public, but may not be withheld from EPA, USFWS, or NMFS.[60]

[59] For state UIC program contacts, refer to the following EPA website: https://www.epa.gov/uic.

[60] Information covered by a claim of confidentiality will be disclosed by EPA only to the extent of, and by means of, the procedures set forth in 40 CFR Part 2, Subpart B. In general, submitted information protected by a business confidentiality claim may be disclosed to other employees, officers, or authorized representatives of the United States concerned with implementing the CWA. The authorized representatives, including employees of other executive branch agencies, may review CBI during the course of reviewing draft regulations.

If an on-site location is unavailable to keep the SWPPP when no personnel are present, notice of the plan's location must be posted near the main entrance of your construction site.

7.4 SWPPP MODIFICATIONS

7.4.1 You must modify your SWPPP, including the site map(s), within seven (7) days of any of the following conditions:

a. Whenever new operators become active in construction activities on your site, or you make changes to your construction plans, stormwater controls, or other activities at your site that are no longer accurately reflected in your SWPPP. This includes changes made in response to corrective actions triggered under Part 5. You do not need to modify your SWPPP if the estimated dates in Part 7.2.3f change during the course of construction;

b. To reflect areas on your site map where operational control has been transferred (and the date of transfer) since initiating permit coverage;

c. If inspections or investigations by EPA or its authorized representatives determine that SWPPP modifications are necessary for compliance with this permit;

d. Where EPA determines it is necessary to install and/or implement additional controls at your site in order to meet the requirements of this permit, the following must be included in your SWPPP:

   i. A copy of any correspondence describing such measures and requirements; and

   ii. A description of the controls that will be used to meet such requirements.

e. To reflect any revisions to applicable federal, state, tribal, or local requirements that affect the stormwater controls implemented at the site; and

f. If applicable, if a change in chemical treatment systems or chemically enhanced stormwater control is made, including use of a different treatment chemical, different dosage rate, or different area of application.

7.4.2 You must maintain records showing the dates of all SWPPP modifications. The records must include the name of the person authorizing each change (see Part 7.2.10 above) and a brief summary of all changes.

7.4.3 All modifications made to the SWPPP consistent with Part 7.4 must be authorized by a person identified in Appendix I, Part I.11.b.

7.4.4 Upon determining that a modification to your SWPPP is required, if there are multiple operators covered under this permit, you must immediately notify any operators who may be impacted by the change to the SWPPP.

8 HOW TO TERMINATE COVERAGE

Until you terminate coverage under this permit, you must comply with all conditions and effluent limitations in the permit. To terminate permit coverage, you must submit to EPA a complete and accurate Notice of Termination (NOT), which certifies that you have met the requirements for terminating in Part 8.

8.1 MINIMUM INFORMATION REQUIRED IN NOT

8.1.1 NPDES ID *(i.e., permit tracking number)* provided by EPA when you received coverage under this permit;

8.1.2 Basis for submission of the NOT (see Part 8.2);

8.1.3 Operator contact information;

8.1.4 Name of site and address (or a description of location if no street address is available); and

8.1.5 NOT certification.

8.2 CONDITIONS FOR TERMINATING CGP COVERAGE

You must terminate CGP coverage only if one or more of the following conditions has occurred:

8.2.1 You have completed all construction activities at your site and, if applicable, construction support activities covered by this permit (see Part 1.2.1c), and you have met the following requirements:

a. For any areas that (1) were disturbed during construction, (2) are not covered over by permanent structures, and (3) over which you had control during the construction activities, you have met the requirements for final vegetative or non-vegetative stabilization in Part 2.2.14b;

b. You have removed and properly disposed of all construction materials, waste and waste handling devices, and have removed all equipment and vehicles that were used during construction, unless intended for long-term use following your termination of permit coverage;

c. You have removed all stormwater controls that were installed and maintained during construction, except those that are intended for long-term use following your termination of permit coverage or those that are biodegradable; and

d. You have removed all potential pollutants and pollutant-generating activities associated with construction, unless needed for long-term use following your termination of permit coverage; or

8.2.2 You have transferred control of all areas of the site for which you are responsible under this permit to another operator, and that operator has submitted an NOI and obtained coverage under this permit; or

8.2.3 Coverage under an individual or alternative general NPDES permit has been obtained.

8.3 HOW TO SUBMIT YOUR NOT

You must use EPA's NPDES eReporting Tool (NeT) to electronically prepare and submit your NOT for the 2017 CGP.

To access NeT, go to https://www.epa.gov/npdes/stormwater-discharges-construction-activities#ereporting.

Waivers from electronic reporting may be granted as specified in Part 1.4.1. If the EPA Regional Office grants you approval to use a paper NOT, and you elect to use it, you must complete the form in Appendix K.

8.4 DEADLINE FOR SUBMITTING THE NOT

You must submit your NOT within 30 calendar days after any one of the conditions in Part 8.2 occurs.

8.5 EFFECTIVE DATE OF TERMINATION OF COVERAGE

Your authorization to discharge under this permit terminates at midnight of the calendar day that a complete NOT is submitted to EPA.

9 PERMIT CONDITIONS APPLICABLE TO SPECIFIC STATES, INDIAN COUNTRY LANDS, OR TERRITORIES

The provisions in this Part provide modifications or additions to the applicable conditions of this permit to reflect specific additional conditions required as part of the state or tribal CWA Section 401 certification process, or the Coastal Zone Management Act (CZMA) certification process, or as otherwise established by the permitting authority. The specific additional revisions and requirements only apply to activities in those specific states, Indian country, and areas in certain states subject to construction projects by Federal Operators. States, Indian country, and areas subject to construction by Federal Operators not included in this Part do not have any modifications or additions to the applicable conditions of this permit.

9.1 EPA Region 1

9.1.1 NHR100000 State of New Hampshire

a. If you disturb 100,000 square feet or more of contiguous area, you must also apply for an Alteration of Terrain (AoT) permit from DES pursuant to RSA 485- A:17 and Env-Wq 1500. This requirement also applies to a lower disturbance threshold of 50,000 square feet or more when construction occurs within the protected shoreline under the Shoreland Water Quality Protection Act (see RSA 483-B and Env-Wq 1400). A permit application must also be filed if your project disturbs an area of greater than 2,500 square feet, is within 50 feet of any surface water, and has a flow path of 50 feet or longer disturbing a grade of 25 percent or greater. Project sites with disturbances smaller than those discussed above, that have the potential to adversely affect state surface waters, are subject to the conditions of an AoT, General Permit by Rule.

b. You must determine that any excavation dewatering discharges are not contaminated before they will be authorized as an allowable non-stormwater discharge under this permit (see Part 1.2.2). The water is considered uncontaminated if there is no groundwater contamination within 1,000 feet of the groundwater dewatering location. Information on groundwater contamination can be generated over the Internet via the NHDES web site http://des.nh.gov/ by using the One Stop Data Mapper at http://des.nh.gov/onestop/gis.htm. If it is determined that the groundwater to be dewatered is near a remediation or other waste site you must apply for the Remediation General Permit (see https://www3.epa.gov/region1/npdes/rgp.html.)

c. You must treat any uncontaminated excavation dewatering discharges as necessary to remove suspended solids and turbidity. The discharges must be sampled at least once per week during weeks when discharges occur. Samples must be analyzed for total suspended solids (TSS) or turbidity and must meet monthly average and daily maximum limits of 50 milligrams per liter (mg/L) and 100 mg/L, respectively for TSS or 33 mg/l and 67 mg/l, respectively for turbidity. TSS (a.k.a. Residue, Nonfilterable) or turbidity sampling and analysis must be performed in accordance with Tables IB and II in 40 CFR 136.3 (http://www.ecfr.gov/cgi-bin/text-idx?SID=0243e3c4283cbd7d8257eb6afc7ce9a2&mc=true&node=se40.25.136_13&r

gn=div8). Records of any sampling and analysis must be maintained and kept with the SWPPP for at least three years after final site stabilization.

d. Construction site owners and operators must consider opportunities for post-construction groundwater recharge using infiltration best management practices (BMPs) during site design and preparation of the SWPPP. If your construction site is in a town that is required to obtain coverage under the NPDES General Permit for discharges from Municipal Separate Storm Sewer Systems (MS4) you may be required to use such practices. The SWPPP must include a description of any on-site infiltration that will be installed as a post-construction stormwater management measure or reasons for not employing such measures such as 1) The facility is located in a wellhead protection area as defined in RSA 485- C:2; or 2) The facility is located in an area where groundwater has been reclassified to GAA, GAI or GA2 pursuant to RSA 485-C and Env-DW 901; or 3) Any areas that would be exempt from the groundwater recharge requirements contained in Env-Wq 1507.04(e), including all land uses or activities considered to be a "High-load Area" (see Env-Wq 1502.26). For design considerations for infiltration measures see Volume II of the NH Stormwater Manual.

e. Appendix F contains a list of Tier 2, or high quality waters. Although there is no official list of tier 2 waters, it can be assumed that all NH surface waters are tier 2 for turbidity unless 1) the surface water that you are proposing to discharge into is listed as impaired for turbidity in the states listing of impaired waters (see Surface Water Quality - Watershed Report Cards at http://des.nh.gov/organization/divisions/water/wmb/swqa/report_cards.htm) or 2) sampling upstream of the proposed discharge location shows turbidity values greater than 10 NTU. A single grab sample collected during dry weather (no precipitation within 48 hours) is acceptable.

f. To ensure compliance with RSA 485-C, RSA 485-A, RSA 485-A:13, I(a), Env-Wq 1700 and Env-Wq 302, the following information may be requested by NHDES. This information must be kept on site unless you receive a written request from NHDES that it be sent to the address shown in Part 9.1.4 (g).

    i. A site map required in Part 7.2.4, showing the type and location of all post-construction infiltration BMPs utilized at the facility or the reason(s) why none were installed;

    ii. A list of all non-stormwater discharges that occur at the facility, including their source locations and the control measures being used (see Part 1.2.2).

    iii. Records of sampling and analysis of TSS required for construction dewatering discharges (see Part 9.1.4 (c)).

g. All required or requested documents must be sent to:

    NH Department of Environmental Services, Wastewater Engineering Bureau,
    Permits & Compliance Section
    P.O. Box 95
    Concord, NH 03302-0095

9.2 EPA Region 3

9.2.1 DCR100000 District of Columbia

a. The permittee must comply with the District of Columbia Water Pollution Control Act of 1984, as amended, (D.C. Official Code §8-103.01 *et seq.*) and its

implementing regulations in Title 21, Chapters 11 and 19 of the District of Columbia Municipal Regulations. Nothing in this permit will be construed to preclude the institution of any legal action or relieve the permitee from any responsibilities, liabilities, or penalties established pursuant to District of Columbia laws and regulations.

b. The permittee must comply with the District of Columbia Stormwater Management, and Soil Erosion and Sediment Control in Chapter 5 of Title 21 of the District of Columbia Municipal Regulations.

c. The permittee must comply with the District of Columbia Flood Management control in Chapter 31 of Title 20 of the District of Columbia Municipal Regulations.

d. The Department may request a copy of the Stormwater Pollution Prevention Plan (SWPPP) and the permittee is required to submit the SWPPP to the Department with 14 days of such request. The Department may conduct an inspection of any facility covered by this permit to ensure compliance with District's law requirements including water quality.

9.2.2 DER10F000 Areas in the State of Delaware subject to construction by a Federal Operator

a. Federal agencies engaging in construction activities must submit, to DNREC, a sediment and stormwater management (S&S) plan and obtain approval from DNREC in accordance with 7 Del. C. §4010, 7 DE Admin. Code 5101, and 7 DE Admin. Code 7201.

b. Federal agencies engaging in construction activities must provide for construction review by a certified construction reviewer in accordance with 7 Del. C. §§4010 & 4013 and 7 DE Admin. Code 5101, subsection 6.1.6.

c. Federal agencies engaging in construction activities must certify that all responsible personnel involved in the construction project will have attended the blue card training prior to initiation of any land disturbing activity – *see* 7 Del. C. §§ 4002 & 4014 and 7 DE Admin. Code 5101.

9.3 EPA Region 5

9.3.1 MNR10I000 Indian country within the State of Minnesota

9.3.1.1 Fond du Lac Band of Lake Superior Chippewa. The following conditions apply only to discharges on the Fond du Lac Band of Lake Superior Chippewa Reservation:

a. A copy of the Stormwater Pollution Prevention Plan (SWPPP) must be submitted to the Office of Water Protection at least fifteen (15) days in advance of sending the Notice of Intent (NOI) to EPA. The SWPPP can be submitted electronically to richardgitar@FDLREZ.com or by hardcopy sent to:

Fond du Lac Reservation
Office of Water Protection
1720 Big Lake Road
Cloquet, MN 55720

CGP applicants are encouraged to work with the FDL Office of Water Protection in the identification of all proposed receiving.

b. Copies of the Notice of Intent (NOI) and the Notice of Termination (NOT) must be sent to the Fond du Lac Office of Water Protection at the same time they are submitted to EPA.

c. The turbidity limit shall NOT exceed 10% of natural background within the receiving water(s) as determined by Office of Water Protection staff.

d. Turbidity sampling must take place within 24 hours of a ½-inch or greater rainfall event. The results of the sampling must be reported to the Office of Water Protection within 7 days of the sample collection. All sample reporting must include the date and time, location (GPS: UTM/Zone 15), and NTU. CGP applicants are encouraged to work with the Office of Water Protection in determining the most appropriate location(s) for sampling.

e. Receiving waters with open water must be sampled for turbidity prior to any authorized discharge as determined by Office of Water Protection staff. This requirement only applies to receiving waters in which no ambient turbidity data exists.

f. This Certification does not pertain to any new discharge to Outstanding Reservation Resource Waters (ORRW) as described in §105 b.3. of the Fond du Lac Water Quality Standards (Ordinance #12/98, as amended). Although additional waters may be designated in the future, currently Perch Lake, Rice Portage Lake, Miller Lake, Deadfish Lake, and Jaskari Lake are designated as ORRWs. New dischargers wishing to discharge to an ORRW must obtain an individual permit from EPA for stormwater discharges from large and small construction activities.

g. All work shall be carried out in such a manner as will prevent violations of water quality criteria as stated in the Water Quality Standards of the Fond du Lac Reservation, Ordinance 12/98, as amended. This includes, but is not limited to, the prevention of any discharge that causes a condition in which visible solids, bottom deposits, or turbidity impairs the usefulness of water of the Fond du Lac Reservation for any of the uses designated in the Water Quality Standards of the Fond du Lac Reservation. These uses include wildlife, aquatic life, warm water fisheries, cold water fisheries, subsistence fishing (netting), primary contact recreation, secondary contact recreation, cultural, wild rice areas, aesthetic waters, agriculture, navigation, and commercial.

h. Appropriate steps shall be taken to ensure that petroleum products or other chemical pollutants are prevented from entering waters of the Fond du Lac Reservation. All spills must be reported to the appropriate emergency management agency (National Response Center AND the State Duty Officer), and measures shall be taken immediately to prevent the pollution of waters of the Fond du Lac Reservation, including groundwater. The Fond du Lac Office of Water Protection must also be notified immediately of any spill regardless of size.

i. This certification does not authorize impacts to cultural, historical, or archeological features or sites, or properties that may be eligible for such listing.

9.3.1.2 Grand Portage Band of Lake Superior Chippewa. The following conditions apply only to discharges on the Grand Portage Band of Lake Superior Chippewa Reservation:

a. The CGP authorization is for construction activities that may occur within the exterior boundaries of the Grand Portage Reservation in accordance to the Grand Portage Land Use Ordinance. The CGP regulates stormwater discharges associated with construction sites of one acre or more in size. Only those activities specifically authorized by the CGP are authorized by this certification (the

"Certification"). This Certification does not authorize impacts to cultural, historical, or archeological features or sites, or properties that may be eligible for listing as such.

b. All construction stormwater discharges authorized by the CGP must comply with the Water Quality Standards and Water Resources Ordinance, as well as Applicable Federal Standards (as defined in the Water Resources Ordinance). As such, appropriate steps must be taken to ensure that petroleum products or other chemical pollutants are prevented from entering the Waters of the Reservation (as defined in the Water Resources Ordinance). All spills must be reported to the appropriate emergency-management agency, and measures must be taken to prevent the pollution of the Waters of the Reservation, including groundwater.

c. The 2017 CGP requires inspections and monitoring reports of the construction site stormwater discharges by a qualified person. Monitoring and inspection reports must comply with the minimum requirements contained in the 2017 CGP. The monitoring plan must be prepared and incorporated into the Stormwater Pollution Prevention Plan (the "SWPPP"). A copy of the SWPPP must be submitted to the Board at least 30 days in advance of sending the requisite Notice of Intent to EPA. The SWPPP should be sent to:

Grand Portage Environmental Resources Board
P.O. Box 428
Grand Portage, MN 55605

Copies of the Notice of Intent and Notice of Termination required under the CGP must be submitted to the Board at the address above at the same time they are submitted to the EPA.

d. If requested by the Grand Portage Environmental Department, the permittee must provide additional information necessary for a case-by-case eligibility determination to assure compliance with the Water Quality Standards and any Applicable Federal Standards.

e. Discharges that the Board has determined to be or that may reasonably be expected to be contributing to a violation of Water Quality Standards or Applicable Federal Standards are not authorized by this Certification.

f. The Board retains full authority provided by the Water Resources Ordinance to ensure compliance with and to enforce the provisions of the Water Resource Ordinance and Water Quality Standards, Applicable Federal Standards, and these Certification conditions.

g. Appeals related to Board actions taken in accordance with any of the preceding conditions may be heard by the Grand Portage Tribal Court.

9.3.2 WIR101000 Indian country within the State of Wisconsin, except the Sokaogon Chippewa (Mole Lake) Community

9.3.2.1 Bad River Band of Lake Superior Tribe of Chippewa Indians: The following conditions apply only to discharges on the Bad River Band of the Lake Superior Tribe of Chippewa Indians Reservation:

a. Only those activities specifically authorized by the CGP are authorized by this Certification. This Certification does not authorize impacts to cultural properties, or historical sites, or properties that may be eligible for listing as such.[61, 62]

b. Operators are not eligible to obtain authorization under the CGP for all new discharges to an Outstanding Tribal Resource Water (or Tier 3 water).[63] Outstanding Tribal Resource Waters, or Tier 3 waters, include the following: Kakagon Slough and the lower wetland reaches of its tributaries that support wild rice, Kakagon River, Bad River Slough, Honest John Lake, Bog Lake, a portion of Bad River, from where it enters the Reservation through the confluence with the White River, and Potato River.[64]

c. Projects utilizing cationic treatment chemicals[65] within the Bad River Reservation boundaries are not eligible for coverage under the CGP.[66]

d. All projects which are eligible for coverage under the CGP and are located within the exterior boundaries of the Bad River Reservation shall be implemented in such a manner that is consistent with the Tribe's Water Quality Standards (WQS).[67]

e. An operator proposing to discharge to an Outstanding Resource Water (or Tier 2.5 water) under the CGP must comply with the antidegradation provisions of the Tribe's WQS. Outstanding Resource Waters, or Tier 2.5 waters, include the following: a portion of Bad River, from downstream the confluence with the White River to Lake Superior, White River, Marengo River, Graveyard Creek, Bear Trap Creek, Wood Creek, Brunsweiler River, Tyler Forks, Bell Creek, and Vaughn Creek.[68] The antidegradation demonstration materials described in provision E.4.iii. must be submitted to the following address:

Bad River Tribe's Natural Resources Department
Attn: Water Resources Specialist
P.O. Box 39
Odanah, WI 54861

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[61] Bad River Band of Lake Superior Tribe of Chippewa Indians Water Quality Standards adopted by Resolution No. 7-6-11-441 (hereafter, Tribe's WQS).

[62] 36 C.F.R. § 800.16(l)(2).

[63] Tribe's WQS: See provisions E.3.ii. and E.4.iv.

[64] Tribe's WQS: See provision E.2.iii.

[65] See definition of cationic treatment chemicals in Appendix A of the CGP.

[66] Tribe's WQS: See provisions E.6.ii.a. and E.6.ii.c.

[67] See footnote 61.

[68] Tribe's WQS: See provision E.2.ii.

f. An operator proposing to discharge to an Exceptional Resource Water (or Tier 2 water) under the CGP must comply with the antidegradation provisions of the Tribe's WQS. Exceptional Resource Waters, or Tier 2 waters, include the following: any surface water within the exterior boundaries of the Reservation that is not specifically classified as an Outstanding Resource Water (Tier 2.5 water) or an Outstanding Tribal Resource Water (Tier 3 water).[69] The antidegradation demonstration materials described in provision E.4.ii. must be submitted to the following address:

Bad River Tribe's Natural Resources Department
Attn: Water Resources Specialist
P.O. Box 39
Odanah, WI 54861

g. A discharge to a surface water within the Bad River Reservation boundaries shall not cause or contribute to an exceedance of the turbidity criterion included in the Tribe's WQS, which states: Turbidity shall not exceed 5 NTU over natural background turbidity when the background turbidity is 50 NTU or less, or turbidity shall not increase more than 10% when the background turbidity is more than 50 NTU.[70]

h. All projects which are eligible for coverage under the CGP within the exterior boundaries of the Bad River Reservation must comply with the Bad River Reservation Wetland and Watercourse Protection Ordinance, or Chapter 323 of the Bad River Tribal Ordinances, including the erosion and sedimentation control, natural buffer, and stabilization requirements. Questions regarding Chapter 323 and requests for permit applications can be directed to the Wetlands Specialist in the Tribe's Natural Resources Department at (715) 682-7123 or wetlands@badriver-nsn.gov.

i. An operator of a project, which is eligible for coverage under the CGP, that would result in an allowable discharge under the CGP occurring within the exterior boundaries of the Bad River Reservation must notify the Tribe prior to the commencing earth-disturbing activities.[71, 72] The operator must submit a copy of the Notice of Intent (NOI) to the following addresses at the same time it is submitted to the U.S. EPA:

Bad River Tribe's Natural Resources Department
Attn: Water Resources Specialist
P.O. Box 39
Odanah, WI 54861

Bad River Tribe's Natural Resources Department
Attn: Tribal Historic Preservation Officer (THPO)
P.O. Box 39
Odanah, WI 54861

[69] Tribe's WQS: See provision E.2.i.

[70] Tribe's WQS: See provision E.7.iii.

[71] See footnote 61.

[72] See footnote 62.

The operator must also submit a copy of the Notice of Termination (NOT) to the above addresses at the same time it is submitted to the U.S. EPA.

j. The THPO must be provided 30 days to comment on the project.[73]

k. The operator must obtain THPO concurrence in writing. This written concurrence will outline measures to be taken to prevent or mitigate effects to historic properties. For more information regarding the specifics of the cultural resources process, see 36 CFR Part 800. A best practice for an operator is to consult with the THPO during the planning stages of an undertaking.[74]

l. An operator of a project, which is eligible for coverage under the CGP, that would result in an allowable discharge under the CGP occurring within the exterior boundaries of the Bad River Reservation must submit a copy of the Stormwater Pollution Prevention Plan (SWPPP) to the following address at the same time as submitting the NOI:[75]

Bad River Tribe's Natural Resources Department
Attn: Water Resources Specialist
P.O. Box 39
Odanah, WI 54861

m. Any corrective action reports that are required under the CGP must be submitted to the following address within one (1) working day of the report completion:[76]

Bad River Tribe's Natural Resources Department
P.O. Box 39
Odanah, WI 54861

n. An operator shall be responsible for meeting any additional permit requirements imposed by the U.S. EPA necessary to comply with the Tribe's antidegradation policies if the discharge point is located upstream of waters designated by the Tribe.[77]

9.3.2.2 Lac du Flambeau Band of Lake Superior Tribe of Chippewa Indians: The following conditions apply only to discharges on the Lac du Flambeau Band of the Lake Superior Tribe of Chippewa Indians Reservation:

a. A copy of the Stormwater Pollution Prevention Plan must be submitted to the following office, for the Traival environmental review process, at least thirty (30) days in advance of sending the Notice of Intent (NOI) to EPA:

Lac du Flambeau
Tribal Land Management
P.O. Box 279

[73] 36 C.F.R. § 800.3(c)(4).

[74] 36 C.F.R. § 800.3(b).

[75] See footnote 61.

[76] See footnote 61.

[77] See footnote 61.

Lac du Flambeau, WI 54538

CGP applicants are encouraged to work with the LdF Water Resources Program in the identification of all proposed receiving waters.

b. Copies of the NOI and the Notice of Termination (NOT) must be sent to the LdF Water Resources Program at the same time they are submitted to EPA.

c. All work shall be carried out in such a manner as will prevent violations of water quality criteria as stated in the Water Quality Standards of the Lac du Flambeau Reservation. This includes, but is not limited to, the prevention of any discharge that cause a condition in which visible solids, bottom deposits, or turbidity impairs the usefulness of water of the Lac du Flambeau Reservation for any of the uses designated in the Water Quality Standards of the Lac du Flambeau Reservation.

d. Appropriate steps shall be taken to ensure that petroleum products or other chemical pollutants are prevented from entering waters of the Lac du Flambeau Reservation. All spills must be reported to the appropriate emergency management agency, and measures shall be taken immediately to prevent the pollution of waters of the Lac du Flambeau reservation, including groundwater.

e. This certification does not authorize impacts to cultural, historical, or archeological features or sties, or properties that may be eligible for such listing.

f. Due to the significant ecological and cultural importance of the Lac du Flambeau Reservation, any operator requesting a permit for a point source discharge of pollutants (i.e., discharge) associated with the Stormwater Discharge will need a stormwater pollution prevention plan in place that does not violate Lac du Flambeau Water Quality Standards to protect Reservation Waters.

9.4 EPA Region 6

9.4.1 NMR100000 State of New Mexico, except Indian country

a. 20.6.4.13 NMAC General Criteria states: ...Surface waters of the state shall be free of any water contaminant in such quantity and of such duration as may with reasonable probability injure human health, animal or plant life or property, or unreasonably interfere with public welfare or use with property:

b. Bottom Deposits and Suspended or Settleable Solids:

i. Surface waters of the state shall be free of water contaminants including fine sediment particles (less than two millimeters in diameter), precipitates or organic or inorganic solids from other than natural causes that have settled to form layers on or fill the interstices of the natural or dominant substrate in quantities that damage or impair the normal growth, function or reproduction of aquatic life or significantly alter the physical or chemical properties of the bottom.

ii. Suspended or settleable solids from other than natural causes shall not be present in surface waters of the state in quantities that damage or impair the normal growth, function or reproduction of aquatic life or adversely affect other designated uses.

c. Floating Solids, Oil and Grease: Surface waters of the state shall be free of oils, scum, grease and other floating materials resulting from other than natural causes that would cause the formation of a visible sheen or visible deposits on the bottom or shoreline, or would damage or impair the normal growth, function or reproduction of human, animal, plant or aquatic life.

d. Color: Color-producing materials resulting from other than natural causes shall not create an aesthetically undesirable condition nor shall color impair the use of the water by desirable aquatic life presently common in surface waters of the state.

e. Toxic Pollutants: Except as provided in 20.6.4.16 N MAC, surface waters of the state shall be free of toxic pollutants from other than natural causes in amounts, concentrations or combinations that affect the propagation of fish or that are toxic to humans, livestock or other animals, fish or other aquatic organisms, wildlife using aquatic environments for habitation or aquatic organisms for food, or that will or can reasonably be expected to bioaccumulate in tissues of fish, shellfish and other aquatic organisms to levels that will impair the health of aquatic organisms or wildlife or result in unacceptable tastes, odors or health risks to human consumers of aquatic organisms.

f. Turbidity: Turbidity attributable to other than natural causes shall not reduce light transmission to the point that the normal growth, function or reproduction of aquatic life is impaired or that will cause substantial visible contrast with the natural appearance of the water. Activities or discharges shall not cause turbidity to increase more than 10 NTU over background turbidity when the background turbidity, measured at a point immediately upstream of the activity, is 50 NTU or less, nor to increase more than 20 percent when the background turbidity is more than 50 NTU. However, limited-duration turbidity increases caused by dredging, construction or other similar activities may be allowed provided all practicable turbidity control techniques have been applied and all appropriate permits, certifications and approvals have been obtained.

g. Total Dissolved Solids (TDS): TDS attributable to other than natural causes shall not damage or impair the normal growth, function or reproduction of animal, plant or aquatic life. TDS shall be measured by either the "calculation method" (sum of constituents) or the filterable residue method. Approved test procedures for these determinations are set forth in 20.6.4.14 NMAC.

h. Dissolved Gases: Surface waters of the state shall be free of nitrogen and other dissolved gases at levels above 110 percent saturation when this supersaturation is attributable to municipal, industrial or other discharges.

i. 20.6.4.52 NMAC: *PECOS RIVER BASIN: In order to protect existing and designated uses, it is a goal of the state of New Mexico to prevent increases in TDS in the Pecos River above the following benchmark values, which are expressed as flow-weighted, annual average concentrations, at three USGS gauging stations: at Santa Rosa 500 mg/L; near Artesia 2, 700 mg/L; and near Malaga 3,600 mg/l. The benchmark values serve to guide state action. They are adopted pursuant to the New Mexico Water Quality Act, not the Clean Water Act.*

j. 20.6.4.54 NMAC: *COLORADO RIVER BASIN: For the tributaries of the Colorado river system, the state of New Mexico will cooperate with the Colorado river basin states and the federal government to support and implement the salinity policy and program outlined in the most current "review, water quality standards for salinity, Colorado river system" or equivalent report by the Colorado river salinity control forum.*

k. Segment-specific criteria across the state specify numeric limits for TDS, sulfate and chloride depending on the receiving waterbody, and numeric constituent specific values in 20.6.4.900 NMAC also apply depending on the designated use of the waterbody.

l. If construction dewatering activities are anticipated at a site, permittees must complete the following steps:

   i. Investigative information must be documented in the facility SWPPP.

   ii. Refer to the GWQB Mapper at https://gis.web.env.nm.gov/GWQB/ AND the PSTB Mapper (Go Mapper) at https://gis.web.env.nm.gov/GoNM/ and check if the following sources are located within the noted distance from your anticipated construct site groundwater dewatering activity:

Project Location Relative to a Source of Potential Groundwater Contamination	***Constituents likely to be required for testing***
Within 0.5 mile of an open Leaking Underground Storage Tank (LUST) site	*BTEX (Benzene, Toluene, Ethylbenzene, and Xylene) plus additional parameters depending on site conditions.**
Within 0.5 mile of an open Voluntary Remediation site	*All parameters listed in Appendix A (or an alternate list approved by the NMED SWQB)***
Within 0.5 mile of an open RCRA Corrective Action Site	
Within 0.5 mile of an open Abatement Site	
Within 0.5 mile of an open Brownfield Site	
Within 1.0 mile or more of a Superfund site or National Priorities List (NPL) site with associated groundwater contamination.	

**For further assistance determining whether dewatering may encounter impacted groundwater, the permittee may contact the NMED Ground Water Quality Bureau at: 505-827-2965.*

***EPA approved-sufficiently sensitive methods must be used - approved methods are listed in 40 CFR Part 136.3.*

   ii. Indicate on the NOI that dewatering activities are anticipated. Provide information on flow and potential to encounter impacted groundwater.

   iii. Permittee must test the quality of the groundwater according to the chart above. Hardness and pH must also be measured.

   iv. Permittee must send test result data to EPA Region 6 and the NMED Surface Water Quality Bureau. If the test data exceed standards, it cannot be discharged from the construction site into surface waters under this permit. Discharge to surface waters must be conducted under a separate NPDES individual permit to ensure proper treatment and disposal.

   v. If disposal will be to the ground surface or in an unlined pond, the permittee must submit an NOI to the NMED Ground Water Quality Bureau.

m. State regulations at 20.6.4.8 NMAC state: *No degradation shall be allowed in waters designated by the commission as outstanding national resource waters (ONRWs), except as provided in Subparagraphs (a) through (e) of this paragraph and in Paragraph (4) of this Subsection A.*

the sediment yield levels and flow velocities from preconstruction, pre-development conditions.

u. All SWPPPs must be prepared in accordance with good engineering practices by qualified (e.g. CPESC certified, engineers with appropriate training) erosion control specialists familiar with the use of soil loss prediction models and design of erosion and sediment control systems based on these models (or equivalent soil loss prediction tools). Qualifications of the preparer (e.g., professional certifications, description of appropriate training) must be documented in the SWPPP. The operator(s) must design, implement, and maintain BMPs in the manner specified in the SWPPP.

v. State regulations at 20.6.2.1203 NMAC state: *With respect to any discharge from any facility of oil or other water contaminant, in such quantity as may with reasonable probability injure or be detrimental to human health, animal or plant life, or property, or unreasonably interfere with the public welfare or the use of property, the following notifications and corrective actions are required:*

    i. As soon as possible after learning of such a discharge, but in no event more than twenty-four (24) hours thereafter, any person in charge of the facility shall orally notify the Chief of the Ground Water Quality Bureau of the department, or his counterpart in any constituent agency delegated responsibility for enforcement of these rules as ta any facility subject to such delegation.

Permittees can call 505-827-9329 for emergencies at any time and 505-476-6000 for non-emergencies during business hours from 5am-5pm, Monday through Friday.

w. EPA regulations at 40 CFR Part 122.44(k) require, in part: *Best management practices (BMPs) ta control or abate the discharge of pollutants when:*

    (3) Numeric effluent /imitations are infeasible, or

    (4) The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

x. State regulations at 20.6.4.8.A(2) state in part:...*Further, the state shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources...*

9.4.2 NMR10I000 Indian country within the State of New Mexico, except Navajo Reservation Lands that are covered under Arizona permit AZR10000I and Ute Mountain Reservation Lands that are covered under Colorado permit COR10000I.

9.4.2.1 Pueblo of Isleta. The following conditions apply only to discharges on the Pueblo of Isleta Reservation:

a. CGP at 1.3 Prohibited discharges: Stormwater discharges associated with construction activity that EPA or the Pueblo of Isleta, prior to authorization under this perm it, determines will cause, have the reasonable potential to cause, or may reasonably be expected to contribute to a violation or excursion of any applicable water quality standard, including the antidegradation policy, or the impairment of a designated use of receiving waters are not authorized by this permit.

b. CGP at 1.4.1 How to Submit Your NOI: The operator shall provide a copy of the Notice of Intent ("NOI") to the Pueblo of Isleta at the same time it is submitted to the

n. Operators are not eligible to obtain authorization under this permit for all new and existing storm water discharges to outstanding national resource waters (ONRWs) (also referred to as "Tier 3" waters.)

o. NMED does not believe compliance with the permit necessarily assures that no degradation will occur. Although state WQS provide for temporary and short-term degradation of water quality in an ONRW under very limited circumstances if approved by the Water Quality Control Commission as specified at 20.6.4.8.A NMAC, the approval process required for these activities does not lend itself for use for projects covered under this general permit. This condition is necessary to ensure that no degradation is allowed in ONRWs by requiring proposed storm water discharges to be reviewed under the individual permit process. Tier 3 waters are defined in Appendix F of the proposed permit.

p. EPA regulations at 40 CFR Part 122.44(k) require, in part: *Best management practices (BMPs) to control or abate the discharge of pollutants when:*

> *(3) Numeric effluent limitations are infeasible, or*
>
> *(4) The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.*

q. State regulations at 20.6.4.8.A(2) state in part: ...*Further, the state shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources...*

r. State regulations at 20.6.4.8.B NMAC also state:

> (3) assess the probable effect of the effluent on the receiving water relative to its attainable or designated uses and numeric and narrative criteria.

s. Operators who intend to obtain authorization under this permit for new and existing storm water discharges from construction sites must satisfy the following condition: The SWPPP must include site-specific interim and permanent stabilization, managerial, and structural solids, erosion and sediment control best management practices (BMPs) and/or other controls that are designed to prevent to the maximum extent practicable an increase in the sediment yield and flow velocity from pre-construction, pre-development conditions to assure that applicable standards in 20.6.4.NMAC, including the antidegradation policy, or TMDL waste load allocations (WLAs) are met. This requirement applies to discharges both during construction and after construction operations have been completed. The SWPPP must identify and document the rationale for selecting these BMPs and/or other controls. The SWPPP must also describe design specifications, construction specifications, maintenance schedules (including a long term maintenance plan), criteria for inspections, and expected performance and longevity of these BMPs. For sites greater than 5 acres in size, BMP selection must be made based on the use of appropriate soil loss prediction models (i.e. SEDCAD, RUSLE, SEDIMOT, MULTISED, etc.) OR equivalent generally accepted (by professional erosion control specialists) soil loss prediction tools.

t. For all sites, the operator(s) must demonstrate, and include documentation in the SWPPP, that implementation of the site-specific practices will assure that the applicable standards or TMDL WLAs are met, and will result in sediment yields and flow velocities that, to the maximum extent practicable, will not be greater than

U.S. Environmental Protection Agency, for projects occurring within the exterior boundaries of the Pueblo of Isleta. The operator shall also notify the Pueblo of Isleta when it has submitted the Notice of Termination ("NOT"). The NOI and NOT shall be sent to the Pueblo of Isleta at the following address:

Water Quality Control Officer
Pueblo of Isleta
Environment Division
PO Box 1270
Isleta, NM 87022
(505) 869-7565
E-mail: POI36871@isletapueblo.com

Overnight/Express Mail Delivery
Pueblo of Isleta
Environment Division
6 Sagebrush St.
Albuquerque, NM 87105

c. CGP at 1.5 Requirement to post a notice of your permit coverage: Amend to read: "You must post a sign or other notice of your permit coverage at a safe, publicly accessible location in close proximity to the construction site. The notice must be located so that it is visible from the public road or tribal road that is nearest to the active part of the construction site..."

d. CGP at 7.2.6 Description of stormwater controls: The SWPPP will be considered to be incomplete if the operator has not coordinated requirements under this Part with the Pueblo of Isleta Public Services Department.

e. CGP I.12.6.1 at pg.I-6 of 8. The Pueblo of Isleta requests notification within 10 hours (rather than 24 hrs.) if health or the environment become endangered.

f. CGP at I.12.2 Anticipated noncompliance: Amend to read: "You must give advance notice to EPA and the Pueblo of Isleta at the address indicated in 1.4.1(a) of any planned changes in the permitted facility or activity which may results in noncompliance with permit requirements."

g. CGP at I.12.6.1: Any noncompliance for projects within the exterior boundaries of the Pueblo of Isleta which may endanger health or the environment shall be reported directly to the EPA Regional Office [(see contacts at https://www2.epa.gov/national-pollutant-discharge-elimination-system-npdes/contact-us-stormwater#regional)I and to the Pueblo of Isleta Water Quality Control Officer. Any information must be provided orally with n 12 hours of the time you become aware of the circumstances. Other requirements of this Part for a written submission apply. Electronic communication (E-mail) shall be provided as soon as practical. Verbal notice shall be provided to:

Water Quality Control Officer
Pueblo of Isleta
E-mail: POI36871@isletapueblo.com
(505) 869-7565
(505) 263-5425 cellular
(505) 869-3030 Police Dispatch

h. CGP at 2.2 Erosion and sediment control requirements: Erosion and sediment controls shall be designed to retain sediment on-site.

i. CGP at 2.2 Under Sediment control requirements, Standard Permit Condition Duty to Mitigate Volumes of sediment at or over (five) 5 cubic yards must be removed and placed for disposal within a tribally approved sediment Disposal Site, located on Pueblo of Isleta lands. CGP 2.2 at pg. 8.

j. Under Minimize erosion, a permittee must secure permission from the Pueblo or affected Pueblo of Isleta land assignment owner if a dissipation device needs to be placed up- or down- elevation of a given construction site. CGP 2.2.11 at pg. 11.

k. CGP at 2.3.6 Emergency spill notification requirements: You must notify the Pueblo of Isleta Water Quality Control Officer and National Response Center (NRC) [at (800) 424-8802 or, in the Washington, DC metropolitan area, call (202) 267-2675 in accordance with the requirements of 40 CFR 110, 40 CFR 117, and 40 CFR 302] as soon as you have knowledge of the release. Verbal and electronic notice shall be provided as specified in I.12.6.1

l. CGP at C.3 Equivalent analysis waiver: Parties wishing to apply for an Equivalent Analysis Waiver (see Appendix D, Section C) must provide a copy of the waiver analysis to the Pueblo of Isleta Water Quality Control Officer at the address indicated in 1.4.1 (a).

9.4.2.2 **Pueblo of Sandia.** The following conditions apply only to discharges on the Pueblo of Sandia Reservation:

a. Only those activities specifically authorized by the CGP are authorized by the Pueblo of Sandia's Water Quality certification. The Pueblo of Sandia's Water Quality Certification does not authorize impact to cultural properties, historical sites or properties that may be eligible as such.

b. Copies of all Notices of Intent (NOI) submitted to the EPA must also be sent concurrently to the Pueblo of Sandia at the following address. Discharges are not authorized by this permit unless an accurate and complete NOI has been submitted to the Pueblo of Sandia, either by mail or electronically.

Regular U.S. Delivery Mail:
Pueblo of Sandia Environment Department
Attention: Scott Bulgrin, Water Quality Manager
481 Sandia Loop
Bernalillo, New Mexico 87004

Electronically:
sbulgrin@sandiapueblo.nsn.us

c. Any correspondences between the applicant and EPA related to analytical data, written reports, corrective action, enforcement, monitoring, or an adverse incident written reports should likewise be routed to the Pueblo of Sandia at the above address.

d. The Stormwater Pollution Prevention Plan (SWPPP) must be available to the Pueblo of Sandia Environment Department either electronically or hard copy upon request for review. The SWPPP must be made available at least fourteen (14) days before construction begins. The fourteen (14) day period will give Pueblo staff time to become familiar with the project site, prepare for construction site inspections, and

determine compliance with the Pueblo of Sandia Water Quality Standards. Failure to provide a SWPPP to the Pueblo of Sandia may result in the delay or denial of the construction project.

e. If requested by the Pueblo of Sandia Environment Department, the permittee must provide additional information necessary for a case-by-case eligibility determination to assure compliance with the Pueblo of Sandia Water Quality Standards and/or applicable Federal Standards not authorized by this certification.

f. An "Authorization to Proceed Letter" with site specific mitigation requirements may be sent out to the permittee when a review of the NOI and SWPPP, on a case- by-case basis is completed by the Pueblo of Sandia Environment Department. This approval will allow the application to proceed if all mitigation requirements are met.

g. The Pueblo of Sandia will not allow Small construction Waivers (Appendix C) or the Rainfall Erosivity Waiver (Appendix C.1) to be granted for any small construction activities.

h. Before submitting a Notice of Termination (NOT) to the EPA, permittees must clearly demonstrate to the Pueblo of Sandia Environment Department through a site visit or documentation that requirements for site stabilization have been met and any temporary erosion control structures have been removed. A short letter stating the NOT is acceptable and all requirements have been met will be sent to the permittee to add to the permittee's NOT submission to EPA.

i. Copies of all NOT submitted to the EPA must also be sent concurrently to the Pueblo of Sandia through the mail or electronically.

Regular U.S. Delivery Mail:
Pueblo of Sandia Environment Department
Attention: Scott Bulgrin, Water Quality Manager
481 Sandia Loop
Bernalillo, New Mexico 87004

Electronically:
sbulgrin@sandiapueblo.nsn.us

j. The Pueblo of Sandia may require the permittee to perform water quality monitoring for pH, turbidity, and total suspended solids (TSS) during the permit term if the discharge is to a surface water leading to the Rio Grande for the protection of public health and the environment.

9.4.2.3 Pueblo of Santa Ana. The following conditions apply only to discharges on the Pueblo of Santa Ana Reservation:

a. The operator shall provide a copy of the Notice of Intent (NOI) to the Pueblo of Santa Ana (the Pueblo), at the same time it is submitted to the U.S. Environmental Protection Agency (EPA), for projects with discharges onto the lands of the Pueblo as defined in the Pueblo of Santa Ana Water Quality Standards.

b. The operator shall provide a copy of the Stormwater Pollution Prevention Plan (SWPPP), at the same time that an NOI is submitted to the EPA, to the Pueblo for

projects with discharges onto the lands of the Pueblo as defined in the Pueblo of Santa Ana Water Quality Standards.

c. The operator shall provide a copy of the SWPPP, copies of inspections reports, and copies of corrective action reports to the Pueblo at the address below for review, upon request.

d. The NOI, SWPPP and Notice of Termination (NOT) shall be sent to the Pueblo at the following address:

Pueblo of Santa Ana Department of Natural Resources,
Attention: Water Quality Program Specialist
2 Dove Road
Santa Ana Pueblo, NM, 87004

e. Discharges are not authorized by this permit unless an accurate and complete NOI and SWPPP have been submitted to the Pueblo. Failure to provide an accurate and complete NOI and SWPPP may result in a denial of the discharge permit or groundbreaking or construction delay.

f. The operator will not proceed with site work until authorized by the Pueblo. The Pueblo requires review of the complete and final SWPPP by the Pueblo before authorization to proceed. The Pueblo will provide an "authorization to proceed" notice after review and approval of the SWPPP.

g. Before submitting a NOT, permittees must certify to the Pueblo's Department of Natural Resources in writing that requirements for site stabilization have been met, and any temporary erosion control structures have been removed. Documentation of the Pueblo's review that such requirements have been reviewed and met will be provided for the permittee to add to the permittee's NOT submission to EPA. Copies of all NOT submitted to the EPA must also be sent to the Pueblo at the address provided above.

9.4.2.4 **Pueblo of Santa Clara.** The following conditions apply only to discharges on the Pueblo of Santa Clara Reservation:

a. The operator must provide a copy of the Notice of Intent (NOI) and Notice of Termination (NOT) to the Santa Clara Pueblo Governor's Office at the same time it is provided to the US Environmental Protection Agency.

b. A copy of the Storm water Pollution Prevention Plan shall be made available to the Pueblo of Santa Clara staff upon request.

9.4.2.5 **Pueblo of Tesuque.** The following conditions apply only to discharges on the Pueblo of Tesuque Reservation:

a. The operator shall provide a copy of the Notice of Intent (NOI) to the Pueblo of Tesuque Governor's Office and Environment Department at same time it is submitted to the Environmental Protection Agency, for projects occurring within the exterior boundaries of our tribal lands. The operator shall also notify the Pueblo of Tesuque Governor's Office and Environment Department when it submitted the Notice of Termination. The NOI and NOT shall be sent to the Pueblo of Tesuque Governor's Office and Environment Department at the following address:

Pueblo of Tesuque
Office of the Governor

Route 42 Box 360-T
Santa Fe, NM 87506 or
email: governor@pueblooftesuque.org

b. The operator shall also provide a copy of the Stormwater Pollution Prevention Plan, copies of inspections reports, and copies of corrective action reports to staff in the Pueblo of Tesuque Environment Department.

9.4.2.6 **Taos Pueblo**. The following conditions apply only to discharges on the Taos Pueblo Reservation:

a. The operator shall provide a copy of the Notice of Intent (NOI) to the Taos Pueblo Governor's Office, War Chief's Office and Environmental Office, at the same time it is submitted to the U.S. Environmental Protection Agency, for projects occurring within the exterior boundaries of Taos Pueblo. The operator shall also notify Taos Pueblo when it has submitted the Notice of Termination (NOT). The NOI and NOT shall be sent to the Taos Pueblo at the following addresses:

i. Taos Pueblo Governor's Office
P.O. Box 1846
Taos NM 87571

ii. Taos Pueblo War Chief's Office
P.O. Box 2596
Taos NM 87571

iii. Environmental Office
Attn: Program Manger
P.O. Box 1846
Taos NM 87571

b. Taos Pueblo requests that in the event Indian artifacts or human remains are inadvertently discovered on projects occurring near or on Taos Pueblo lands that consultation with the tribal Governor's Office occur at the earliest possible time.

c. The operator shall provide a copy of the Stormwater Pollution Prevention Plan, copies of inspections reports, and copies of corrective action reports to staff in the Taos Pueblo Environmental Office for review and copy, upon request.

9.4.2.7 **Ohkay Owingeh.** The following conditions apply only to discharges on the Ohkay Owingeh Reservation:

a. Prior to commencement of any construction activity on Ohkay Owingeh Lands requiring permit coverage under EPA's Construction General Permit, the operator(s) shall submit to Ohkay Owingeh Office of Environmental Affairs, a copy of the electronic "Notice of Intent," submitted to the Environmental Protection Agency, immediately following EPA's electronic notification that the NOI has been received. A copy of the Stormwater Pollution Prevention Plan(s) must be made available to the Ohkay Owingeh Office of Environmental Affairs upon the tribe's request either electronically or hard copy. Operator(s) shall also submit to Ohkay Owingeh Office of Environmental Affairs a copy of the electronic Notice of Termination (NOT) submitted to the Environmental Protection Agency. Documents shall be submitted to Ohkay Owingeh at the following address:

Ohkay Owingeh Office of Environment Affairs
Attention: Environmental Programs Manager

P.O. Box 717
Ohkay Owingeh, New Mexico 87566
Office # 505.852.4212
Fax # 505.852.1432
Electronic mail: naomi.archuleta@ohkay.org

b. Ohkay Owingeh will not allow the Rainfall Erosivity Waivers (see Appendix C) to be granted for any small construction activities.

c. All vegetation used to prevent soil loss, seeding or planting of the disturbed area(s) to meet the vegetative stabilization requirements must utilize native seeds/vegetation commonly known to the area. All temporary erosion control structures, such as silt fences must be removed as soon as stabilization requirements are met.

9.4.3 OKR10I000 Indian country within the State of Oklahoma

9.4.3.1 Pawnee Nation. The following conditions apply only to discharges within Pawnee Indian country:

a. Copies of the Notice of Intent (NOI) and Notice of Termination (NOT) must be provided to the Pawnee Nation at the same time it is submitted to the Environmental Protection Agency to the following address:

Pawnee Nation Department of Environmental Conservation and Safety
P.O. Box 470
Pawnee, OK 74058
Or email to mmatlock@pawneenation.org

b. The Storm Water Pollution Prevention Plan must be available to Departmental inspectors upon request.

c. The Department must be notified at 918.762.3655 immediately upon discovery of any noncompliance with any provision of the permit conditions.

9.4.4 OKR10F000 Discharges in the State of Oklahoma that are not under the authority of the Oklahoma Department of Environmental Quality, including activities associated with oil and gas exploration, drilling, operations, and pipelines (includes SIC Groups 13 and 46, and SIC codes 492 and 5171), and point source discharges associated with agricultural production, services, and silviculture (includes SIC Groups 01, 02, 07, 08, 09).

a. For activities located within the watershed of any Oklahoma Scenic River, including the Illinois River, Flint Creek, Barren Fork Creek, Upper Mountain Fork, Little Lee Creek, and Lee Creek or any water or watershed designated "ORW" in Oklahoma's Water Quality Standards, this permit may only be used to authorize discharges from temporary construction activities. Certification is denied for any on-going activities such as sand and gravel mining or any other mineral mining.

b. For activities located within the watershed of any Oklahoma Scenic River, including the Illinois River, Flint Creek, Barren Fork Creek, Upper Mountain Fork, Little Lee Creek, and Lee Creek or any water or watershed designated "ORW" in Oklahoma's Water Quality Standards, certification is denied for any discharges originating from support activities, including concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, or borrow areas.

c. In order to company with Oklahoma's Water Quality Standards, these conditions and restrictions also apply to any construction projects located wholly or partially on Indian Country lands within the State of Oklahoma.

9.5 EPA Region 8

9.5.1 MTR10I000 Indian country within the State of Montana

9.5.1.1 The Confederated Salish and Kootenai Tribes of the Flathead Nation. The following conditions apply only to discharges on the Confederated Salish and Kootenai Tribes of the Flathead Nation Reservation:

a. Permittees must submit the Stormwater Pollution Prevention Plan (SWPPP) to the Confederated Salish and Kootenai Tribes at least 30 days before construction starts.

b. Before submitting the Notice of Termination (NOT), permittees must clearly demonstrate to an appointed Tribal staff person during an onsite inspection that requirements for site stabilization have been met.

c. The permittee must send a copy of the Notice of Intent (NOI) and the NOT to CSKT.

d. Permittees may submit their SWPPPs, NOIs and NOTs electronically to: clintf@cskt.org.

e. Written SWPPPs, NOIs and NOTs may be mailed to:

Clint Folden, Water Quality Regulatory Specialist
Confederated Salish and Kootenai Tribes
Natural Resources Department
P.O. Box 278
Pablo, MT 59855

9.6 EPA Region 9

9.6.1 CAR10I000 Indian country within the State of California

9.6.1.1 Twenty-Nine Palms Band of Mission Indians. The following conditions apply only to discharges on the Twenty-Nine Palms Band of Mission Indians Reservation:

a. At the time the applicant submits its Notice of Intent (NOI) to the EPA, the applicant must concurrently submit written notification of the NOI and a copy of the Stormwater Pollution Prevention Plan (SWPPP) to the Twenty-Nine Palms Band of Mission Indians at the address below:

Tribal Environmental Coordinator
Twenty-Nine Palms Band of Mission Indians
46-200 Harrison Place
Coachella, CA 92236

b. The applicant must also concurrently submit to the Tribal Environmental Coordinator written notification of any other forms or information submitted to the EPA, including waivers, reporting, and Notice of Termination (NOT).

c. Permitted entities under the CGP must keep the Tribal EPA informed of authorized discharges under the CGP by submitting written information about the type, quantity, frequency and location, intended purpose, and potential human health

and/or environmental effects of their activities. These requirements are pursuant to Section 4 of the Twenty-Nine Palms Band of Mission Indians Water Pollution Control Ordinance (022405A). This information may be submitted to Tribal EPA in the form of Stormwater Pollution Prevention Plans (SWPPPs), monitoring reports, or other reports as required under the CGP. Spills, leaks, or unpermitted discharges must be reported in writing to Tribal EPA within 24 hours of the incident.

9.6.2 **GUR100000 Island of Guam.** The following conditions apply only to discharges on the Island of Guam:

a. Any earth-moving operations which require a permit must be obtained from the Department of Public Works (DPW) with clearance approval from various Government of Guam Agencies including Guam EPA prior to the start of any earth-moving activity.

b. In the event that the construction sites are within the Guam Sole Source Aquifer, the construction site owner and operator must consider opportunities to facilitate groundwater recharge for construction and post-construction implementing infiltration Best Management Practices. Stormwater disposal systems shall be designed and operated within the boundaries of the project. Stormwater systems shall not be permitted within any Wellhead Protection Zone unless the discharge meets the Guam Water Quality Standards within the zone. Waters discharged within the identified category G-2 recharge zone shall receive treatment to the degree required to protect the drinking water quality prior to it entering the category G-1 resource zone.

c. All conditions and requirements set forth in the 22 Guam Administrative Rules and Regulations (GARR), Division II, Water Control, Chapter 10, Guam Soil Erosion and Sediment Control Regulations (GSESCR) that are more protective than the CGP regarding construction activities must be complied with.

d. All standards and requirements set forth in the 22 GARR, Division II, Water Control, Chapter 5, *Guam Water Quality Standards (GWQS) 2001 Revisions*, must be complied with to include reporting GWQS exceedance to Guam EPA.

e. All operators/owners of any property development or earth moving activities shall comply with the erosion control pre-construction and post-construction BMP design performance standards and criteria set forth in the 2006 CNMI and Guam Stormwater Management Manual.

f. All conditions and requirements regarding dewatering activities set forth in 22 Guam Administrative Rules and Regulations Chapter 7, Water Resources Development and Operating Regulations must be complied with to include securing permits with Guam EPA prior to the start of any dewatering activities.

g. If a project to be developed is covered under the Federal Stormwater Regulations (40 CFR Parts 122 & 123), a Notice of Intent (NOI) to discharge stormwater to the surface and marine waters of Guam must be submitted to the U.S. EPA and a copy furnished to Guam EPA, pursuant to Section 10, 104(B)(5)(d) 22GAR, Division II, Chapter 10.

h. Guam EPA shall apply the Buffer Requirements listed in Appendix G of the CGP NPDES Permit for construction activities as it pertains to Waters of the U.S. in Guam. Guam EPA shall also apply the same buffer requirements for sinkholes in Guam.

i. When Guam EPA, through its permit review process, identifies that the proposed construction activity is close proximity to marine waters, contractors and owners will

be informed that any activity that may impair water quality are required to stop during peak coral spawning periods as per the Guam Coral Spawning Construction Moratoriums.

j. The Proposed Construction General Permit must set appropriate measures and conditions to protect Guam's Threatened and Endangered Species and Outstanding Resource Waters of exceptional recreational or ecological significance as determined by the Guam EPA Administrator as per *Guam Water Quality Standards 2001 Revisions,* §5102, Categories of Waters, D. Outstanding Resource Waters.

k. When Guam EPA through its permit review process identifies that proposed construction activity is in close proximity to any Section 303d impaired waters, which includes marine waters and surface waters, shall ensure that construction activity does not increase the impaired water's ambient parameters.

l. When Rainfall Erosivity and TMDL Waivers reflected in the CGP, Appendix C, are submitted to the U.S. EPA, Guam EPA will review waivers on a project by project basis.

m. Prior to submission of the Notice of Termination (NOT) to the U.S. EPA, permittees must clearly demonstration to Guam EPA that the project site has met all soil stabilization requirements and removal of any temporary erosion control as outlined in the GSESCR.

9.7 EPA Region 10

9.7.1 IDR100000 State of Idaho, except Indian country

a. *Idaho's Antidegradation Policy*. The WQS contain an antidegradation policy providing three levels of protection to water bodies in Idaho (IDAPA 58.01.02.051).

1. Tier I Protection. The first level of protection applies to all water bodies subject to Clean Water Act jurisdiction and ensures that existing uses of a water body and the level of water quality necessary to protect those existing uses will be maintained and protected (IDAPA 58.01.02.051.01; 58.01.02.052.01). Additionally, a Tier 1 review is performed for all new or reissued permits or licenses (IDAPA 58.01.02.052.05).
2. Tier II Protection. The second level of protection applies to those water bodies considered high quality and ensures that no lowering of water quality will be allowed unless deemed necessary to accommodate important economic or social development (IDAPA 58.01.02.051.02; 58.01.02.052.08).
3. Tier III Protection. The third level of protection applies to water bodies that have been designated outstanding resource waters and requires that activities not cause a lowering of water quality (IDAPA 58.01.02.051.03; 58.01.02.052.09).

DEQ is employing a water body by water body approach to implementing Idaho's antidegradation policy. This approach means that any water body fully supporting its beneficial uses will be considered high quality (IDAPA 58.01.02.052.05.a). Any water body not fully supporting its beneficial uses will be provided Tier I protection for that use, unless specific circumstances warranting Tier II protection are met (IDAPA 58.01.02.052.05.c). The most recent federally approved Integrated Report and supporting data are used to determine support status and the tier of protection (IDAPA 58.01.02.052.05).

b. *Pollutants of Concern.* The primary pollutants of concern associated with stormwater discharges from construction activities are sediment, typically

measured as total suspended solids and turbidity. Other potential pollutants include the following: phosphorus, nitrogen, pesticides, organics, metals, PCBs, petroleum products, construction chemicals, and solid wastes.

c. *Receiving Water Body Level of Protection.* The CGP provides coverage to construction activities throughout the entire State of Idaho. Because of the statewide applicability, all of the jurisdictional waters within Idaho could potentially receive discharges either directly or indirectly from activities covered under the CGP. DEQ applies a water body by water body approach to determine the level of antidegradation a water body will receive.

All waters in Idaho that receive discharges from activities authorized under the CGP will receive, at minimum Tier I antidegradation protection because Idaho's antidegradation policy applies to all waters of the state. Water bodies that fully support their aquatic life or recreational uses are considered to be *high quality waters* and will receive Tier II antidegradation protection.

Although Idaho does not currently have any Tier III designated outstanding resource waters (ORWs) designated, it is possible for a water body to be designated as an ORW during the life of the CGP. Because of this potential, the antidegradation review also assesses whether the permit complies with the outstanding resource water requirements of Idaho's antidegradation policy.

To determine the support status of the receiving water body, persons filing a Notice of Intent (NOI) for coverage under this general permit must use the most recent EPA-approved Integrated Report, available on Idaho DEQ's website: http://www.deq.idaho.gov/water-quality/surface-water/monitoring-assessment/integrated-report/.

High quality waters are identified in Categories 1 and 2 of the Integrated Report. If a water body is in either Category 1 or 2, it is a Tier II water body.

Unassessed waters are identified as Category 3 of DEQ's Integrated Report. These waters require a case-by-case determination to be made by DEQ based on available information at the time of the application for permit coverage. If a water body is unassessed, the applicant is directed to contact DEQ for assistance in filing the NOI.

Impaired waters are identified in Categories 4 and 5 of the Integrated Report. Category 4(a) contains impaired waters for which a TMDL has been approved by EPA. Category 4(b) contains impaired waters for which controls other than a TMDL have been approved by EPA. Category 5 contains waters which have been identified as "impaired," for which a TMDL is needed. These waters are Tier I waters, for the use which is impaired. With the exception, if the aquatic life uses are impaired for any of these three pollutants—dissolved oxygen, pH, or temperature—and the biological or aquatic habitat parameters show a health, balanced biological community, then the water body shall receive Tier II protection, in addition to Tier I protection, for aquatic life uses (IDAPA 58.01.02.052.05.c.i.).

DEQ's webpage also has a link to the state's map-based Integrated Report which presents information from the Integrated Report in a searchable, map-based format: http://www.deq.idaho.gov/assistance-resources/maps-data/.

Water bodies can be in multiple categories for different causes. If assistance is

needed in using these tools, or if additional information/clarification regarding the support status of the receiving water body is desired, the operator is directed to make contact with the appropriate DEQ regional office of the State office in the table below:

Regional and State Office	Address	Phone Number	Email
Boise	1445 N. Orchard Rd., Boise 83706	208-373-0550	Kati.carberry@deq.idaho.gov
Coeur d'Alene	2110 Ironwood Parkway, Coeur D'Alene 83814	208-769-1422	June.bergquist@deq.idaho.gov
Idaho Falls	900 N. Skyline, Suite B., Idaho Falls 83402	208-528-2650	Troy.saffle@deq.idaho.gov
Lewiston	1118 "F" St., Lewiston 83501	208-799-4370	Mark.sellet@deq.idaho.gov
Pocatello	444 Hospital way, #300 Pocatello 83201	208-236-6160	Lynn.vanevery@deq.idaho.gov
Twin Falls	650 Addison Ave., W., Suite 110, Twin Falls 83301	208-736-2190	Balthasar.buhidar@deq.idaho.gov
State Office	1410 N. Hilton Rd., Boise 83706	208-373-0502	Nicole.deinarowicz@deq.idaho.gov

d. *Turbidity Monitoring.* The permittee must conduct turbidity monitoring during construction activities and thereafter on days where there is a direct discharge of pollutants from an unstabilized portion of the site which is causing a visible plume to a water of the U.S.

A properly and regularly calibrated turbidimeter is required for measurements analyzed in the field (preferred method), but grab samples may be collected and taken to a laboratory for analysis. If the permittee can demonstrate that there will be no direct discharge from the construction site, then turbidity monitoring is not required. When monitoring is required, a sample must be taken at an undisturbed area immediately upstream of the project area to establish background turbidity levels for the monitoring event. Background turbidity, location, date and time must be recorded prior to monitoring downstream of the project area. A sample must also be taken immediately downstream from any point of discharge and *within* any visible plume. The turbidity, location, date and time must be recorded. The

downstream sample must be taken immediately following the upstream sample in order to obtain meaningful and representative results.

Results from the compliance point sampling or observation[78] must be compared to the background levels to determine whether project activities are causing an exceedance of state WQS. If the downstream turbidity is 50 NTUs or more than the upstream turbidity, then the project is causing an exceedance of WQS. *Any exceedance of the turbidity standard must be reporting to the appropriate DEQ regional office within 24 hours. The following six (6) steps should be followed to ensure compliance with the turbidity standard:*

1. If a visible plume is observed, quantify the plume by collecting turbidity measurements from within the plume and compare the results to Idaho's instantaneous numeric turbidity criterion (50 NTU over the background).
2. If turbidity is less than 50 NTU instantaneously over the background turbidity; continue monitoring as long as the plume is visible. If turbidity exceeds background turbidity by more than 50 NTU instantaneously then stop all earth disturbing construction activities and proceed to step 3.
3. Take immediate action to address the cause of the exceedance. That may include inspection the condition of project BMPs. If the BMPs are functioning to their fullest capability, then the permittee must modify project activities and/or BMPs to correct the exceedance.
4. Notify the appropriate DEQ regional office within 24 hours.
5. Possibly increase monitoring frequency until state water quality standards are met.
6. Continue earth disturbing construction activities once turbidity readings return to within 50 NTU instantaneously and 25 NTU for more than ten consecutive days over the background turbidity.

Copies of daily logs for turbidity monitoring must be available to DEQ upon request. The report must describe all exceedances and subsequent actions taken, including the effectiveness of the action.

e. *Reporting of Discharges Containing Hazardous Materials or Petroleum Products.* All spills of hazardous material, deleterious material or petroleum products which may impact waters (ground and surface) of the state shall be immediately reported. Call 911 if immediate assistance is required to control, contain or clean up the spill. If no assistance is needed in cleaning up the spill, contact the appropriate DEQ regional office in the table below during normal working hours or Idaho State Communications Center after normal working hours. If the spilled volume is above federal reportable quantities, contact the National Repose Center.

For immediate assistance: Call 911

National Response Center: (800) 424-8802

[78] A visual observation is only acceptable to determine whether BMPs are functioning properly. If a plume is observed, the project may be causing an exceedance of WQS and the permittee must collect turbidity data and inspect the condition of the projects BMPs. If the BMPs appear to be functioning to their fullest capability and the turbidity is 50 NTUs or more than the upstream turbidity, then the permittee must modify the activity or implement additional BMPs (this may also include modifying existing BMPs).

Idaho State Communications Center: (208) 632-8000

Regional office	Toll Free Phone Number	Phone Number
Boise	888-800-3480	208-373-0321
Coeur d'Alene	877-370-0017	208-769-1422
Idaho Falls	800-232-4635	208-528-2650
Lewiston	977-547-3304	208-799-4370
Pocatello	888-655-6160	208-236-6160
Twin Falls	800-270-1663	208-736-2190

9.7.2 IDR101000 Indian country within the State of Idaho, except Duck Valley Reservation lands (see Region 9)

9.7.2.1 Shoshone-Bannock Tribes. The following conditions apply only to discharges on the Shoshone-Bannock Reservation:

f. Each operator shall submit a signed hard copy of the Notice of Intent (NOI) to the Shoshone-Bannock Tribes Water Resources Department at the same time it is submitted electronically to the Environmental Protection Agency (EPA) and shall provide the Shoshone-Bannock Tribes Water Resources Department the acknowledgement of receipt of the NOI from the EPA within 7 calendar days of receipt from the EPA.

9.7.3 WAR10F000 Areas in the State of Washington, except those located on Indian country, subject to construction activity by a Federal Operator. The following conditions apply only to discharges on federal facilities in the State of Washington:

a. Discharges shall not cause or contribute to a violation of surface water quality standards (Chapter 173-201A WAC), groundwater quality standards (Chapter 173-200 WAC), sediment management standards (Chapter 173-204 WAC), and human health-based criteria in the National Toxics Rule (40 CFR Part 131.36). Discharges that are not in compliance with these standards are not authorized.

b. Prior to the discharge of stormwater and non-storm water to waters of the State, the Permittee must apply all known, available, and reasonable methods of prevention, control, and treatment (AKART). This includes the preparation and implementation of an adequate SWPPP, with all appropriate BMPs installed and maintained in accordance with the SWPPP and the terms and conditions of this permit.

c. Permittees who discharge to segments of waterbodies listed as impaired by the State of Washington under Section 303(d) of the Clean Water Act for turbidity, fine sediment, phosphorus, or pH must comply with the following numeric effluent limits:

Parameter Identified in 303(d) Listing	Parameter Sampled	Unit	Analytical Method	Numeric Effluent Limit
• Turbidity • Fine Sediment • Phosphorus	Turbidity	NTU	SM2130 or EPA 180.1	25 NTUs at the point where the stormwater is discharged from the site.
High pH	pH	Su	pH meter	In the range of

				6.5 – 8.5

d. All references and requirements associated with Section 303(d) of the Clean Water Act mean the most current EPA approved listing of impaired waters that exists on February 16, 2017, or the date when the operator's complete permit application is received by EPA, whichever is later.

e. Discharges to waterbodies subject to an applicable Total Maximum Daily Load (TMDL) for turbidity, fine sediment, high pH, or phosphorus, shall be consistent with the assumptions and requirements of the TMDL.

i. Where an applicable TMDL sets specific waste load allocations or requirements for discharges covered by this permit, discharges shall be consistent with any specific waste load allocations or requirements establish by the applicable TMDL.

ii. Where an applicable TMDL has established a general waste load allocation for construction stormwater discharges, but no specific requirements have been identified, compliance with this permit will be assumed to be consistent with the approved TMDL.

iii. Where an applicable TMDL has not specified a waste load allocation for construction stormwater discharges, but has not excluded these discharges, compliance with this permit will be assumed to be consistent with the approved TMDL.

iv. Where an applicable TMDL specifically precludes or prohibits discharges from construction activity, the operator is not eligible for coverage under this permit.

v. Applicable TMDL means a TMDL for turbidity, fine sediment, high pH, or phosphorus, which has been completed and approved by EPA prior to February 16, 2017, or prior to the date the operator's complete NOI is received by EPA, whichever is later.

9.7.4 WAR10I000 Indian country within the State of Washington

9.7.4.1 Confederated Tribes of the Colville Reservation. The following conditions apply only to discharges on the Colville Indian Reservation (CIR) and on other Tribal trust lands or allotments of the Confederated Tribes of the Colville Reservation:

a. A copy of the Stormwater Pollution Prevention Plan must be submitted to the following office at least thirty (30) days in advance of sending the Notice of Intent (NOI) to EPA:

Environmental Trust Department
Confederated Tribes of the Colville Reservation
PO Box 150
Nesepelem, WA 99155

b. Copies of the Notice of Intent (NOI) and Notice of Termination (NOT) must be sent to the ETD at the same time they are submitted to EPA.

c. Discharges to Omak Creek, the Okanogan River, and Columbia River downstream of Chief Joseph Dam may affect threatened or endangered species, and shall only be permitted in adherence with Appendix D of the CGP.

d. All work shall be carried out in such a manner as will prevent violations of water quality criteria as stated in Chapter 4-8 Water Quality Standards of the Colville Law and Order Code, as amended.

e. Appropriate steps shall be taken to ensure that petroleum products or other chemical pollutants are prevented from entering waters of the CIR. All spills must be reported to the appropriate emergency management agency and the ETD, and measures shall be taken immediately to prevent the pollution of waters of the CIR, including groundwater.

f. Stormwater site inspections shall be conducted at least once every 7 calendar days, within 24-hours of the occurrence of a rain event of 0.25 inches or greater in a 24-hour period, and daily during periods of saturated ground surface or snowmelt with accompanying surface runoff.

g. Results of discharge sampling must be reported to the ETD within 7 days of sample collection. All sample reporting must include the date and time, location, and individual performing the sampling.

h. Any corrective action reports that are required under the CGP must be submitted to the ETD at the above address within one (1) working day of the report completion.

i. This certification does not authorize impacts to cultural, historical, or archeological features or sites, or proprieties that may be eligible for such listing.

9.7.4.2 Lummi Nation. The following conditions apply only to discharges on the Lummi Reservation:

a. The Lummi Nation reserves the right to modify this 401 certification if the final version of the NPDES General Permit for Storm Water Discharges Associated with Construction Activity (CGP) on tribal lands in the State of Washington (Permit No. WAR10I000) is substantively different than the draft version of the proposed permit that was made available for public comments during April 2016. The Lummi Nation will determine if the final version of the NPDES CGP is substantively different than the draft version following review of the final version once the EPA makes it available.

b. This certification does not exempt and is provisional upon compliance with other applicable statutes and codes administered by federal and Lummi tribal agencies. Pursuant to Lummi Code of Laws (LCL) 17.05.020(a), the operator must also obtain a land use permit from the Lummi Planning Department as provided in Title 15 of the Lummi Code of Laws and regulations adopted thereunder.

c. Pursuant to LCL 17.05.020(a), each operator shall develop and submit a Storm Water Pollution Prevention Plan to the Lummi Water Resources Division for review and approval by the Water Resources Manager prior to beginning any discharge activities.

d. Pursuant to LCL Title 17, each operator shall be responsible for achieving compliance with the Water Quality Standards for Surface Waters of the Lummi Indian Reservation (Lummi Administrative Regulations [LAR] 17 LAR 07.010 through 17 LAR 07.210 together with supplements and amendments thereto).

e. Each operator shall submit a signed hard copy of the Notice of Intent (NOI) to the Lummi Water Resources Division at the same time it is submitted electronically to the Environmental Protection Agency (EPA) and shall provide the Lummi Water Resources Division the acknowledgement of receipt of the NOI from the EPA and

the associated NPDES tracking number provided by the EPA within 7 calendar days of receipt from the EPA.

f. Each operator shall submit a signed hard copy of the Notice of Termination (NOT) to the Lummi Water Resources Division at the same time it is submitted electronically to the EPA and shall provide the Lummi Water Resources Division the EPA acknowledgement of receipt of the NOT.

g. Storm Water Pollution Prevention Plans, Notice of Intent, Notice of Termination and associated correspondence with the EPA shall be submitted to:

Lummi Natural Resources Department
ATTN: Water Resources Manager
2665 Kwina Road
Bellingham, WA 98226-9298

9.7.4.3 Makah Tribe. The following conditions apply only to discharges on the Makah Reservation:

a. The operator shall be responsible for achieving compliance with the Makah Tribe's Water Quality Standards.

b. The operator shall submit a Storm Water Pollution Prevention Plan to the Makah Tribe Water Quality Program and Makah Fisheries Habitat Division for review and approval at least thirty (30) days prior to beginning any discharge activities.

c. The operator shall submit a copy of the Notice of Intent to the Makah Tribe Water Quality Program and Makah Fisheries Habitat Division at the same time it is submitted to EPA.

d. Storm Water Pollution Prevention Plans and Notices of Intent shall be submitted to:

Aaron Parker
Makah Fisheries Management Water Quality Specialist
(360) 645-3162
Cell 206-356-0319
Aaron.parker@makah.com
PO Box 115
Neah Bay WA 98357

9.7.4.4 Puyallup Tribe of Indians. The following conditions apply only to discharges on the Puyallup Tribe of Indians Reservation:

a. Each permittee shall be responsible for achieving compliance with the Puyallup Tribe's Water Quality Standards, including antidegradation provisions. The Puyallup Natural Resources Department will conduct an antidegradation review for permitted activities that have the potential to lower water quality. The antidegradation review will be consistent with the Tribe's Antidegradation Implementation Procedures. The Tribe may also impose additional controls on a site-specific basis, or request EPA to require the operator obtain coverage under an individual permit, if information in the NOI or from other sources indicates that the operator's discharges are not controlled as necessary to meet applicable water quality standards.

b. The permittee shall be responsible for meeting any additional permit requirements imposed by EPA necessary to comply with the Puyallup Tribe's antidegradation

policies if the discharge point is located within 1 linear mile upstream of waters designated by the Tribe.

c. Each permittee shall submit a copy of the Notice of Intent (NOI) to be covered by the general permit to Char Naylor (char.naylor@puyalluptribe.com) and Russ Ladley (russ.ladley@puyalluptribe.com) by email or at the address listed below at the same time it is submitted to EPA.

Puyallup Tribe of Indians
3009 E. Portland Avenue
Tacoma, WA 98404
ATTN: Russ Ladley and Char Naylor

d. All supporting documentation and certifications in the NOI related to coverage under the general permit for Endangered Species Act purposes shall be submitted to the Tribe's Resource Protection Manager (russ.ladley@puyalluptribe.com) and Char Naylor (char.naylor@puyalluptribe.com) for review.

e. If EPA requires coverage under an individual or alternative permit, the permittee shall submit a copy of the permit to Russ Ladley and Char Naylor at the address listed above.

f. The permittee shall submit all stormwater pollution prevention plans to Char Naylor for review and approval prior to beginning any activities resulting in a discharge to tribal waters.

g. The permittee shall conduct benchmark monitoring for turbidity (or transparency) and, in the event of significant concrete work or engineered soils, pH monitoring as well. Monitoring, benchmarks, and reporting requirements contained in Condition S.4. (pp.13-20) of the Washington State Construction Stormwater General Permit, effective January 1, 2016, shall apply, as applicable.

h. The permittee shall notify Char Naylor (253-680-5520) and Russ Ladley (253-680-5560) prior to conducting inspections at construction sites generating storm water discharged to tribal waters.

i. Treat dewatering discharges with controls necessary to minimize discharges of pollutants in order to minimize the discharge of pollutants to groundwater or surface waters from stormwater that is removed from excavations, trenches, foundations, vaults, or other storage areas. Examples of appropriate controls include sediment basins or sediment traps, sediment socks, dewatering tanks, tube settlers, weir tanks, and filtration systems (e.g., bag or sand filters) that are designed to remove sediment.

To the extent feasible, utilize vegetated, upland areas of the site to infiltrate dewatering water before discharge. At all points where dewatering water is discharged, comply with the velocity dissipation requirements of Part 2.2.11 of EPA's 2016 General Construction Stormwater Permit. Examples of velocity dissipation devices include check dams, sediment traps, riprap, and grouted riprap at outlets.

j. The permittee shall provide and maintain natural buffers to the maximum extent possible (and/or equivalent erosion and sediment controls) when tribal waters are located within 100 feet of the site's earth disturbances. If infeasible to provide and maintain an undisturbed 100 foot natural buffer, erosion and sediment controls to achieve the sediment load reduction equivalent to a 100-foot undisturbed natural buffer shall be required.

9.7.4.5 Spokane Tribe of Indians. The following conditions apply only to discharges on the Spokane Tribe Reservation:

a. Pursuant to Tribal Law and Order Code (TLOC) Chapter 30 each operator shall be responsible for achieving compliance with the Surface Water Quality Standards of the Spokane Tribe. The operator shall notify the Spokane Tribe, Water Control Board (WCB) of any spills of hazardous material and;

b. Each operator shall submit a signed hard copy of the Notice of Intent (NOI) to the WCB at the same time it is submitted to EPA.

c. The permittee shall allow the Tribal Water Control Board or its designee to inspect and sample at the construction site as needed.

d. Each operator shall submit a signed copy of the Notice of Termination (NOT) to the WCB at the same time it is submitted to EPA.

The correspondence address for the Spokane Tribe Water Control Board is:

Water Control Board
c/o. Brian Crossley
P0 Box 480
Wellpinit WA 99040
(509)626-4409
crossley@spokanetribe.com

9.7.4.6 Swinomish Indian Tribal Community. The following conditions apply only to discharges on the Swinomish Reservation:

a. Owners and operators seeking coverage under this permit who intend to discharge to Regulated Surface Waters must submit a copy of the Notice of Intent (NOI) to the DEP at the same time the NOI is submitted to EPA.

b. Owners and operators seeking coverage under this permit must also submit a Stormwater Pollution Prevention Plan to the DEP for review and approval by DEP prior to beginning any discharge activities.

c. Owners and operators must also submit to the DEP Changes in NOI and/or Notices of Termination at the same time they are submitted to EPA.

9.7.4.7 Tulalip Tribes. The following conditions apply only to discharges on the Tulalip Reservation:

a. This certification does not exempt and is provisional upon compliance with other applicable statues and codes administered by federal and Tulalip tribal agencies. Pursuant to Tulalip Tribes code of law, the operator must also obtain a land use permit from the Tulalip Tribes Planning Department as provided in Title 7 of the Tulalip Tribal Code (http://www.codepublishing.com/WA/Tulalip/?Tulalip02/Tulalip0205.html).

b. Each CGP operator shall be responsible for achieving compliance with Tulalip Tribes Water Quality Standards.

c. Each CGP operator shall submit their Stormwater Pollution Prevention Plan (SWPPP) to the:

Tulalip Natural & Cultural Resources Department
Tulalip Tribes
6406 Marine Drive
Tulalip, WA 98271

Appendix A - Definitions and Acronyms

1. Definitions

"Action Area" – all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action. See 50 CFR 402. For the purposes of this permit and for application of the threatened and endangered species protection eligibility requirements, the following areas are included in the definition of action area:

- The areas on the construction site where stormwater discharges originate and flow toward the point of discharge into the receiving waters (including areas where excavation, site development, or other ground disturbance activities occur) and the immediate vicinity. (Example: Where bald eagles nest in a tree that is on or bordering a construction site and could be disturbed by the construction activity or where grading causes stormwater to flow into a small wetland or other habitat that is on the site that contains listed species.)
- The areas where stormwater discharges flow from the construction site to the point of discharge into receiving waters. (Example: Where stormwater flows into a ditch, swale, or gully that leads to receiving waters and where listed species (such as listed amphibians) are found in the ditch, swale, or gully.)
- The areas where stormwater from construction activities discharges into receiving waters and the areas in the immediate vicinity of the point of discharge. (Example: Where stormwater from construction activities discharges into a stream segment that is known to harbor listed aquatic species.)
- The areas where stormwater controls will be constructed and operated, including any areas where stormwater flows to and from the stormwater controls. (Example: Where a stormwater retention pond would be built.)
- The areas upstream and/or downstream from the stormwater discharge into a stream segment that may be affected by these discharges. (Example: Where sediment discharged to a receiving stream settles downstream and impacts a breeding area of a listed aquatic species.)

"Agricultural Land" - cropland, grassland, rangeland, pasture, and other agricultural land, on which agricultural and forest-related products or livestock are produced and resource concerns may be addressed. Agricultural lands include cropped woodland, marshes, incidental areas included in the agricultural operation, and other types of agricultural land used for the production of livestock.

"Antidegradation Policy" or "Antidegradation Requirements" - the water quality standards regulation that requires states and tribes to establish a three-tiered antidegradation program:

1. Tier 1 maintains and protects existing uses and water quality conditions necessary to support such uses. An existing use can be established by demonstrating that fishing, swimming, or other uses have actually occurred since November 28, 1975, or that the water quality is suitable to allow such uses to occur. Where an existing use is established, it must be protected even if it is not listed in the water quality standards as a designated use. Tier 1 requirements are applicable to all surface waters.
2. Tier 2 maintains and protects "high quality" waters -- waterbodies where existing conditions are better than necessary to support CWA § 101(a)(2) "fishable/swimmable" uses. Water quality can be lowered in such waters. However, state and tribal Tier 2 programs identify procedures that must be followed and questions that must be

answered before a reduction in water quality can be allowed. In no case may water quality be lowered to a level which would interfere with existing or designated uses.

3. Tier 3 maintains and protects water quality in outstanding national resource waters (ONRWs). Except for certain temporary changes, water quality cannot be lowered in such waters. ONRWs generally include the highest quality waters of the United States. However, the ONRW classification also offers special protection for waters of exceptional ecological significance, i.e., those which are important, unique, or sensitive ecologically. Decisions regarding which water bodies qualify to be ONRWs are made by states and authorized Indian tribes.

"Arid Areas" – areas with an average annual rainfall of 0 to 10 inches.

"Bank" (e.g., stream bank or river bank) – the rising ground bordering the channel of a water of the U.S.

"Bluff" – a steep headland, promontory, riverbank, or cliff.

"Borrow Areas" – the areas where materials are dug for use as fill, either onsite or off-site.

"Business day" – for the purposes of this permit, a business day is a calendar day on which construction activities will take place.

"Bypass" – the intentional diversion of waste streams from any portion of a treatment facility. See 40 CFR 122.41(m)(1)(i).

"Cationic Treatment Chemical" – polymers, flocculants, or other chemicals that contain an overall positive charge. Among other things, they are used to reduce turbidity in stormwater discharges by chemically bonding to the overall negative charge of suspended silts and other soil materials and causing them to bind together and settle out. Common examples of cationic treatment chemicals are chitosan and cationic PAM.

"Commencement of Construction Activities" – the initial disturbance of soils (or 'breaking ground') associated with clearing, grading, or excavating activities or other construction-related activities (e.g., stockpiling of fill material; placement of raw materials at the site).

"Common Plan of Development or Sale" – A contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under one common plan. The "common plan" of development or sale is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, sales pitch, advertisement, drawing, permit application, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating construction activities may occur on a specific plot.

"Construction Activities" – earth-disturbing activities, such as the clearing, grading, and excavation of land, and other construction-related activities (e.g., stockpiling of fill material; placement of raw materials at the site) that could lead to the generation of pollutants. Some of the types of pollutants that are typically found at construction sites are:

- sediment;
- nutrients;
- heavy metals;
- pesticides and herbicides;
- oil and grease;
- bacteria and viruses;
- trash, debris, and solids;

- treatment polymers; and
- any other toxic chemicals.

"Construction and Development Effluent Limitations and New Source Performance Standards" (C&D Rule) – as published in 40 CFR § 450, the regulation requiring effluent limitations guidelines (ELGs) and new source performance standards (NSPS) for controlling the discharge of pollutants from construction sites.

"Construction Site" or "Site" – the land or water area where construction activities will occur and where stormwater controls will be installed and maintained. The construction site includes construction support activities, which may be located at a different part of the property from where the primary construction activity will take place, or on a different piece of property altogether.

"Construction Support Activity" – a construction-related activity that specifically supports the construction activity and involves earth disturbance or pollutant-generating activities of its own, and can include activities associated with concrete or asphalt batch plants, equipment staging yards, materials storage areas, excavated material disposal areas, and borrow areas.

"Construction Waste" – discarded material (such as packaging materials; scrap construction materials; masonry products; timber, steel, pipe, and electrical cuttings; plastics; and styrofoam).

"Conveyance Channel" – a temporary or permanent waterway designed and installed to safely convey stormwater flow within and out of a construction site.

"Critical Habitat" – as defined in the Endangered Species Act at 16 U.S.C. 1531 for a threatened or endangered species, (i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of the Endangered Species Act, on which are found those physical or biological features essential to the conservation of the species and which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of the Endangered Species Act, upon a determination by the Secretary that such areas are essential for the conservation of the species.

"CWA" – the Clean Water Act or the Federal Water Pollution Control Act, 33 U.S.C. section 1251 et seq.

"Dewatering" – the act of draining rainwater and/or ground water from building foundations, vaults, and trenches.

"Discharge" – when used without qualification, means the "discharge of a pollutant."

"Discharge of a Pollutant" – any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source," or any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. See 40 CFR 122.2.

"Discharge Point" – for the purposes of this permit, the location where collected and concentrated stormwater flows are discharged from the construction site.

"Discharge-Related Activity" – activities that cause, contribute to, or result in stormwater and allowable non-stormwater point source discharges, and measures such as the siting, construction, and operation of stormwater controls to control, reduce, or prevent pollutants from being discharged.

"Discharge to an Impaired Water" – for the purposes of this permit, a discharge to an impaired water occurs if the first water of the U.S. to which you discharge is identified by a state, tribe, or EPA pursuant to Section 303(d) of the Clean Water Act as not meeting an applicable water quality standard and (1) requires development of a total maximum daily load (TMDL) (pursuant to section 303(d) of the CWA; or (2) is addressed by an EPA-approved or established TMDL; or (3) is not in either of the above categories but the waterbody is covered by a pollution control program that meets the requirements of 40 CFR 130.7(b)(1). For discharges that enter a storm sewer system prior to discharge, the water of the U.S. to which you discharge is the first water of the U.S. that receives the stormwater discharge from the storm sewer system.

"Domestic Waste" – for the purposes of this permit, typical household trash, garbage or rubbish items generated by construction activities.

"Drainageway" – an open linear depression, whether constructed or natural, that functions for the collection and drainage of surface water.

"Drought-Stricken Area" – for the purposes of this permit, an area in which the National Oceanic and Atomospheric Administration's U.S. Seasonal Drought Outlook indicates for the period during which the construction will occur that any of the following conditions are likely: (1) "Drought to persist or intensify", (2) "Drought ongoing, some improvement", (3) "Drought likely to improve, impacts ease", or (4) "Drought development likely". See http://www.cpc.ncep.noaa.gov/products/expert_assessment/sdo_summary.php.

"Earth-Disturbing Activity"– actions taken to alter the existing vegetation and/or underlying soil of a site, such as clearing, grading, site preparation (e.g., excavating, cutting, and filling), soil compaction, and movement and stockpiling of top soils.

"Earth-Disturbing Activities Conducted Prior to Active Mining Activities" – Consists of two classes of earth-disturbing (i.e., clearing, grading and excavation) activities:

a. activities performed for purposes of mine site preparation, including: cutting new rights of way (except when related to access road construction); providing access to a mine site for vehicles and equipment (except when related to access road construction); other earth disturbances associated with site preparation activities on any areas where active mining activities have not yet commenced (e.g., for heap leach pads, waste rock facilities, tailings impoundments, wastewater treatment plants); and

b. construction of staging areas to prepare for erecting structures such as to house project personnel and equipment, mill buildings, etc., and construction of access roads.

Note: only earth-disturbing activities associated with the construction of staging areas and the construction of access roads conducted prior to active mining (see (b) above) are considered to be "construction" and therefore stormwater discharges from these activities are eligible for coverage under this permit. See Part 1.2.1.b. The activities described in (a) above are not considered to be "construction" and therefore stormwater discharges associated with this activity are not eligible for coverage under this permit.

"Effective Operating Condition" – for the purposes of this permit, a stormwater control is kept in effective operating condition if it has been implemented and maintained in such a manner that it is working as designed to minimize pollutant discharges.

"Effluent Limitations" – for the purposes of this permit, any of the Part 2 or Part 3 requirements.

"Effluent Limitations Guideline" (ELG) – defined in 40 CFR § 122.2 as a regulation published by the Administrator under section 304(b) of the CWA to adopt or revise effluent limitations.

"Eligible" – for the purposes of this permit, refers to stormwater and allowable non-stormwater discharges that are authorized for coverage under this general permit.

"Emergency-Related Project" – a project initiated in response to a public emergency (e.g., mud slides, earthquake, extreme flooding conditions, disruption in essential public services), for which the related work requires immediate authorization to avoid imminent endangerment to human health or the environment, or to reestablish essential public services.

"Endangered Species" – defined in the Endangered Species Act at 16 U.S.C. 1531 as any species which is in danger of extinction throughout all or a significant portion of its range other than a species of the Class Insecta determined by the Secretary to constitute a pest whose protection under the provisions of this Act would present an overwhelming and overriding risk to man.

"Excursion" – a measured value that exceeds a specified limit.

"Existing Site" – a site where construction activities commenced prior to February 16, 2017.

"Exit Points" – any points of egress from the construction site to be used by vehicles and equipment during construction activities.

"Exposed Soils" – for the purposes of this permit, soils that as a result of earth-disturbing activities are left open to the elements.

"Federal Operator" – an entity that meets the definition of "Operator" in this permit and is either any department, agency or instrumentality of the executive, legislative, and judicial branches of the Federal government of the United States, or another entity, such as a private contractor, performing construction activity for any such department, agency, or instrumentality.

"Final Stabilization" – on areas not covered by permanent structures, either (1) uniform, perennial vegetation *(e.g., evenly distributed, without large bare areas)* has been established, or for arid or semi-arid areas, will be established that provides 70 percent or more of the cover that is provided by vegetation native to local undisturbed areas, and/or (2) permanent non-vegetative stabilization measures (e.g., riprap, gravel, gabions, and geotextiles) have been implemented to provide effective cover for exposed portions of the site

"General Contractor" – for the purposes of this permit, the primary individual or company solely accountable to perform a contract. The general contractor typically supervises activities, coordinates the use of subcontractors, and is authorized to direct workers at a site to carry out activities required by the permit.

"Hazardous Substances" or "Hazardous or Toxic Waste" – for the purposes of this permit, any liquid, solid, or contained gas that contain properties that are dangerous or potentially harmful to human health or the environment. See also 40 CFR §261.2.

"Historic Property" – as defined in the National Historic Preservation Act regulations, means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria.

"Impaired Water"– a water identified by the state, tribe, or EPA as not meeting an applicable water quality standard and (1) requires development of a TMDL (pursuant to section 303(d) of the CWA; or (2) is addressed by an EPA-approved or established TMDL; or (3) is not in either of the above categories but the waterbody is covered by a pollution control program that meets the requirements of 40 CFR 130.7(b)(1).

"Impervious Surface" – for the purpose of this permit, any land surface with a low or no capacity for soil infiltration including, but not limited to, pavement, sidewalks, parking areas and driveways, packed gravel or soil, or rooftops.

"Indian Country" or "Indian Country Lands" – defined at 40 CFR §122.2 as:

1. All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation;
2. All dependent Indian communities with the borders of the United States whether within the originally or subsequently acquired territory thereof, and whether within or without the limits of a state; and
3. All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-ways running through the same.

"Infeasible" – for the purpose of this permit, infeasible means not technologically possible or not economically practicable and achievable in light of best industry practices. EPA notes that it does not intend for any permit requirement to conflict with state water rights law.

"Install" or "Installation" – when used in connection with stormwater controls, to connect or set in position stormwater controls to make them operational.

"Jar test" – a test designed to simulate full-scale coagulation/flocculation/sedimentation water treatment processes by taking into account the possible conditions.

"Landward" – positioned or located away from a waterbody, and towards the land.

"Large Construction Activity" – defined at 40 CFR § 122.26(b)(14)(x) and incorporated here by reference. Large construction activity includes clearing, grading, and excavating resulting in a land disturbance that will disturb equal to or greater than five acres of land or will disturb less than five acres of total land area but is part of a larger common plan of development or sale that will ultimately disturb equal to or greater than five acres. Large construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the site.

"Linear Construction Site" – includes the construction of roads, bridges, conduits, substructures, pipelines, sewer lines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities in a long, narrow area.

"Minimize" – to reduce and/or eliminate to the extent achievable using stormwater controls that are technologically available and economically practicable and achievable in light of best industry practices.

"Mining Activity" – for the purposes of this permit, includes mining-related construction activities defined at 40 CFR 122.26(b)(14)(x) and 122.26(b)(15)(i), and active mining activities defined at 40 CFR 122.26(b)(14)(iii). Both of these sub categories of activities include earth-disturbing activities, with the latter also including such activities as: extraction, removal or recovery, and beneficiation of mined material from the earth; removal of overburden and waste rock to expose mineable material; and site reclamation and closure activities.

"Mining Operations" – for the purposes of this permit, mining operations are grouped into two distinct categories, with distinct effluent limits and requirements applicable to each: 1) earth-disturbing activities conducted prior to active mining activities; and 2) active mining activities, which includes reclamation.

"Municipal Separate Storm Sewer System" or "MS4" – defined at 40 CFR §122.26(b)(8) as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

1. Owned and operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special

districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;

2. Designed or used for collecting or conveying stormwater;
3. Which is not a combined sewer; and
4. Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR §122.2.

"National Pollutant Discharge Elimination System" (NPDES) – defined at 40 CFR §122.2 as the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of CWA. The term includes an 'approved program.'

"Native Topsoil" – the uppermost layer of naturally occurring soil for a particular area, and is often rich in organic matter, biological activity, and nutrients.

"Natural Buffer" – for the purposes of this permit, an area of undisturbed natural cover surrounding waters of the U.S. within which construction activities are restricted. Natural cover includes the vegetation, exposed rock, or barren ground that exists prior to commencement of earth-disturbing activities.

"Natural Vegetation" – vegetation that occurs spontaneously without regular management, maintenance, or species introductions or removals, and that generally has a strong component of native species..

"New Operator of a Permitted Site" – an operator that through transfer of ownership and/or operation replaces the operator of an already permitted construction site that is either a "new site" or an "existing site".

"New Site" – a site where construction activities commenced on or after February 16, 2017.

"New Source" – for the purposes of this permit, a construction project that commenced construction activities after February 1, 2010.

"New Source Performance Standards (NSPS)" – for the purposes of this permit, NSPS are technology-based standards that apply to construction sites that are new sources under 40 CFR 450.24.

"Non-Stormwater Discharges" – discharges that do not originate from storm events. They can include, but are not limited to, discharges of process water, air conditioner condensate, non-contact cooling water, vehicle wash water, sanitary wastes, concrete washout water, paint wash water, irrigation water, or pipe testing water.

"Non-Turbid" – a discharge that does not cause or contribute to an exceedence of turbidity-related water quality standards.

"Notice of Intent" (NOI) – the form (electronic or paper) required for authorization of coverage under the Construction General Permit.

"Notice of Termination" (NOT) – the form (electronic or paper) required for terminating coverage under the Construction General Permit.

"NPDES eReporting Tool" (NeT) – EPA's online system for submitting electronic Construction General Permit forms.

"Operational" – for the purposes of this permit, stormwater controls are made "operational" when they have been installed and implemented, are functioning as designed, and are properly maintained.

"Operator" – for the purposes of this permit and in the context of stormwater discharges associated with construction activity, any party associated with a construction project that meets either of the following two criteria:

1. The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications *(e.g. in most cases this is the owner of the site)*; or
2. The party has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions *(e.g., they are authorized to direct workers at a site to carry out activities required by the permit; in most cases this is the general contractor of the project)*.

This definition is provided to inform permittees of EPA's interpretation of how the regulatory definitions of "owner or operator" and "facility or activity" are applied to discharges of stormwater associated with construction activity. Subcontractors generally are not considered operators for the purposes of this permit.

"Ordinary High Water Mark" – the line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, and/or the presence of litter and debris.

"Permitting Authority" – for the purposes of this permit, EPA, a Regional Administrator of EPA, or an authorized representative.

"Point(s) of Discharge" – see "Discharge Point."

"Point Source" – any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

"Pollutant" – defined at 40 CFR §122.2. A partial listing from this definition includes: dredged spoil, solid waste, sewage, garbage, sewage sludge, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial or municipal waste.

"Pollution Prevention Controls" – stormwater controls designed to reduce or eliminate the addition of pollutants to construction site discharges through analysis of pollutant sources, implementation of proper handling/disposal practices, employee education, and other actions.

"Polymers" – for the purposes of this permit, coagulants and flocculants used to control erosion on soil or to enhance the sediment removal capabilities of sediment traps or basins. Common construction site polymers include polyacrylamide (PAM), chitosan, alum, polyaluminum chloride, and gypsum.

"Prohibited Discharges" – discharges that are not allowed under this permit, including:

1. Wastewater from washout of concrete;
2. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
3. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;

4. Soaps or solvents used in vehicle and equipment washing;
5. Toxic or hazardous substances from a spill or other release; and
6. Waste, garbage, floatable debris, construction debris, and sanitary waste.

"Provisionally Covered Under this Permit" – for the purposes of this permit, EPA provides temporary coverage under this permit for emergency-related projects prior to receipt of a complete and accurate NOI. Discharges from earth-disturbing activities associated with the emergency-related projects are subject to the terms and conditions of the permit during the period of temporary coverage.

"Qualified Person" – a person knowledgeable in the principles and practice of erosion and sediment controls and pollution prevention, who possesses the appropriate skills and training to assess conditions at the construction site that could impact stormwater quality, and the appropriate skills and training to assess the effectiveness of any stormwater controls selected and installed to meet the requirements of this permit.

"Receiving Water" – a "Water of the United States" as defined in 40 CFR §122.2 into which the regulated stormwater discharges.

"Run-On" – sources of stormwater that drain from land located upslope or upstream from the regulated site in question.

"Semi-Arid Areas" – areas with an average annual rainfall of 10 to 20 inches.

"Shared Control" - for the purposes of this permit, a stormwater control, such as a sediment basin or pond, used by two or more operators that is installed and maintained for the purpose of minimizing and controlling pollutant discharges from a construction site with multiple operators associated with a common plan of development or sale. Any operators that are contributing stormwater from their construction activities to a shared control are considered to rely upon a shared control.

"Small Construction Activity" – defined at 40 CFR §122.26(b)(15) and incorporated here by reference. A small construction activity includes clearing, grading, and excavating resulting in a land disturbance that will disturb equal to or greater than one (1) acre and less than five (5) acres of land or will disturb less than one (1) acre of total land area but is part of a larger common plan of development or sale that will ultimately disturb equal to or greater than one (1) acre and less than five (5) acres. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the site.

"Small Residential Lot" – for the purpose of this permit, a lot being developed for residential purposes that will disturb less than 1 acre of land, but is part of a larger residential project that will ultimately disturb greater than or equal to 1 acre.

"Snowmelt" – the conversion of snow into overland stormwater and ground water flow as a result of warmer temperatures.

"Spill" – for the purpose of this permit, the release of a hazardous or toxic substance from its container or containment.

"Stabilization" – the use of vegetative and/or non-vegetative cover to prevent erosion and sediment loss in areas exposed through the construction process.

"Steep Slopes" – where a state, tribe, local government, or industry technical manual (e.g., stormwater BMP manual) has defined what is to be considered a "steep slope", this permit's definition automatically adopts that definition. Where no such definition exists, steep slopes are automatically defined as those that are 15 percent or greater in grade.

"Storm Sewer System" – a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) designed or used for collecting or conveying stormwater.

"Stormwater" – stormwater runoff, snowmelt runoff, and surface runoff and drainage.

"Stormwater Control" - refers to any best management practice or other method (including narrative effluent limitations) used to prevent or reduce the discharge of pollutants to waters of the United States.

"Stormwater Discharge Associated with Construction Activity" – as used in this permit, a discharge of pollutants in stormwater to waters of the United States from areas where earth-disturbing activities (e.g., clearing, grading, or excavation) occur, or where construction materials or equipment storage or maintenance (e.g., fill piles, borrow area, concrete truck chute washdown, fueling), or other industrial stormwater directly related to the construction process (e.g., concrete or asphalt batch plants), are located.

"Stormwater Inlet" – a structure placed below grade to conduct water used to collect stormwater runoff for conveyance purposes.

"Stormwater Team" – the group of individuals responsible for oversight of the development and modifications of the SWPPP, and oversight of compliance with the permit requirements. The individuals on the "Stormwater Team" must be identified in the SWPPP.

"Storm Event" – a precipitation event that results in a measurable amount of precipitation.

"Storm Sewer" – a system of pipes (separate from sanitary sewers) that carries stormwater runoff from buildings and land surfaces.

"Subcontractor" – for the purposes of this permit, an individual or company that takes a portion of a contract from the general contractor or from another subcontractor.

"SWPPP" (Stormwater Pollution Prevention Plan) – a site-specific, written document that, among other things: (1) identifies potential sources of stormwater pollution at the construction site; (2) describes stormwater controls to reduce or eliminate pollutants in stormwater discharges from the construction site; and (3) identifies procedures the operator will implement to comply with the terms and conditions of this general permit.

"Temporary Stabilization" – a condition where exposed soils or disturbed areas are provided temporary vegetative and/or non-vegetative protective cover to prevent erosion and sediment loss. Temporary stabilization may include temporary seeding, geotextiles, mulches, and other techniques to reduce or eliminate erosion until either final stabilization can be achieved or until further construction activities take place to re-disturb this area.

"Thawing Conditions" – for the purposes of this permit, thawing conditions are expected based on the historical likelihood of two or more days with daytime temperatures greater than 32°F. This date can be determined by looking at historical weather data. Note: the estimation of thawing conditions is for planning purposes only. During construction the permittee will be required to conduct site inspections based upon actual conditions (i.e., if thawing conditions occur sooner than expected, the permittee will be required to conduct inspections at the regular frequency).

"Threatened Species" – defined in the Endangered Species Act at 16 U.S.C. 1531 as any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

"Tier 2 Waters" – for antidegradation purposes, pursuant to 40 CFR 131.12(a)(2), those waters that are characterized as having water quality that exceeds the levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water.

"Tier 2.5 Waters" – for antidegradation purposes, those waters designated by states or tribes as requiring a level of protection equal to and above that given to Tier 2 waters, but less than that given Tier 3 waters. Some states have special requirements for these waters.

"Tier 3 Waters" – for antidegradation purposes, pursuant to 40 CFR 131.12(a)(3), Tier 3 waters are identified by states as having high quality waters constituting an Outstanding National Resource Water (ONRW), such as waters of National Parks and State Parks, wildlife refuges, and waters of exceptional recreational or ecological significance.

"Total Maximum Daily Load" or "TMDL" – the sum of the individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources and natural background. If receiving water has only one point source discharger, the TMDL is the sum of that point source WLA plus the LAs for any nonpoint sources of pollution and natural background sources, tributaries, or adjacent segments. TMDLs can be expressed in terms of mass per time, toxicity, or other appropriate measure.

"Toxic Waste" – see "Hazardous Substances."

"Treatment Chemicals" – polymers, flocculants, or other chemicals used to reduce turbidity in stormwater.

"Turbidity" – a condition of water quality characterized by the presence of suspended solids and/or organic material.

"Uncontaminated Discharge" – in the context of authorized non-stormwater discharges, a discharge that does not cause or contribute to an exceedance of applicable water quality standards.

"Upland" – the dry land area above and 'landward' of the ordinary high water mark.

"Upset" – Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond your reasonable control. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. See 40 CFR 122.41(n)(1).

"Water-Dependent Structures" – structures or facilities that are required to be located directly adjacent to a waterbody or wetland, such as a marina, pier, boat ramp, etc.

"Water Quality Standards" – defined in 40 CFR § 131.3, and are provisions of state or federal law which consist of a designated use or uses for the waters of the United States, water quality criteria for such waters based upon such uses, and an antidegradation policy to protect high-quality waters. Water quality standards protect the public health or welfare, enhance the quality of water and serve the purposes of the Act.

"Waters of the United States" – see definition at 40 CFR 122.2.

"Wetland" – those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. On-site evaluations are typically required to confirm the presence and boundaries of wetlands.

1. Acronyms

ACHP – Advisory Council on Historic Preservation

BMP – Best Management Practice

CBI – Confidential Business Information
CGP – Construction General Permit
CFR – Code of Federal Regulations
CWA – Clean Water Act
CZMA – Coastal Zone Management Act
ECHO – EPA Enforcement and Compliance History Online
ELG – Effluent Limitations Guideline
EPA – United States Environmental Protection Agency
ESA – Endangered Species Act
FR – Federal Register
MS4 – Municipal Separate Storm Sewer System
MSGP – Multi-Sector General Permit
NEPA – National Environmental Policy Act
NeT – NPDES eReporting Tool
NHPA – National Historic Preservation Act
NMFS – United States National Marine Fisheries Service
NPDES – National Pollutant Discharge Elimination System
NOI – Notice of Intent
NOT – Notice of Termination
NPDES – National Pollutant Discharge Elimination System
NRC – National Response Center
NRCS – National Resources Conservation Service
NSPS – New Source Performance Standards
ONRW – Outstanding National Resource Water
PAM – Polyacrylamide
POTW – Publicly Owned Treatment Works
RUSLE – Revised Universal Soil Loss Equation
SDS – Safety Data Sheet
SHPO – State Historic Preservation Office
SPCC – Spill Prevention Control and Countermeasure
SWPPP – Stormwater Pollution Prevention Plan
THPO – Tribal Historic Preservation Office
TMDL – Total Maximum Daily Load
TSS – Total Suspended Solids
UIC – Underground Injection Control

USDA – United States Department of Agriculture

USFWS – United States Fish and Wildlife Service

USGS – United States Geological Survey

WQS – Water Quality Standard

Appendix B - Permit Areas Eligible for Coverage and EPA Regional Addresses

Permit coverage for stormwater discharges from construction activity occurring within the following areas is provided by legally separate and distinctly numbered permits.

B.1 EPA Region 1

The permit offers coverage for stormwater discharges from construction activity from the following areas in EPA Region 1:

Permit No.	Areas of Coverage/Where EPA is Permitting Authority
CTR10I000	Indian country within the State of Connecticut
MAR100000	Commonwealth of Massachusetts (except Indian country)
MAR10I000	Indian country within the State of Massachusetts
NHR100000	State of New Hampshire
RIR10000	Indian country within the State of Rhode Island
VTR10F000	Areas in the State of Vermont subject to construction by a Federal Operator
01R10I000	All areas of Indian country not identified above that are not already covered by an EPA-approved permitting program

For stormwater discharges in EPA Region 1 outside the areas of coverage identified above, please contact your state NPDES permitting authority to obtain coverage under a state-issued NPDES permit.

EPA Region 1 Address:
U.S. EPA Region 1
Office of Ecosystem Protection
Stormwater and Construction Permits Section
5 Post Office Square, Suite 100
(OEP 06-1)
Boston, MA 02109-3912

B.2 EPA Region 2

The permit offers coverage for stormwater discharges from construction activity from the following areas in EPA Region 2:

Permit No.	Areas of Coverage/Where EPA is Permitting Authority
NYR10I000	Indian country within the State of New York
PRR100000	Commonwealth of Puerto Rico
02R10I000	All areas of Indian country not identified above that are not already covered by an EPA-approved permitting program

For stormwater discharges in EPA Region 2 outside the areas of coverage identified above, please contact your state NPDES permitting authority to obtain coverage under a state-issued NPDES permit.

EPA Region 2 Address:
For Puerto Rico:
U.S. EPA Region 2
Caribbean Environmental Protection Division
NPDES Stormwater Program

City View Plaza II – Suite 7000
48 Rd. 165 Km 1.2
Guaynabo, PR 00968-8069

For New York:
U.S. EPA Region 2
NPDES Stormwater Program
290 Broadway, 24th Floor
New York, NY 10007-1866

B.3 EPA Region 3

The permit offers coverage for stormwater discharges from construction activity from the following areas in EPA Region 3:

Permit No.	Areas of Coverage/Where EPA is Permitting Authority
DCR100000	District of Columbia
DER10F000	Areas in the State of Delaware subject to construction by a Federal Operator
VAR10I000	Indian country within the State of Virginia
03R10I000	All areas of Indian country not identified above that are not already covered by an EPA-approved permitting program

For stormwater discharges in EPA Region 3 outside the areas of coverage identified above, please contact your state NPDES permitting authority to obtain coverage under a state-issued NPDES permit.

EPA Region 3 Address:
U.S. EPA Region 3
Office of NPDES Permits and Enforcement
NPDES Permits Branch, Mailcode 3WP41
1650 Arch Street
Philadelphia, PA 19103

B.4 EPA Region 4

The permit offers coverage for stormwater discharges from construction activity from the following areas in EPA Region 4:

Permit No.	Areas of Coverage/Where EPA is Permitting Authority
ALR10I000	Indian country within the State of Alabama
FLR10I000	Indian country within the State of Florida
MSR10I000	Indian country within the State of Mississippi
NCR10I000	Indian country within the State of North Carolina
RE410I000	Indian country within any other Region 4 State (except Catawba lands in South Carolina)
04R10I000	All areas of Indian country not identified above that are not already covered by an EPA-approved permitting program

For stormwater discharges in EPA Region 4 outside the areas of coverage identified above, please contact your state NPDES permitting authority to obtain coverage under a state-issued NPDES permit.

EPA Region 4 Address:
U.S. EPA Region 4
Water Protection Division
NPDES Stormwater Program
Atlanta Federal Center
61 Forsyth Street SW
Atlanta, GA 30303-3104

B.5 EPA Region 5

The permit offers coverage for stormwater discharges from construction activity from the following areas in EPA Region 5:

Permit No.	Areas of Coverage/Where EPA is Permitting Authority
MIR10I000	Indian country within the State of Michigan
MNR10I000	Indian country within the State of Minnesota
WIR10I000	Indian country within the State of Wisconsin, except the Sokaogon Chippewa (Mole Lake) Community
05R10I000	All areas of Indian country not identified above that are not already covered by an EPA-approved permitting program

For stormwater discharges in EPA Region 5 outside the areas of coverage identified above, please contact your state NPDES permitting authority to obtain coverage under a state-issued NPDES permit.

EPA Region 5 Address:
U.S. EPA Region 5
NPDES Program Branch
77 W. Jackson Blvd.
Mail Code WN16J
Chicago, IL 60604-3507

B.6 EPA Region 6

The permit offers coverage for stormwater discharges from construction activity from the following areas in EPA Region 6:

Permit No.	Areas of Coverage/Where EPA is Permitting Authority
LAR10I000	Indian country within the State of Louisiana
NMR100000	State of New Mexico, except Indian country
NMR10I000	Indian country within the State of New Mexico, except Navajo Reservation Lands that are covered under Arizona permit AZR10000I and Ute Mountain Reservation Lands that are covered under Colorado permit COR10000I.
OKR10I000	Indian country within the State of Oklahoma
OKR10F000	Discharges in the State of Oklahoma that are not under the authority of the Oklahoma Department of Environmental Quality, including activities associated with oil and gas exploration, drilling, operations, and pipelines (includes SIC Groups 13 and 46, and SIC codes 492 and 5171), and point source discharges associated with agricultural production, services, and silviculture (includes SIC Groups 01, 02, 07, 08, 09).
TXR10F000	Discharges in the State of Texas that are not under the authority of the Texas Commission on Environmental Quality (formerly TNRCC), including

	activities associated with the exploration, development, or production of oil or gas or geothermal resources, including transportation of crude oil or natural gas by pipeline.
TXR10I000	Indian country within the State of Texas
06R10I000	All areas of Indian country not identified above that are not already covered by an EPA-approved permitting program

For stormwater discharges in EPA Region 6 outside the areas of coverage identified above, please contact your state NPDES permitting authority to obtain coverage under a state-issued NPDES permit.

EPA Region 6 Address:
U.S. EPA Region 6
NPDES Stormwater Program (WQ-PP)
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

B.7 EPA Region 7

The permit offers coverage for stormwater discharges from construction activity from the following areas in EPA Region 7:

Permit No.	Areas of Coverage/Where EPA is Permitting Authority
IAR10I000	Indian country within the State of Iowa
KSR10I000	Indian country within the State of Kansas
NER10I000	Indian country within the State of Nebraska, except Pine Ridge Reservation lands (see Region 8)
07R10I000	All areas of Indian country not identified above that are not already covered by an EPA-approved permitting program

For stormwater discharges in EPA Region 7 outside the areas of coverage identified above, please contact your state NPDES permitting authority to obtain coverage under a state-issued NPDES permit.

EPA Region 7 Address:
U.S. EPA Region 7
NPDES Stormwater Program
11201 Renner Blvd
Lenexa, KS 66219

B.8 EPA Region 8

The permit offers coverage for stormwater discharges from construction activity from the following areas in EPA Region 8:

Permit No.	Areas of Coverage/Where EPA is Permitting Authority
COR10F000	Areas in the State of Colorado, except those located on Indian country, subject to construction activity by a Federal Operator
COR10I000	Indian country within the State of Colorado, as well as the portion of the Ute Mountain Reservation located in New Mexico
MTR10I000	Indian country within the State of Montana
NDR10I000	Indian country within the State of North Dakota, as well as that portion of the Standing Rock Reservation located in South Dakota (except for the

	portion of the lands within the former boundaries of the Lake Traverse Reservation which is covered under South Dakota permit SDR10000I listed below)
SDR10I000	Indian country within the State of South Dakota, as well as the portion of the Pine Ridge Reservation located in Nebraska and the portion of the lands within the former boundaries of the Lake Traverse Reservation located in North Dakota (except for the Standing Rock Reservation which is covered under North Dakota permit NDR10000I listed above)
UTR10I000	Indian country within the State of Utah, except Goshute and Navajo Reservation lands (see Region 9)
WYR10I000	Indian country within the State of Wyoming
08R10I000	All areas of Indian country not identified above that are not already covered by an EPA-approved permitting program

For stormwater discharges in EPA Region 8 outside the areas of coverage identified above, please contact your state NPDES permitting authority to obtain coverage under a state-issued NPDES permit.

EPA Region 8 Address:
EPA Region 8 Storm Water Program
Mailcode: 8P-W-WW
1595 Wynkoop Street
Denver, CO 80202-1129

B.9 EPA Region 9

The permit offers coverage for stormwater discharges from construction activity from the following areas in EPA Region 9:

Permit No.	Areas of Coverage/Where EPA is Permitting Authority
ASR100000	Island of American Samoa
AZR10I000	Indian country within the State of Arizona, as well as Navajo Reservation lands in New Mexico and Utah
CAR10I000	Indian country within the State of California
GUR100000	Island of Guam
JAR100000	Johnston Atoll
MPR100000	Commonwealth of the Northern Mariana Islands
MWR100000	Midway Island and Wake Island
NVR10000I	Indian country within the State of Nevada, as well as the Duck Valley Reservation in Idaho, the Fort McDermitt Reservation in Oregon and the Goshute Reservation in Utah
09R10I000	All areas of Indian country not identified above that are not already covered by an EPA-approved permitting program

For stormwater discharges in EPA Region 9 outside the areas of coverage identified above, please contact your state NPDES permitting authority to obtain coverage under a state-issued NPDES permit.

EPA Region 9 Address:
U.S. EPA Region 9
Water Division
NPDES Stormwater Program (WTR-2-3)
75 Hawthorne Street

San Francisco, CA 94105-3901

B.10 EPA Region 10

The permit offers coverage for stormwater discharges from construction activity from the following areas in EPA Region 10:

Permit No.	Areas of Coverage/Where EPA is Permitting Authority
AKR10I000	Indian country lands as defined in 18 U.S.C. 1151 within the State of Alaska
AKR10F000	Denali National Park and Preserve
IDR100000	State of Idaho, except Indian country
IDR10I000	Indian country within the State of Idaho, except Duck Valley Reservation lands (see Region 9)
ORR10I000	Indian country within the State of Oregon, except Fort McDermitt Reservation lands (see Region 9)
WAR10F000	Areas in the State of Washington, except those located on Indian country, subject to construction activity by a Federal Operator
WAR10I000	Indian country within the State of Washington
010R10I000	All areas of Indian country not identified above that are not already covered by an EPA-approved permitting program

For stormwater discharges in EPA Region 10 outside the areas of coverage identified above, please contact your state NPDES permitting authority to obtain coverage under a state-issued NPDES permit.

EPA Region 10 Address:
U.S. EPA Region 10
NPDES Stormwater Program
1200 6th Avenue (OWW-191)
Seattle, WA 98101-3140

Appendix C - Small Construction Waivers and Instructions

These waivers are only available to stormwater discharges associated with small construction activities (i.e., 1-5 acres). As the operator of a small construction activity, you may be able to qualify for a waiver in lieu of needing to obtain coverage under this general permit based on: (A) a low rainfall erosivity factor, (B) a TMDL analysis, or (C) an equivalent analysis that determines allocations for small construction sites are not needed. Each operator, otherwise needing permit coverage, must notify EPA of its intention for a waiver. It is the responsibility of those individuals wishing to obtain a waiver from coverage under this general permit to submit a complete and accurate waiver certification as described below. Where the operator changes or another is added during the construction project, the new operator must also submit a waiver certification to be waived.

C.1 Rainfall Erosivity Waiver

Under this scenario the small construction project's rainfall erosivity factor calculation ("R" in the Revised Universal Soil Loss Equation) is less than five during the period of construction activity. The operator must certify to EPA that construction activity will occur only when the rainfall erosivity factor is less than five. The period of construction activity begins at initial earth disturbance and ends with final stabilization. Where vegetation will be used for final stabilization, the date of installation of a stabilization practice that will provide interim non-vegetative stabilization can be used for the end of the construction period, provided the operator commits (as a condition of waiver eligibility) to periodically inspect and properly maintain the area until the criteria for final stabilization as defined in the CGP have been met. If use of this interim stabilization eligibility condition was relied on to qualify for the waiver, signature on the waiver with its certification statement constitutes acceptance of and commitment to complete the final stabilization process. The operator must submit a waiver certification to EPA prior to commencing construction activities.

> *Note: The rainfall erosivity factor "R" is determined in accordance with Chapter 2 of Agriculture Handbook Number 703, Predicting Soil Erosion by Water: A Guide to Conservation Planning With the Revised Universal Soil Loss Equation (RUSLE), pages 21–64, dated January 1997; United States Department of Agriculture (USDA), Agricultural Research Service.*

EPA has developed an online rainfall erosivity calculator to help small construction sites determine potential eligibility for the rainfall erosivity waiver. You can access the calculator from EPA's website at: https://www.epa.gov/npdes/rainfall-erosivity-factor-calculator-small-construction-sites. The R factor can easily be calculated by using the construction site latitude/longitude or address and estimated start and end dates of construction. This calculator may also be useful in determining the time periods during which construction activity could be waived from permit coverage. You may find that moving your construction activity by a few weeks or expediting site stabilization will allow you to qualify for the waiver. Use this online calculator or the Construction Rainfall Erosivity Waiver Fact Sheet (https://www.epa.gov/sites/production/files/2015-10/documents/fact3-1.pdf) to assist in determining the R Factor for your small construction site.

If you are the operator of the construction activity and eligible for a waiver based on low erosivity potential, you can submit a rainfall erosivity waiver electronically via EPA's NPDES eReporting Tool (NeT) (https://www.epa.gov/npdes/stormwater-discharges-construction-activities#ereporting), unless you received a waiver from your EPA Regional Office (see Part 1.4.1 of the CGP for information about receiving a waiver from electronic reporting).

Note: If the R factor is five or greater, you do not qualify for the rainfall erosivity waiver, and must obtain coverage under an NPDES permit (e.g., the CGP), unless you qualify for the Water Quality Waiver as described in section B below.

If your small construction project continues beyond the projected completion date given on the waiver certification, you must recalculate the rainfall erosivity factor for the new project duration. If the R factor is below five, you must update all applicable information on the waiver certification and retain a copy of the revised waiver as part of your records. The new waiver certification must be submitted prior to the projected completion date listed on the original waiver form to assure your exemption from permitting requirements is uninterrupted. If the new R factor is five or above, you must obtain NPDES permit coverage.

C.2 TMDL Waiver

This waiver is available if EPA has established or approved a TMDL that addresses the pollutant(s) of concern for the impaired water and has determined that controls on stormwater discharges from small construction activity are not needed to protect water quality. The pollutant(s) of concern include sediment (such as total suspended solids, turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any waterbody that will receive a discharge from the construction activity. Information on TMDLs that have been established or approved by EPA is available from EPA online at https://www.epa.gov/tmdl and from state and tribal water quality agencies.

If you are the operator of the construction activity and eligible for a waiver based on compliance with an EPA-established or approved TMDL, you must provide the following information in order to be waived from permitting requirements:

1. Name, address and telephone number of the construction site operator(s);
2. Name (or other identifier), address, county or similar governmental subdivision, and latitude/longitude of the construction project or site;
3. Estimated construction start and completion (i.e., final stabilization) dates, and total acreage (to the nearest quarter acre) to be disturbed;
4. The name of the waterbody(s) that would be receiving stormwater discharges from your construction project;
5. The name and approval date of the TMDL;
6. A statement, signed and dated by an authorized representative as provided in Appendix I, Subsection I.11, that certifies that the construction activity will take place and that the stormwater discharges will occur, within the drainage area addressed by the TMDL.

C.3 Equivalent Analysis Waiver

This waiver is available for discharges to non-impaired waters only. The operator can develop an equivalent analysis that determines allocations for his/her small construction site for the pollutant(s) of concern or determines that such allocations are not needed to protect water quality. This waiver requires a small construction operator to develop an equivalent analysis based on existing in-stream concentrations, expected growth in pollutant concentrations from all sources, and a margin of safety.

If you are a construction operator who wants to use this waiver, you must develop your equivalent analysis and provide the following information to be waived from permitting requirements:

1. Name, address and telephone number of the construction site operator(s);

2. Name (or other identifier), address, county or similar governmental subdivision, and latitude/longitude of the construction project or site;
3. Estimated construction start and completion (i.e., final stabilization) dates, and total acreage (to the nearest quarter acre) to be disturbed;
4. The name of the waterbody(s) that would be receiving stormwater discharges from your construction project;
5. Your equivalent analysis;
6. A statement, signed and dated by an authorized representative as provided in Appendix I, Subsection I.11, that certifies that the construction activity will take place and that the stormwater discharges will occur, within the drainage area addressed by the equivalent analysis.

C.4 Waiver Deadlines and Submissions

1. Waiver certifications must be submitted prior to commencement of construction activities.
2. If you submit a TMDL or equivalent analysis waiver request, you are not waived until EPA approves your request. As such, you may not commence construction activities until receipt of approval from EPA.
3. Late Notifications: Operators are not prohibited from submitting waiver certifications after initiating clearing, grading, excavation activities, or other construction activities. The Agency reserves the right to take enforcement for any unpermitted discharges that occur between the time construction commenced and waiver authorization is granted.

Submittal of a waiver certification is an optional alternative to obtaining permit coverage for discharges of stormwater associated with small construction activity, provided you qualify for the waiver. Any discharge of stormwater associated with small construction activity not covered by either a permit or a waiver may be considered an unpermitted discharge under the Clean Water Act. As mentioned above, EPA reserves the right to take enforcement for any unpermitted discharges that occur between the time construction commenced and either discharge authorization is granted or a complete and accurate waiver certification is submitted. EPA may notify any operator covered by a waiver that they must obtain NPDES permit coverage. EPA may notify any operator who has been in non-compliance with a waiver that they may no longer use the waiver for future projects. Any member of the public may petition EPA to take action under this provision by submitting written notice along with supporting justification.

Complete and accurate TMDL or equivalent analysis waiver requests must be sent to the applicable EPA Regional Office address specified in Appendix B.

Appendix D - Eligibility Procedures Relating to Threatened and Endangered Species Protection

In accordance with Part 1.1.5 of the CGP, you must follow the procedures in this appendix to determine your eligibility under one of the criteria in Part D.1 of this appendix with respect to the protection of federally listed threatened or endangered species and federally designated "critical habitat" [hereinafter "threatened and endangered species"] under the Endangered Species Act (ESA) from discharges and discharge-related activities authorized under this permit. If you do not meet one of these criteria, you are not eligible for coverage under this permit.

While coordination between you and the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) (together, the "Services") is not necessarily required in all cases, EPA encourages you to coordinate with the Services, to document that coordination, and to do so early in the planning process prior to submitting your NOI.

This appendix is organized as follows:

- **Part D.1:** Threatened and Endangered Species Protection Eligibility Criteria
- **Part D.2:** Procedures for Determining Which Threatened and Endangered Species Protection Criteria Applies

D.1 Threatened and Endangered Species Protection Eligibility Criteria

You must certify in your NOI that you meet one of the eligibility criteria listed below in order to be eligible for coverage under this permit. Once you determine the applicable eligibility criterion, you must:

- Specify the basis for your selection of the applicable eligibility criterion, and if required, provide documentation that is the basis for your determination with the NOI form; and
- Provide documentation in your SWPPP that is sufficient to support your determination that you satisfy the requirements of the applicable criterion.

The definition of "action area," which is contained in Appendix A, is repeated below for convenience.

"Action Area" – all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action. For the purposes of this permit and for application of the Endangered Species Act requirements, the following areas are included in the definition of action area:

- The areas on the construction site where stormwater discharges originate and flow toward the point of discharge into the receiving waters (including areas where excavation, site development, or other ground disturbance activities occur) and the immediate vicinity. (Example: Where bald eagles nest in a tree that is on or bordering a construction site and could be disturbed by the construction activity or where grading causes stormwater to flow into a small wetland or other habitat that is on the site that contains listed species.)
- The areas where stormwater discharges flow from the construction site to the point of discharge into receiving waters. (Example: Where stormwater flows into a ditch, swale, or gully that leads to receiving waters and where listed species (such as listed amphibians) are found in the ditch, swale, or gully.)
- The areas where stormwater from construction activities discharge into receiving waters and the areas in the immediate vicinity of the point of discharge. (Example: Where stormwater from construction activities discharges into a stream segment that is known to harbor listed aquatic species.)
- The areas where stormwater controls will be constructed and operated, including any areas where stormwater flows to and from the stormwater controls. (Example: Where a stormwater retention pond would be built.)
- The areas upstream and/or downstream from the stormwater discharge into a stream segment that may be affected by these discharges. (Example: Where sediment discharged to a receiving stream settles downstream and impacts a breeding area of a listed aquatic species.)

Criterion A. No ESA-listed species and/or designated critical habitat present in action area. Using the process outlined in Appendix D of this permit, you certify that ESA-listed species and designated critical habitat(s) under the jurisdiction of the USFWS or NMFS are not likely to occur in your site's "action area" as defined in Appendix A of this permit.

Basis statement content: A basis statement supporting the selection of this criterion should identify the USFWS and NMFS information sources used. Attaching aerial image(s) of the site to this NOI is helpful to EPA, USFWS, and NMFS in confirming eligibility under this criterion. Please Note: NMFS' jurisdiction includes ESA-listed marine and estuarine species that spawn in inland rivers.

Criterion B. Eligibility requirements met by another operator under the 2017 CGP. The construction site's discharges and discharge-related activities were already addressed in another operator's valid certification of eligibility for your "action area" under eligibility Criterion A, C, D, E, or F of the 2017 CGP and you have confirmed that no additional ESA-listed species and/or designated critical habitat under the jurisdiction of USFWS and/or NMFS not considered in the that certification may be present or located in the "action area." To certify your eligibility under this criterion, there must be no lapse of NPDES permit coverage in the other CGP operator's certification. By certifying eligibility under this criterion, you agree to comply with any conditions upon which the other CGP operator's certification was based. You must include in your NOI the NPDES ID from the other 2017CGP operator's notification of authorization under this permit. If your certification is based on another 2017 CGP operator's certification under criterion C, you must provide EPA with the relevant supporting information required of existing dischargers in criterion C in your NOI form.

Basis statement content: A basis statement supporting the selection of this criterion should identify the eligibility criterion of the other CGP NOI, the authorization date, and confirmation that the authorization is effective.

Criterion C. Discharges not likely to adversely affect ESA-listed species and/or designated critical habitat. ESA-listed species and/or designated critical habitat(s) under the jurisdiction of the USFWS and/or NMFS are likely to occur in or near your site's "action area," and you certify to EPA that your site's discharges and discharge-related activities are not likely to adversely affect ESA-listed threatened or endangered species and/or designated critical habitat. This certification may include consideration of any stormwater controls and/or management practices you will adopt to ensure that your discharges and discharge-related activities are not likely to adversely affect ESA-listed species and/or designated critical habitat. To certify your eligibility under this criterion, indicate 1) the ESA-listed species and/or designated habitat located in your "action area" using the process outlined in Appendix D of this permit; 2) the distance between the site and the listed species and/or designated critical habitat in the action area (in miles); and 3) a rationale describing specifically how adverse effects to ESA-listed species will be avoided from the discharges and discharge-related activities. You must also include a copy of your site map from your SWPPP showing the upland and in-water extent of your "action area" with this NOI.

Basis statement content: A basis statement supporting the selection of this criterion should identify the information resources and expertise (e.g., state or federal biologists) used to arrive at this conclusion. Any supporting documentation should explicitly state that both ESA-listed species and designated critical habitat under the jurisdiction of the USFWS and/or NMFS were considered in the evaluation.

Criterion D. Coordination with USFWS and/or NMFS has successfully concluded. Coordination between you and the USFWS and/or NMFS has concluded. The coordination must have addressed the effects of your site's discharges and discharge-related activities on ESA-listed species and/or designated critical habitat under the jurisdiction of USFWS and/or NMFS, and resulted in a written concurrence from USFWS and/or NMFS that your site's discharges and discharge-related activities are not likely to adversely affect listed species and/or critical habitat. You must include copies of the correspondence with the participating agencies in your SWPPP and this NOI.

Basis statement content: A basis statement supporting the selection of this criterion should identify whether USFWS or NMFS or both agencies participated in coordination, the field office/regional office(s) providing that coordination, and the date that coordination concluded.

Criterion E. ESA Section 7 consultation has successfully concluded. Consultation between a Federal Agency and the USFWS and/or NMFS under section 7 of the ESA has concluded. The consultation must have addressed the effects of the construction site's discharges and discharge-related activities on ESA-listed species and/or designated critical habitat under the jurisdiction of USFWS and/or NMFS. To certify eligibility under this criterion, indicate the result of the consultation:

I. biological opinion from USFWS and/or NMFS that concludes that the action in question (taking into account the effects of your site's discharges and discharge-related activities) is not likely to jeopardize the continued existence of listed species, nor the destruction or adverse modification of critical habitat; or

II. written concurrence from USFWS and/or NMFS with a finding that the site's discharges and discharge-related activities are not likely to adversely affect ESA-listed species and/or designated critical habitat.

You must include copies of the correspondence between yourself and the USFWS and/or NMFS in your SWPPP and this NOI.

Basis statement content: A basis statement supporting the selection of this criterion should identify the federal action agencie(s) involved, the field office/regional office(s) providing that consultation, any tracking numbers of identifiers associated with that consultation (e.g., IPaC number, PCTS number), and the date the consultation was completed.

Criterion F. Issuance of section 10 permit. Potential take is authorized through the issuance of a permit under section 10 of the ESA by the USFWS and/or NMFS, and this authorization addresses the effects of the site's discharges and discharge-related activities on ESA-listed species and designated critical habitat. You must include copies of the correspondence between yourself and the participating agencies in your SWPPP and your NOI.

Basis statement content: A basis statement supporting the selection of this criterion should identify whether USFWS or NMFS or both agencies provided a section 10 permit, the field office/regional office(s) providing permit(s), any tracking numbers of identifiers associated with that consultation (e.g., IPaC number, PCTS number), and the date the permit was granted.

You must comply with any applicable terms, conditions, or other requirements developed in the process of meeting the eligibility criteria in this section to remain eligible for coverage under this permit. Documentation of these requirements must be kept as part of your SWPPP (see Part 7.2.9.a).

NMFS will, within 14 days of submission of the NOI, advise EPA whether it believes the planned discharges meet the eligibility criteria of not likely to adversely affect NMFS Listed Resources of Concern, whether the eligibility criterion could be met with additional conditions; or whether the eligibility criterion is not met. With respects to ESA issues, EPA recognizes NMFS expertise and will carefully consider NMFS' determination in identifying eligibility for authorization, either with or without additional conditions. In the event NMFS has placed a hold on your NOI, EPA will notify you as to whether your discharges are authorized or whether an individual permit will be

required. If you do not hear from EPA within 14 days, you may assume that your discharge is authorized without further conditions.

D.2 Procedures for Determining Which Threatened and Endangered Species Protection Criterion Applies

You must follow the procedures in this Part to determine the criterion listed above under which your site is eligible for permit coverage.

D.2.1 Step 1 - Determine if Your Discharges and Discharge-Related Activities Were Already Addressed in Another Operator's Valid Certification that Included Your Action Area.

- **If your discharges and discharge-related activities <u>were</u> already addressed in another operator's valid certification that included your action area** (e.g., a general contractor or developer may have completed and filed an NOI for the entire action area with the necessary ESA certifications (Criterion A, C, D, E, or F)), *you may select eligibility Criterion B on your NOI form.*

  By certifying eligibility under Criterion B, you must comply with any terms and conditions imposed under the eligibility requirements of the criterion for which the other operator has established eligibility (either Criterion A, C, D, E, or F) to ensure that your discharges and discharge-related activities are protective of listed species and/or critical habitat.

  > *Note: If you are unable to meet these eligibility requirements, then you may either establish eligibility under one of the other criterion, or you may consider applying to EPA for an individual permit.*

  Under Criterion B, you must provide documentation in your SWPPP of any of these terms and conditions, as well as the other operator's basis for establishing eligibility. You must also provide a description of the basis for your selection of Criterion B on your NOI form, including the eligibility criterion (A, C, D, E, or F) that was certified to by the other operator, and must provide the NPDES ID from the other operator's notification of authorization under this permit.

  If your certification is based on another operator's certification under criterion C, you must provide the documentation required in the NOI for criterion C, namely: 1) what federally listed species and/or designated habitat are located in your "action area"; and 2) the distance between your site and the listed species or designated critical habitat (in miles).

- **If discharges and discharge-related activities from your site <u>were not</u> addressed in another operator's valid certification that included your action area,** you must follow the applicable procedures in Steps 2 through 5 below.

D.2.2 Step 2 - Determine if Listed Threatened or Endangered Species or their Designated Critical Habitat(s) are Likely to Occur in your Site's Action Area

You must determine, to the best of your knowledge, whether species listed as either threatened or endangered, or their critical habitat(s) (see definitions of these terms in Appendix A), are located in your site's action area. To make this determination, you should first determine if listed species and/or critical habitat are expected to exist in your county or township. The U.S. Fish and Wildlife Service and National Marine Fisheries Service maintain lists of federally listed endangered or threatened species on their internet sites.

- For National Marine Fisheries Service species and critical habitat information, use the following webpages, which provide up-to-date information on listed species (http://www.nmfs.noaa.gov/pr/species/esa/) and critical habitat

(http://www.nmfs.noaa.gov/pr/species/criticalhabitat.htm). To determine the field office that corresponds to your site, go to http://www.nmfs.noaa.gov/ (under the left tab for "Regions").

For National Marine Fisheries Service species in the Greater Atlantic Region, go to http://www.greateratlantic.fisheries.noaa.gov/protected/section7/guidence/maps/index.html.

- For Fish and Wildlife Service species information, use the on-line mapping tool IPaC (the Information, Planning, and Consultation System) located at http://ecos.fws.gov/ipac/, and follow these steps:
  - Select Get Started
  - Select Enter Project Location
  - Use an address, city name or other location to zoom into your project area
  - Use the zoom feature to see the entire extent of your action area on the screen
  - Use one of the mapping features (e.g., Polygon or line feature) to draw your action
- When you are done, press *Continue*.
- Select Request an Official Species List
- Complete the fields on the Official Species List Request page, and include "(CGP)" at the end of the project description. – For Classification, select "Water Quality Modification".
- Select the appropriate requesting agency/organization type (for most dischargers, this should be "Other").
- Submit the request to acquire an Official Species List, which should show both listed species as well as any designated critical habitat that are present in the action area in the previous step.
- *Note: If a link to an Official Species List is not available on the page, follow the web link of the office(s) indicated, or contact the office directly by mail or phone if a web link is not shown.*
- ***If listed species and/or critical habitat may exist in your action area, you must do one or more of the following:***
  - Conduct visual inspections. This method may be particularly suitable for construction sites that are smaller in size or located in non-natural settings such as highly urbanized areas or industrial parks where there is little or no natural habitat, or for construction activities that discharge directly into municipal stormwater collection systems.
  - Conduct a formal biological survey. In some cases, particularly for larger construction sites with extensive stormwater discharges, biological surveys may be an appropriate way to assess whether species are located in the action area and whether there are likely to be adverse effects to such species. Biological surveys are frequently performed by environmental consulting firms.
  - If required, conduct an environmental assessment under the National Environmental Policy Act (NEPA). Some construction activities might require review under NEPA for specific reasons, such as federal funding or other federal involvement in the project. Note: Coverage under the CGP does not

trigger such a review for individual projects/sites. EPA has complied with NEPA in the issuance of the CGP.

and

- Follow the instructions in Steps 3 – 5 below, as applicable. Note that many but not all measures imposed to protect listed species under these steps will also protect critical habitat. Thus, meeting the eligibility requirements of this CGP may require measures to protect critical habitat that are separate from those to protect listed species.

- ***If there are no listed species and no critical habitat areas in your action area,*** *you may check eligibility criterion A on your NOI form*. You must also provide a description of the basis for the criterion selected on your NOI form and provide documentation supporting the criterion selected in your SWPPP.

D.2.3 **Step 3 -** Determine if the Construction Activity's Discharges or Discharge-Related Activities Are Likely to Adversely Affect Listed Threatened or Endangered Species or Designated Critical Habitat

If in Step 2 you determine that listed species and/or critical habitat could exist in your action area, you must next assess whether your discharges or discharge-related activities are likely to adversely affect listed threatened or endangered species or designated critical habitat.

Potential adverse effects from discharges and discharge-related activities include:

- *Hydrological*. Stormwater discharges may cause siltation, sedimentation, or induce other changes in receiving waters such as temperature, salinity, or pH. These effects will vary with the amount of stormwater discharged and the volume and condition of the receiving water. Where a stormwater discharge constitutes a minute portion of the total volume of the receiving water, adverse hydrological effects are less likely. Construction activity itself may also alter drainage patterns on a site where construction occurs that can impact listed species or critical habitat.

- *Habitat*. Excavation, site development, grading, and other surface disturbance activities from construction activities, including the installation or placement of stormwater controls, may adversely affect listed species or their habitat. Stormwater may drain or inundate listed species habitat.

- *Toxicity*. In some cases, pollutants in stormwater may have toxic effects on listed species.

The scope of effects to consider will vary with each site. If you are having difficulty determining whether your project is likely to adversely affect listed species or critical habitat, or one of the Services has already raised concerns to you, you should contact the appropriate Services office for assistance.

- ***If adverse effects to listed threatened or endangered species or their critical habitat are not likely****, then you may select eligibility criterion C on the NOI form*. You must provide the following specific information on your NOI form: 1) the federally listed species and/or designated habitat are located in your "action area"; and 2) the distance between your site and the listed species or designated critical habitat (in miles). You must also provide a copy of your site map with your NOI.

- ***If adverse effects to listed threatened or endangered species or their critical habitat are likely,*** you must follow Step 4 below.

D.2.4 **Step 4 -** Determine if Measures Can Be Implemented to Avoid Adverse Effects

If you make a preliminary determination in Step 3 that adverse effects from your construction activity's discharges or discharge-related activities are likely to occur, you can still receive coverage under eligibility criterion C of the CGP if appropriate measures are undertaken to avoid or eliminate the likelihood of adverse effects prior to applying for CGP coverage.

These measures may involve relatively simple changes to construction activities such as re-routing a stormwater discharge to bypass an area where species are located, relocating stormwater controls, or by modifying the "footprint" of the construction activity. If you are unable to ascertain which measures to implement to avoid the likelihood of adverse effects, you must coordinate or enter into consultation with the Fish and Wildlife Service and/or National Marine Fisheries Service, in which case you would not be eligible for coverage under eligibility criterion C, but may instead be eligible for coverage under eligibility criterion D, E, or F (described in more detail in Step 5).

- **If you are able to install and implement appropriate measures to avoid the likelihood of adverse effects,** *then you may check eligibility criterion C on the NOI form.* The measures you adopt to avoid or eliminate adverse effects must be implemented for the duration of the construction project and your coverage under the CGP. You must also provide a description of the basis for the criterion selected, and the following specific information on your NOI form: 1) the federally listed species and/or designated habitat are located in your "action area"; and 2) the distance between your site and the listed species or designated critical habitat (in miles).
- **If you cannot ascertain which measures to implement to avoid the likelihood of adverse effects,** you must follow the procedures in Step 5.

D.2.5 Step 5 - Determine if the Eligibility Requirements of Criterion D, E, or F Can Be Met

If in Step 4 you cannot ascertain which measures to implement to avoid the likelihood of adverse effects, you must contact the Fish and Wildlife Service and/or the National Marine Fisheries Service. You may still be eligible for CGP coverage if likely adverse effects can be addressed through meeting criterion D, E, or F.

- **Criterion D:** Coordination between you and the Services has concluded. The coordination must have addressed the effects of your site's discharges and discharge-related activities on federally-listed threatened or endangered species and federally-designated critical habitat, and resulted in a written concurrence from the relevant Service(s) that your site's discharges and discharge-related activities are not likely to adversely affect listed species or critical habitat.

  If you have met the requirements of criterion D, *you may select eligibility criterion D on the NOI form.* You must provide a description of the basis for the criterion selected on your NOI form and must include copies of the correspondence between you and the applicable Service in your SWPPP.

- **Criterion E:** Consultation between a Federal Agency and the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service under section 7 of the ESA has concluded. The consultation must have addressed the effects of the construction site's discharges and discharge-related activities on federally-listed threatened or endangered species and federally-designated critical habitat. The result of this consultation must be either (1) a biological opinion that concludes that the action in question (taking into account the effects of your site's discharges and discharge-related activities) is not likely to jeopardize the continued existence of listed species, nor the destruction or adverse modification of critical habitat; or (2) written concurrence from the applicable Service(s) with a

finding that the site's discharges and discharge-related activities are not likely to adversely affect federally-listed species or federally-designated habitat.

For more information on section 7 consultation, see 50 CFR §402. If you receive a "jeopardy opinion," you may continue to work with the Fish and Wildlife Service and/or National Marine Fisheries Service and your permitting authority to modify your project so that it will not jeopardize listed species or designated critical habitat.

Note that most consultations are accomplished through informal consultation. When conducting informal ESA section 7 consultation as a non-federal representative, you must follow the procedures found in 50 CFR Part 402 of the ESA regulations. You must notify the Services of your intention and agreement to conduct consultation as a non-federal representative.

Consultation may also occur in the context of another federal action at the construction site (e.g., where ESA section 7 consultation was performed for issuance of a wetlands dredge and fill permit for the project or where a NEPA review is performed for the project that incorporates a section 7 consultation).

Any terms and conditions developed through consultations to protect listed species and critical habitat must be incorporated into the SWPPP. As noted above, operators may, if they wish, initiate consultation with the Services at Step Four.

Whether ESA section 7 consultation must be performed with either the Fish and Wildlife Service, National Marine Fisheries Service, or both Services depends on the listed species that may be affected by the operator's activity. In general, the National Marine Fisheries Service has jurisdiction over marine, estuarine, and anadromous species. Operators should also be aware that while formal section 7 consultation provides protection from incidental takings liability, informal consultation does not.

If you have met the requirements of criterion E, *you may select eligibility criterion E on the NOI form.* You must provide a description of the basis for the criterion selected on your NOI form and must include copies of the correspondence between yourself and the Services in your SWPPP.

- **Criterion F:** Your construction activities are authorized through the issuance of a permit under section 10 of the ESA, and this authorization addresses the effects of the site's discharges and discharge-related activities on federally-listed species and federally-designated critical habitat.

  You must follow Fish and Wildlife Serivce and/or National Marine Fisheries Service procedures when applying for an ESA section 10 permit (see 50 CFR §17.22(b)(1) for Fish and Wildlife Service and §222.22 for National Marine Fisheries Service). Application instructions for section 10 permits can be obtained from http://www.fws.gov and http://www.nmfs.noaa.gov or by contacting the appropriate Service office.

  If you have met the requirements of criterion F, *you may select eligibility criterion F on the NOI form.* You must provide a description of the basis for the criterion selected on your NOI form and must include copies of the correspondence between yourself and the Services in your SWPPP.

Appendix E – Historic Property Screening Process

Background

Section 106 of the National Historic Preservation Act (NHPA) requires Federal agencies to take into account the effects of Federal "undertakings", such as the issuance of this permit, on historic properties that are either listed on, or eligible for listing on, the National Register of Historic Places. To address any issues relating to historic properties in connection with the issuance of this permit, EPA developed the screening process in this appendix that enables construction operators to appropriately consider the potential impacts, if any, of their installation of stormwater controls on historic properties and to determine whether actions can be taken, if applicable, to mitigate any such impacts. Although the coverages of individual construction sites under this permit do not constitute separate Federal undertakings, the screening process in this appendix provides an appropriate site-specific means of addressing historic property issues in connection with EPA's issuance of the permit.

Key Terms

Historic property- prehistoric or historic districts, sites, buildings, structures, or objects that are included in or eligible for inclusion in the National Register of Historic Places, including artifacts, records, and remains that are related to and located within such properties

SHPO – The State Historic Preservation Officer for a particular state

THPO or Tribal representative – The Tribal Historic Preservation Officer for a particular tribe or, if there is no THPO, the representative designated by such tribe for NHPA purposes

Instructions for All Construction Operators

You are required to follow the screening process in this appendix to determine if your installation of stormwater controls on your site has the potential to cause effects to historic properties, and whether or not you need to contact your SHPO, THPO, or other tribal representative for further information. **You may not submit your NOI until you have completed this screening process.** The following four steps describe how applicants can meet the historic property requirements under this permit:

Step 1 *Are you installing any stormwater controls that require subsurface earth disturbance?*[1]

The first step of the screening process is to determine if you will install stormwater controls that cause subsurface earth disturbance. The installation of the following types of stormwater controls require subsurface earth disturbance:[2]

- Dikes
- Berms
- Catch Basins
- Ponds
- Ditches
- Trenches
- Culverts
- Channels

[1] You are only required to consider earth-disturbing activities related to the installation of stormwater controls in the NHPA screening process. You are not reqired to consider other earth-disturbing activities at the site. If you are installing one of the above stormwater controls or another type of control that requires subsurface earth disturbance, your stormwater controls have the potential to have an effect on historic properties. If this is the case, then you must proceed to Step 2.

[2] This list is not intended to be exhaustive. Other stormwater controls that are not on this list may involve earth-disturbing activities and must also be examined for the potential to affect historic properties.

- Perimeter Drains
- Swales

If you are not installing one of the above stormwater controls or another type of control that requires subsurface earth disturbance, then you may indicate this on your NOI, and no further screening is necessary. During the 14-day waiting period after submitting your NOI, the SHPO, THPO, or other tribal representative may request that EPA hold up authorization based on concerns about potential adverse effects to historic properties. EPA will evaluate any such request and notify you if any additional controls to address adverse effects to historic properties are necessary.

Step 2 *Have prior professional cultural resource surveys or other evaluations determined that historic properties do not exist, or have prior disturbances precluded the existence of historic properties?*

If you are installing a stormwater control that requires subsurface earth disturbance, you must next determine if no historic properties exist on your site based on prior professional cultural resource surveys or other evaluations, or if the existence of historic properties has been precluded because of prior earth disturbances.

If prior to your project it has already been determined that no historic properties exist at your site based on available information, including information that may be provided by your applicable SHPO, THPO, or other tribal representative, then you may indicate this on your NOI, and no further screening steps are necessary. Similarly, if prior earth disturbances have eliminated the possibility that historic properties exist on your site, you may indicate this on your NOI, and no further screening steps are necessary. After submitting your NOI, and during the 14-day waiting period, the SHPO, THPO, or other tribal representative may request that EPA hold up authorization based on concerns about potential adverse effects to historic properties. EPA will evaluate any such request and notify you if any additional measures to address adverse effects to historic properties are necessary.

If neither of these circumstances exists for your project, you must proceed to Step 3.

Step 3 *If you are installing any stormwater controls that require subsurface earth disturbance, you must determine if these activities will have an effect on historic properties.*

If your answer to the question in Step 2 is "no", then you must assess whether your earth-disturbing activities related to the installation of stormwater controls will have an effect on historic properties. This assessment may be based on historical sources, knowledge of the area, an assessment of the types of earth-disturbing activities you are engaging in, considerations of any controls and/or management practices you will adopt to ensure that your stormwater control-related earth-disturbing activities will not have an effect on historic properties, and any other relevant factors. If you determine based on this assessment that earth disturbances related to the installation of your stormwater controls will have no effect on historic properties, you may indicate this on your NOI, and document the basis for your determination in your SWPPP, and no further screening steps are necessary. After submitting your NOI, and during the 14-day waiting period, the SHPO, THPO, or other tribal representative may request that EPA hold up authorization based on concerns about potential adverse effects to historic properties. EPA will evaluate any such request and notify you if any additional measures to address adverse effects to historic properties are necessary.

If none of the circumstances in Steps 1 - 3 exist for your project, you must proceed to Step 4.

Step 4: *If you are installing any stormwater controls that require subsurface earth disturbance and you have not satisfied the conditions in Steps 1 - 3, you must contact and consult with the appropriate historic preservation authorities.*

Where you are installing stormwater controls that require subsurface earth disturbance, and you cannot determine in Step 3 that these activities will have no effect on historic properties, then you must contact the relevant SHPO, THPO, or other tribal representative to request their views as to the likelihood that historic properties are potentially present on your site and may be impacted by the installation of these controls.

> *Note: Addresses for SHPOs and THPOs may be found on the Advisory Council on Historic Preservation's website (www.achp.gov/programs.html). If a tribe does not have a THPO, you should contact the appropriate tribal government office designated by the tribe for this purpose.*

You must submit the following minimum information in order to properly initiate your request for information:

1. Project name (*i.e.*, the name or title most commonly associated with your project);
2. A narrative description of the project;
3. Name, address, phone and fax number, and email address (if available) of the operator;
4. Most recent U.S. Geological Survey (USGS) map section (7.5 minute quadrangle) showing actual project location and boundaries clearly indicated; and
5. Sections of the SWPPP site map (see Part 7.2.4) that show locations where stormwater controls that will cause subsurface earth disturbance will be installed (see Step 1).

Without submitting this minimum information, you will not have been considered to have properly initiated your request. You will need to provide the SHPO, THPO, or other tribal representative **a minimum of 15 calendar days** after they receive these materials to respond to your request for information about your project.

If you do not receive a response within 15 calendar days after receipt by the SHPO, THPO, or other tribal representative of your request, then you may indicate this on your NOI, and no further screening steps are necessary. Or, if the applicable SHPO, THPO, or other tribal representative responds to your request with an indication that no historic properties will be affected by the installation of stormwater controls at your site, then you may indicate this on your NOI, and no further screening steps are necessary. After submitting your NOI, and during the 14-day waiting period, the SHPO, THPO, or other tribal representative may request that EPA hold up authorization based on concerns about potential adverse effects to historic properties. EPA will evaluate any such request and notify you if any additional measures to address adverse effects to historic properties are necessary.

If within 15 calendar days of receipt of your request the applicable SHPO, THPO, or other tribal representative responds with a request for additional information or for further consultation regarding appropriate measures for treatment or mitigation of effects on historic properties caused by the installation of stormwater controls on your site, you must comply with this request and proceed to Step 5.

Step 5: *Consultation with your applicable SHPO, THPO, or other tribal representative.*

If, following your discussions with the appropriate historic preservation authorities in Step 4, the applicable SHPO, THPO, or tribal represenative requests additional information or further consultation, you must respond with such information or consult to determine impacts to historic properties that may be caused by the installation of stormwater controls on your site and appropriate measures for treatment or mitigation of such impacts. If as a result of your discussions with the applicable SHPO, THPO, or tribal representative, you enter into, and comply with, a written agreement regarding treatment and/or mitigation of impacts on your site, then you may indicate this on your NOI, and no further screening steps are necessary.

If, however, agreement on an appropriate treatment or mitigation plan cannot be reached between you and the SHPO, THPO, or other tribal representative within 30 days of your response to the SHPO, THPO, or other tribal representative's request for additional information or further consultation, you may submit your NOI, but you must indicate that you have not negotiated measures to avoid or mitigate such effects. You must also include in your SWPPP the following documentation:

1. Copies of any written correspondence between you and the SHPO, THPO, or other tribal representative; and
2. A description of any significant remaining disagreements as to mitigation measures between you and the SHPO, THPO, or other tribal representative.

After submitting your NOI, and during the 14-day waiting period, the SHPO, THPO, ACHP or other tribal representative may request that EPA place a hold on authorization based upon concerns regarding potential adverse effects to historic properties. EPA, in coordination with the ACHP, will evaluate any such request and notify you if any additional measures to address adverse effects to historic properties are necessary.

Appendix F - List of Tier 3, Tier 2, and Tier 2.5 Waters

EPA's CGP has special requirements for discharges to waters that receive Tier 2, Tier 2.5, or Tier 3 protections for antidegradation purposes. See Parts 1.1.8 and 3.2.

EPA's antidegradation regulation, at 40 CFR 131.12, provides a framework for maintaining and protecting water quality for: (1) existing uses (known as "Tier 1"); (2) high quality waters by establishing a process for authorizing the lowering of water quality where existing water quality exceeds levels needed to support propagation of fish, shellfish, and wildlife and recreation in and on the water (known as "Tier 2"); and (3) for Outstanding National Resource Waters (known as "Tier 3"). While EPA's antidegradation regulation only outlines three levels of antidegradation protection, some states and tribes include an additional level of antidegradation protection between Tier 2 and Tier 3 (sometimes known as "Tier 2.5").

High quality (Tier 2) waters may be identified on a parameter-by-parameter basis or on a water body-by-water body basis consistent with the requirements of 40 CFR 131.12(a)(2). States and tribes using a parameter-by-parameter basis (sometimes called a "pollutant-by-pollutant approach") do not maintain a list of Tier 2 waters, but instead identify a high quality water at the time an entity proposes an activity that would lower water quality. In contrast, states and tribes using a water body-by-water body basis typically identify high quality waters in advance on a list by weighing a variety of factors (*e.g.*, chemical, physical, biological, and other information) to classify a water body's overall quality.

The list below is provided as a resource for operators who must determine whether they discharge to a Tier 2, Tier 2.5, or Tier 3 water. Where available, the table lists waters specifically identified for Tier 2, Tier 2.5, or Tier 3 protection by a water quality standard authority (*e.g.*, a state or tribe). Operators should not assume that a water does not receive Tier 2, Tier 2.5, or Tier 3 protection solely based on the absence of information in this table. Evaluation regarding antidegradation protections for a specific water may need to be done on a case-by-case basis, especially where the state or tribe uses the parameter-by-parameter approach to identify whether water quality is better than necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water.

Permit Number	Areas of Coverage/Where EPA Is Permitting Authority
MAR100000	**Commonwealth of Massachusetts, except Indian Country lands**
	Tier 2, Tier 2.5, and 3 waters are identified and listed in the Massachusetts Water Quality Standards 314 CMR 4.00. Surface water qualifiers that correspond with Tier classifications are defined at 314 CMR 4.06(1)(d)m and listed in tables and figures at the end of 314 CMR 4.06. See MassDEP's web page at: http://www.mass.gov/eea/agencies/massdep/water/regulations/314-cmr-4-00-mass-surface-water-quality-standards.html. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-massachusetts

Permit Number	Areas of Coverage/Where EPA Is Permitting Authority	
	Tier 2	Listed as "High Quality Waters", and all wetlands that are not designated as an Outstanding Resource Water.
	Tier 2.5	Listed as "Outstanding Resource Water", "Public Water Supply", "Tributary to Public Water Supply", all wetlands bordering Outstanding Resource Waters, and vernal pools.
	Tier 3	Defined as "Special Resource Water". Note: No waters have been identified as a Special Resource Water as of the issuance of this permit.
NHR100000	**State of New Hampshire**	
	Tier 2 waters are identified on a parameter-by-parameter basis. Tier 2.5 and 3 waters are identified and listed in the New Hampshire Water Quality Standards CHAPTER Env-Wq 1700. Description of the antidegradation tiers are included at CHAPTER Env-Wq 1708 and listed in the tables at. New dischargers and new sources should contact EPA Region 1's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-new-hampshire	
	Tier 3	Env-Ws 1708.05(a) Surface waters of national forests and surface waters designated as "natural" under RSA 483:7-a, I shall be considered outstanding resource waters (ORW). "Natural waters" are listed at http://www.gencourt.state.nh.us/rsa/html/L/483/483-15.htm. Surface waters of national forests are not included in an official list. For further questions, new dischargers and new sources should contact EPA Region 1's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional.
NYR10I000	**Saint Regis Mohawk Tribe (NY)**	
	Tier 2 waters are identified on a parameter-by-parameter basis. There is not a Tier 2.5 classification identified in the Saint Regis Mohawk Tribe Water Quality Standards. New dischargers and new sources should contact EPA Region 2's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See: https://www.epa.gov/sites/production/files/2014-12/documents/stregis-tribe.pdf	
	Tier 3	Outstanding Resource Waters. Those waters designated as such by the Tribe. The Waters that may be considered for designation as Outstanding Resource Waters include, but are not limited to, water bodies that are recognized as: (i) Important because of protection through official action, such as Tribal, Federal or State law, Presidential or secretarial action, international treaty, or interstate compact; (ii) Having exceptional recreational significance; (iii) Having exceptional ecological significance; (iv) Having other special environmental, recreational, religious or ecological attributes; or waters whose designation as Outstanding Resource Waters is reasonably necessary for the protection of other waters so designated. New dischargers and new sources should contact EPA Region 2's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional.

Permit Number	Areas of Coverage/Where EPA Is Permitting Authority	
PRR100000	**Commonwealth of Puerto Rico**	
	Tier 2 waters are identified on a parameter-by-parameter basis. There is not a Tier 2.5 classification identified in the Puerto Rico Water Quality Standards. New dischargers and new sources should contact EPA Region 2's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-puerto-rico	
	Tier 3	Tier III waters are those which are classified as either Class SA or Class SE. Class SA waters are defined as "Coastal waters and estuarine waters of high quality and/or exceptional ecological or recreational value whose existing characteristics shall not be altered, except by natural causes, in order to preserve the existing natural phenomena." Class SA waters include bioluminiscent lagoons and bays such as La Parguera and Monsio José on the Southern Coast, Bahía de Mosquito in Vieques, and any other coastal or estuarine waters of exceptional quality of high ecological value or recreational which may be designated by Puerto Rico, through Resolution, as requiring this classification for protection of the waters. Class SE waters are defined as "Surface waters and wetlands of exceptional ecological value, whose existing characteristics should not be altered in order to preserve the existing natural phenomena." Class SE waters include Laguna Tortuguero, Laguna Cartagena and any other surface water bodies of exceptional ecological value as may be designated by Puerto Rico through Resolution.
DCR100000	**District of Columbia**	
	New dischargers and new sources should contact EPA Region 3's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. Tier 2.5 waters are identified and listed in the District of Columbia Water Quality Standards. See: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-washington-dc	
	Tier 2.5	Rule 1102.4 SPECIAL WATERS OF THE DISTRICT OF COLUMBIA (SWDC): Any segment or segments of the surface waters of the District that are of water quality better than needed for the current use or have scenic or aesthetic importance shall be designated as Special Waters of the District of Columbia (SWDC). Rock Creek and its tributaries and Battery Kemble Creek and its tributaries are considered Special Waters of the District of Columbia (SWDC) under its antidegradation program.
FLR101000	**Miccosukee Tribe (FL)**	
	New dischargers and new sources should contact EPA Region 4's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. The Miccosukee Tribe Water Quality Standards includes an additional tier of protection between Tier 2 and 3 that is referred as Tier 2 ¾ for Outstanding Miccosukee Waters. See: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-miccosukee-tribe-indians-florida	

Permit Number	Areas of Coverage/Where EPA Is Permitting Authority	
	Tier 2 ¾	Outstanding Miccosukee Waters (OMW): The Miccosukee Tribe recognizes that the waters of its Federal Reservation which are contained within Water Conservation Area 3-A and the Miccosukee Reserved Area constitute the Tribe's highest quality waters and must be preserved in as pristine a condition as possible while at the same time allowing for the activities of man. These ecologically important waters are essential to the survival of the Miccosukee Tribe, therefore: The Miccosukee Tribe hereby designates the waters of its Federal Reservation which are contained within Water Conservation Area 3-A (North Grass, South Grass, Gap) and Miccosukee Reserved Area as Class III-A and Outstanding Miccosukee waters (OMW). The North Grass is defined as that area bounded by the northern boundary of the reservation, the eastern edge of the L-28 levee (which is east of the L-28 canal), the southern edge of the C-60 Canal, and the eastern boundary of the reservation. The South Grass is defined as the area bounded by southern edge of the C-60 canal, the eastern boundary of the reservation, the southern boundary of the reservation, the eastern edge of the L-28 canal (which is south of the L-28 Tieback Canal), a line running north from the L-28 Canal (where the L-28 Canal turns northwest to become the L-28 Tieback Canal) until this line intersects the oil pipeline, the center of the oil pipeline until the oil pipeline intercepts the L-28 Interceptor Canal, and the eastern edge of the L-28 levee (which is east of the L-28 Canal). The Gap is defined as that area which is bounded by the southern boundary of the reservation, the western boundary of the reservation, the northeastern edge of the L-28 Interceptor Canal, the oil pipeline which runs generally south from the L-28 Interceptor Canal until the pipeline intercepts a line running north from the L-28 Canal where the L-28 canal turns northwest to become the L-28 Tieback Canal, and the eastern edge of the L-28 canal (which is south of the L-28 Tieback Canal).
	Tier 3	Tier 3: Outstanding Natural Resource Waters (ONRW): Where high quality waters constitute an Outstanding Tribal resource such as waters of parks and wildlife refuges and waters of exceptional ecological and recreational significance, that water quality shall be maintained and protected. These waters shall be designated as Outstanding Natural Resource Waters (ONRW). Currently, no Tribal waters are designated as ONRW.
	Seminole Tribe (FL)	
	New dischargers and new sources should contact EPA Region 4's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/sites/production/files/2014-12/documents/seminole_floridawqs.pdf	
MNR10I000	**Fond du Lac Band of MN Chippewa**	
	Tier 2 waters are identified on a parameter-by-parameter basis. There is not a Tier 2.5 classification identified in the Fond du Lac Band of MN Chippewa Water Quality Standards. New dischargers and new sources should contact EPA	

Permit Number	Areas of Coverage/Where EPA Is Permitting Authority	
	Region 5's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-fond-du-lac-band-minnesota-chippewa-tribe	
	Tier 3	Six Lakes are presently identified as Tier 3/Outstanding Reservation Resource Waters (ORRW): (1) Dead Fish Lake; (2) Jaskari Lake; (3) Miller (Mud) Lake; (4) Perch Lake; (5) Rice Portage Lake; (6) Wild Rice Lake.
	Grand Portage Band of MN Chippewa	
	Tier 2 waters are identified on a parameter-by-parameter basis. Two subcategories of protection (referred to as outstanding tribal water resource (OTWR)) exist in the Grand Portage Band of MN Chippewa Water Quality Standards as follows: (a) OTWR-Restricted (lowered water quality may be allowed under limited circumstances); (b) OTWR-Prohibited (Discharges and permanent lowering of water quality are prohibited). New dischargers and new sources should contact EPA Region 5's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-grand-portage-band-minnesota-chippewa-tribe	
	Tier 2	OTWR-Restricted: All waters, not already classified as Tier 3, are high quality Tier 2 waters (see Grand Portage Reservation Water Quality Standards, Section VI & VII, Pages 14-16).
	Tier 3	OTWR-Prohibited: "The portion of Lake Superior north of latitude 47 degrees, 57 minutes, 13 seconds, east of Hat Point, south of the Minnesota-Ontario boundary, and west of the Minnesota-Michigan boundary" (see Section VII, Page 16).
WIR101000	**Bad River Band of Lake Superior Chippewa (WI)**	
	Tier 2 waters are identified on a water body-by-water body basis. Tier 2, 2.5, and 3 classifications are included in the Bad River Band of Lake Superior Chippewa Water Quality Standards. See: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-bad-river-band-lake-superior-chippewa-tribe	
	Tier 2	Any surface water not specifically classified as Outstanding Tribal Resource Water or Outstanding Resource Water is classified as Exceptional Resource Water (Anishinaabosibiing).
	Tier 2.5	Outstanding Resource Waters: a portion of Bad River, from downstream the confluence with the White River to Lake Superior, White River, Marengo River, Graveyard Creek, Bear Trap Creek, Wood Creek, Brunsweiler River, Tyler Forks, Bell Creek, and Vaughn Creek.

Permit Number	Areas of Coverage/Where EPA Is Permitting Authority	
	Tier 3	Outstanding Tribal Resource Waters: Kakagon Slough and the lower wetland reaches of its tributaries that support wild rice, Kakagon River, Bad River Slough, Honest John Lake, Bog Lake, a portion of Bad River, from where it enters the Reservation through the confluence with the White River, and Potato River.
	Lac du Flambeau Band of the Lake Superior Chippewa	
	Tier 2 waters are identified on a water body-by-water body basis. Tier 2, 2.5, and 3 classifications are included in the Lac du Flambeau Band of the Lake Superior Chippewa Water Quality Standards. See: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-lac-du-flambeau-band-lake-superior-chippewa-tribe	
	Tier 2	All named waters, including wetlands, not specified under an Antidegradation classification are classified as Tribal Resource Water (Tier 2). Unclassified Named Waters (Tier 2): Buckskin Lake; Flambeau Lake; Long (Interlaken) Lake); Marland's Lake (Sec. 13, T40NR4E); Moss Lake; Pokegema Lake.
	Tier 2.5	Exceptional Tribal Resource Waters: Bills Lake, Birch Lake, Bobidosh Lake, Bog Lake (SE SE Sec. 31, T40NR6E), Bolton Lake, Broken Bow Lake, Chewalah Lake, Clear Lake (Sec. 2, T39NR4E), Corn Great, Great, Corn Lake, Little "Least/Lesser", Crawling Stone Lake, Big, Crawling Stone Lake, Little, Crescent Lake, Crooked Lake, Big, David Lake, Ellerson Lake, Middle, Ellerson Lake, West, Elsie Lake "Boundary Lake", Fat Lake, Fence Lake, Gresham Creek, Green Lake (NW NW Sec. 19, T41R6E), Grey Lake, Gunlock Lake, Haskell Lake, Headflyer Lake (Sec. 19, T41NR5E), Highway Lake (NW NW Sec. 19, T41NR5E), Horsehead Lake (SE SW Sec. 9, T40NR5E), Hutton's Creek, Ike Walton Lake, Lily Lake (SE SW Sec. 35, T40NR5E), Little Ten Lake, Lodge Lake "L. Rice" (NW NW Sec. 8, T41NR6E), Lucy Lake, Mindys Lake (Sec. 8, T40NR5E), Minette Lake, Mitten Lake, Monk's Lake (Sec. 13, T40NR5E), Moving Cloud Lake, Mud Creek, Muskesin Lake, Patterson Lake, Placid Twin Lake (North), Placid Twin Lake (South), Plummer Lake, Poupart Lake, Prairie Lake (NE SW Sec. 13, T40NR4E), Raven Lake, Ross Allen Lake, Sand Lake, Little, Scott Lake (Sec. 22, T40N, R4E), Shishebogama Lake, Signal Lake, Snort Lake (Sec. 5, T41N, R6E), Spring Lake "Jerms", Squirrel Lake, Statenaker Lake "Hollow", Stearns Lake "Hourglass", Sugarbush "Hidden Lake" (NW NW Sec. 17, T41NR5E), Sugarbush Creek, Sugarbush Lake, Little, Sugarbush Lake, Lower, Sugarbush Lake, Middle, Sugarbush Lake, Upper, Sunfish Lake, Tippecanoe Lake, Tomahawk River, To-To Tom Lake, Toulish Lake, Trout River, Warrior Lake, White Sand Lake, Whitefish Lake "Cattail Lake" (Sec. 34, T40N5R), Wishow Lake, Wyandock Lake.
	Tier 3	Outstanding Tribal Resource Waters: Bear River (1st bridge to Reservation boundary), Big Springs (Sec. 25, T40NR4E), Black Lake, Cranberry Lake, Doud Lake, Eagle Lake, Gene Lake, Johnson Springs, Little Trout Lake, Lost Lake (Sect. 1, T41NR4E), Mishonagon Creek, Munnomin (Jesse, Duck) Lake, Negani (Hegani) Lake, Reservation Line Lake, Spring Creek, Tank Lake, Thomas Lake, Wild Rice Lake, Zee Lake.

Permit Number	Areas of Coverage/Where EPA Is Permitting Authority	
NMR100000	**State of New Mexico**	
	Tier 2 waters are identified on a parameter-by-parameter basis. There is not a Tier 2.5 classification identified in the State of New Mexico Water Quality Standards. New dischargers and new sources should contact EPA Region 6's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-new-mexico	
	Tier 2	If you need assistance determining if your discharge is to a Tier 2 waterbody, please contact the NMED Surface Water Quality Bureau's Stormwater Program at https://www.env.nm.gov/swqb/StormWater/index.html.
	Tier 3	See https://www.env.nm.gov/swqb/ONRW/ for current list of NMED's Tier 3/Outstanding National Resource Waters. See also New Mexico's Water Quality Standards at 20.6.4.9.D NMAC.
NMR10I000	**Ohkay Owingeh (NM) (formerly the Pueblo of San Juan)**	
	New dischargers and new sources should contact EPA Region 6's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-ohkay-owingeh-pueblo-formerly-pueblo-san-juan	
	Pueblo of Acoma (NM)	
	New dischargers and new sources should contact EPA Region 6's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-pueblo-acoma	
	Pueblo of Isleta (NM)	
	New dischargers and new sources should contact EPA Region 6's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-pueblo-isleta	
	Pueblo of Nambe (NM)	
	New dischargers and new sources should contact EPA Region 6's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-pueblo-nambe	
	Pueblo of Picuris (NM)	
	New dischargers and new sources should contact EPA Region 6's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. Tier 2, 2.5, and 3 classifications are included in the Pueblo of Picuris Water Quality Standards. See: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-pueblo-picuris	

Permit Number	Areas of Coverage/Where EPA Is Permitting Authority	
	Pueblo of Pojoaque (NM)	
	New dischargers and new sources should contact EPA Region 6's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-pueblo-pojoaque	
	Pueblo of Sandia (NM)	
	New dischargers and new sources should contact EPA Region 6's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-pueblo-sandia	
	Pueblo of Santa Ana (NM)	
	New dischargers and new sources should contact EPA Region 6's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-pueblo-santa-ana	
	Pueblo of Santa Clara (NM)	
	New dischargers and new sources should contact EPA Region 6's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-pueblo-santa-clara	
	Pueblo of Taos (NM)	
	New dischargers and new sources should contact EPA Region 6's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-pueblo-taos	
	Tier 3	Outstanding Tribal Resource Waters: Mountain Lakes; Mountain Streams & Springs;
	Pueblo of Tesuque (NM)	
	New dischargers and new sources should contact EPA Region 6's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-pueblo-tesuque	
COR10I000	**Ute Mountain Ute Tribe**	
	Tier 2 waters are identified on a parameter-by-parameter basis. There is not a Tier 2.5 classification identified in the Ute Mountain Ute Tribe Water Quality Standards. New dischargers and new sources should contact EPA Region 8's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-ute-mountain-ute-tribe	

Permit Number	Areas of Coverage/Where EPA Is Permitting Authority	
	Tier 3	Outstanding Tribal Resource Waters: 1. Ute Spring and unnamed creek from Ute Spring downstream within Section 12, TWP35N R18W (Colorado). 2. Allen Canyon Creek, Sections 17, 20, 29, 30, 31, TWP 35S, R21E (Utah) 3. "Lopez" Spring and unnamed creek tributary to and downstream from the spring, within Section 35, TWP 34N, R18W
MTR10I000	**Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation (MT)**	
	Tier 2 waters are identified on a water body-by-water body basis. There is not a Tier 2.5 classification identified in the Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation Water Quality Standards. New dischargers and new sources should contact EPA Region 8's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-assiniboine-and-sioux-tribes-fort-peck-indian	
	Tier 2	Most Tribal Waters will qualify as Tier 2 waters. Unless the water body is not attaining the Clean Water Act Section 101(a)(2) goals, the water body has received an OTRW designation, or there is no assimilative capacity for pollutants to protect existing and designated uses, it is likely that the water body will receive Tier 2 protection.
	Confederated Salish and Kootenai Tribes of the Flathead Reservation (MT)	
	Tier 2 waters are identified on a water body-by-water body basis. There is not a Tier 2.5 classification identified in the Confederated Salish and Kootenai Tribes of the Flathead Reservation Water Quality Standards. New dischargers and new sources should contact EPA Region 8's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-confederated-salish-and-kootenai-tribes-flathead	
	Tier 3	The following are Tier 3 waters: All waters located within Tribally designated primitive or wilderness areas.
	Northern Cheyenne (MT)	
	Tier 2 waters are identified on a water body-by-water body basis. There is not a Tier 2.5 classification identified in the Northern Cheyenne Water Quality Standards. New dischargers and new sources should contact EPA Region 8's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-northern-cheyenne-tribe-northern-cheyenne-reservation	
ASR100000	**Island of American Samoa**	
	New dischargers and new sources should contact EPA Region 9's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/sites/production/files/2014-12/documents/aswqs.pdf	
AZR10I000	**Hopi Tribe (AZ)**	

Permit Number	Areas of Coverage/Where EPA Is Permitting Authority	
	Tier 2 waters are identified on a parameter-by-parameter basis. There is not a Tier 2.5 classification identified in the Hopi Tribe Water Quality Standards. New dischargers and new sources should contact EPA Region 9's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-hopi-tribe	
	Tier 3	Unique Waters: In the Moencopi Wash watershed, from Blue Canyon Springs to the confluence of Begashibito Wash.
	Hualapai Indian Tribe (AZ)	
	Tier 2 waters are identified on a parameter-by-parameter basis. There is not a Tier 2.5 classification identified in the Hualapai Indian Tribe Water Quality Standards. New dischargers and new sources should contact EPA Region 9's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-hualapai-tribe	
	Tier 3	Segments assigned as Tier 3: Spencer; Meriwhitica; Willow Spring; Upper Milkweed Spring; Bridge Canyon; Travertine Spring; Travertine Falls; Diamond Creek; Diamond Creek Spring; Blue Mountain; Metuck; Peach Springs Spring; Westwater; Clay Tank; Hocky Puck; Pocamote Spring; Mohawk Spring; Granite Spring; Three Spring; Warm Spring; Honga Spring; National Canyon Spring; National Canyon; Moss Spring.
	Navajo Nation (AZ, NM, UT)	
	New dischargers and new sources should contact EPA Region 9's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-navajo-nation	
	White Mountain Apache Tribe (AZ)	
	Tier 2 waters are identified on a water body-by-water body basis. Tier classifications are identified in Appendix B of the White Mountain Apache Tribe Water Quality Standards. New dischargers and new sources should contact EPA Region 9's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-white-mountain-apache-tribe	

Permit Number	Areas of Coverage/Where EPA Is Permitting Authority	
	Tier 2	High Quality Waters: East Fork White River, above R52 Road; Paradise Creek, above Wohlenberg; Ord Creek; Smith Cienega; Bull Cienega; Smith Creek; Big Bonito; Tonto Creek, below Y47 Crossing; Crooked Creek; Boggy Creek; Little Bonito Creek, above Y55 Crossing; Flash Creek; Squaw Creek; Hurricane Lake; Hurricane Creek; Hughey Creek; Bonito Cienega; West Fork Black River; Hall Cienega; Purcell Cienega; Thompson Creek; Cibecue Creek in Box Canyon to Salt river; Rock Springs Creek; Willow Creek (Lower Canyon Cr.). Sensitive Waters (treated the same manner as Tier 2): East Fork White River below R52 Road, above Rock Cr; Lofer Cienega Creek; Carrizo Creek above Corduroy; Cedar Creek; Big Canyon (E. Cedar Creek); Middle Cedar Creek; West Cedar Creek; Cibecue Creek, Box Canyon up to Confluence with Salt Creek; Spring Creek; Salt Creek; Cibecue Creek, from confluence w/Salt Cr. To Big Springs; Cibecue Creek, above Big Springs; Salt Draw; Canyon Creek S. of Chediski Farms; Oak Creek; Canyon Creek, N. of Chediski Farms.
	Tier 3	Outstanding Waters: East Fork White River, in Wilderness area; Pumpkin Lake.
CAR101000	**Big Pine Band of Owens Valley (CA)**	
	New dischargers and new sources should contact EPA Region 9's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/was-tech/water-quality-standards-regulations-big-pine-paiute-tribe-owens-valley	
	Hoopa Valley Tribe (CA)	
	New dischargers and new sources should contact EPA Region 9's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/was-tech/water-quality-standards-regulations-hoopa-valley-tribe	
	Paiute-Shoshone Indians of the Bishop Community (CA)	
	New dischargers and new sources should contact EPA Region 9's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/was-tech/water-quality-standards-regulations-bishop-paiute-tribe	
	Twenty-Nine Palms (CA)	
	New dischargers and new sources should contact EPA Region 9's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/was-tech/water-quality-standards-regulations-twenty-nine-palms-band-mission-indians	
GUR100000	**Island of Guam**	
	New dischargers and new sources should contact EPA Region 9's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-	

Permit Number	Areas of Coverage/Where EPA Is Permitting Authority	
	stormwater#regional. See also: https://www.epa.gov/sites/production/files/2014-12/documents/aswqs.pdf	
JAR100000	**Johnston Atoll**	
	New dischargers and new sources should contact EPA Region 9's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional	
MPR100000	**Commonwealth of the Northern Mariana Islands**	
	New dischargers and new sources should contact EPA Region 9's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/sites/production/files/2014-12/documents/aswqs.pdf	
MWR100000	**Midway Island and Wake Island**	
	New dischargers and new sources should contact EPA Region 9's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional	
NVR10000I	**Pyramid Lake Paiute (NV)**	
	New dischargers and new sources should contact EPA Region 9's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-pyramid-lake-paiute-tribe	
IDR100000	**State of Idaho**	
	Tier 2 waters are identified on a water body-by-water body basis. There is not a Tier 2.5 classification identified in the State of Idaho Water Quality Standards. New dischargers and new sources should contact EPA Region 10's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-idaho	
	Tier 2 and Tier 3	For Tier 2 and Tier 3 waters, please consult the most recent approved version of Idaho's Idaho Integrated Report, available at: http://www.deq.idaho.gov/water-quality/surface-water/monitoring-assessment/integrated-report/ and the closest regional office of the Idaho Department of Environmental Quality: http://www.deq.idaho.gov/regional-offices-issues/.
IDR10I000	**Coeur D'Alene Tribe (ID)**	
	Tier 2 waters are identified on a water body-by-water body basis. There is not a Tier 2.5 classification identified in the Coeur D'Alene Tribe Water Quality Standards. New dischargers and new sources should contact EPA Region 10's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-coeur-dalene-tribe-indians	
ORR10I000	**Confederated Tribes of the Warm Springs Reservation (OR)**	
	New dischargers and new sources should contact EPA Region 10's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also:	

Permit Number	Areas of Coverage/Where EPA Is Permitting Authority
	https://www.epa.gov/wqs-tech/water-quality-standards-regulations-confederated-tribes-warm-springs-indian-reservation
	Confederated Tribes of Umatilla (OR)
	New dischargers and new sources should contact EPA Region 10's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-confederated-tribes-umatilla-indian-reservation-oregon
WAR101000	**Confederated Tribes of the Chehalis Reservation (WA)**
	Tier 2 waters are identified on a parameter-by-parameter basis. There is not a Tier 2.5 classification identified in the Confederated Tribes of the Chehalis Reservation Water Quality Standards. New dischargers and new sources should contact EPA Region 10's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. https://www.epa.gov/wqs-tech/water-quality-standards-regulations-confederated-tribes-chehalis-reservation
	Confederated Tribes of the Colville Reservation (WA)
	EPA established federal water quality standards for the Confederated Tribes of the Colville Reservation at 40 CFR 131.35. See: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-confederated-tribes-colville-reservation
	Kalispel Indian Community (WA)
	New dischargers and new sources should contact EPA Region 10's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-kalispel-indian-community-kalispel-reservation
	Lummi Tribe (WA)
	New dischargers and new sources should contact EPA Region 10's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-lummi-nation
	Makah Indian Nation (WA)
	New dischargers and new sources should contact EPA Region 10's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-makah-indian-nation
	Port Gamble S'Klallam (WA)
	New dischargers and new sources should contact EPA Region 10's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also:

Permit Number	Areas of Coverage/Where EPA Is Permitting Authority
	https://www.epa.gov/wqs-tech/water-quality-standards-regulations-port-gamble-sklallam-tribe
	Puyallup Tribe of Indians (WA)
	New dischargers and new sources should contact EPA Region 10's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-puyallup-tribe-indians
	Spokane Tribe of Indians (WA)
	New dischargers and new sources should contact EPA Region 10's stormwater coordinator found at https://www.epa.gov/npdes/contact-us-stormwater#regional.. See also: https://www.epa.gov/wqs-tech/water-quality-standards-regulations-spokane-tribe-indians

Appendix G – Buffer Requirements.

The purpose of this appendix is to assist you in complying with the requirements in Part 2.2.1 of the permit regarding the establishment of natural buffers and/or equivalent sediment controls. This appendix is organized as follows:

G.1 SITES THAT ARE REQUIRED TO PROVIDE AND MAINTAIN NATURAL BUFFERS AND/OR EQUIVALENT EROSION AND SEDIMENT CONTROLS 2
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G.1 SITES THAT ARE REQUIRED TO PROVIDE AND MAINTAIN NATURAL BUFFERS AND/OR EQUIVALENT EROSION AND SEDIMENT CONTROLS

The requirement in Part 2.2.1 to provide and maintain natural buffers and/or equivalent erosion and sediment controls applies for any discharges to waters of the U.S. located within 50 feet of your site's earth disturbances. If the water of the U.S. is not located within 50 feet of earth-disturbing activities, Part 2.2.1 does not apply. See G – 1.

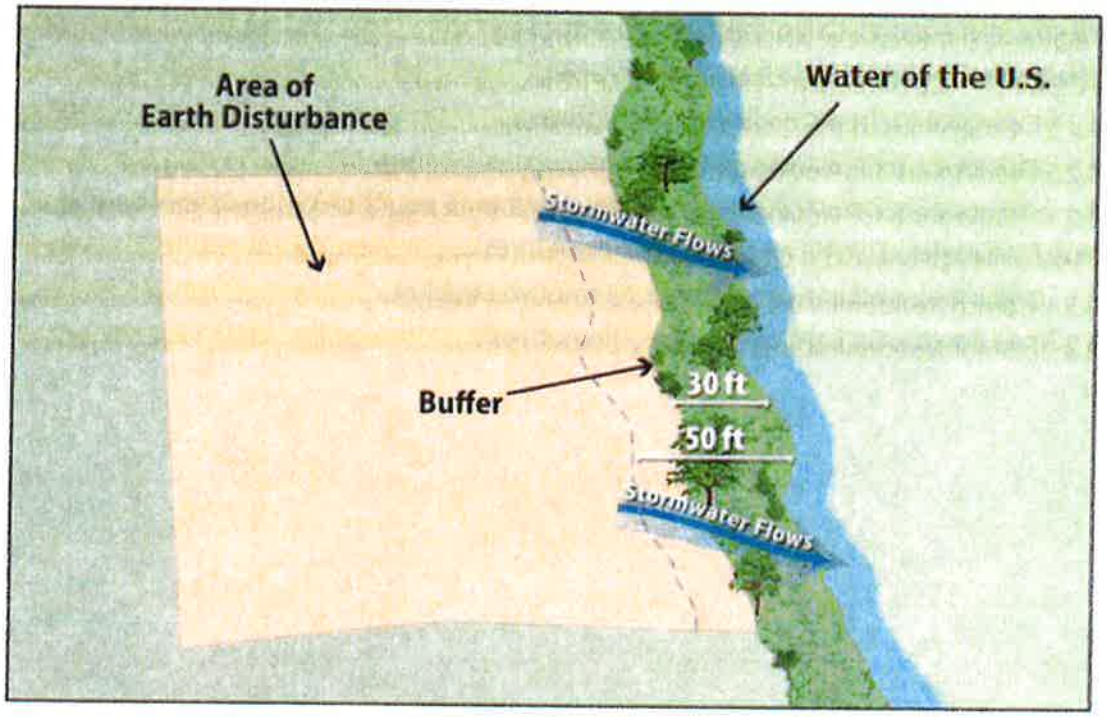


Figure G-1 Example of earth-disturbing activities within 50 feet of a water of the U.S.

G.2 COMPLIANCE ALTERNATIVES AND EXCEPTIONS

G.2.1 Compliance Alternatives

If Part 2.2.1 applies to your site, you have three compliance alternatives from which you can choose, unless you qualify for any of the exceptions (see below and Part 2.2.1.a):

1. Provide and maintain a 50-foot undisturbed natural buffer; or
2. Provide and maintain an undisturbed natural buffer that is less than 50 feet and is supplemented by erosion and sediment controls that achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer; or
3. If infeasible to provide and maintain an undisturbed natural buffer of any size, implement erosion and sediment controls to achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer. [1]

The compliance alternative selected must be maintained throughout the duration of permit coverage.

See Part G.2.2 below for exceptions to the compliance alternatives.

See Part G.2.3 for requirements applicable to providing and maintaining natural buffers under compliance alternatives 1 and 2 above.

See Part G.2.4 for requirements applicable to providing erosion and sediment controls that achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer under compliance alternatives 2 and 3 above.

G.2.2 Exceptions to the Compliance Alternatives

The following exceptions apply to the requirement to implement one of the Part 2.2.1.a compliance alternatives (see also Part 2.2.1.b):

- The following disturbances within 50 feet of a water of the U.S. are exempt from the requirements Part 2.2.1 and this Appendix:
  - Construction approved under a CWA Section 404 permit; or
  - Construction of a water-dependent structure or water access areas *(e.g., pier, boat ramp, trail)*.
- If there is no discharge of stormwater to waters of the U.S. through the area between the disturbed portions of the site and any waters of the U.S. located within 50 feet of your site, you are not required to comply with the requirements in Part 2.2.1 and this Appendix. This includes situations where you have implemented controls measures, such as a berm or other barrier, that will prevent such discharges.
- Where no natural buffer exists due to preexisting development disturbances *(e.g., structures, impervious surfaces)* that occurred prior to the initiation of planning for the current development of the site, you are not required to comply with the requirements in Part 2.2.1 and this Appendix.

  Where some natural buffer exists but portions of the area within 50 feet of the water of the U.S. are occupied by preexisting development disturbances, you <u>are</u> required to comply with the requirements in Part 2.2.1 and this Appendix. For the purposes of calculating the sediment load reduction for either compliance alternative 2 or 3, you are not expected to compensate for the reduction in buffer function that would have resulted from the area covered by these preexisting disturbances. Clarity about how to implement the compliance alternatives for these situations is provided in G.2.3 and G.2.4 below.

  If during your project, you will disturb any portion of these preexisting disturbances, the area removed will be deducted from the area treated as a "natural buffer."
- For "linear construction sites" (see Appendix A), you are not required to comply with this requirement if site constraints *(e.g., limited right-of-way)* make it infeasible to implement one of the Part 2.2.1.a compliance alternatives, provided that, to the extent feasible, you limit disturbances within 50 feet of any waters of the U.S. and/or you provide supplemental erosion and sediment controls to treat stormwater discharges from earth disturbances within 50 feet of the water of the U.S. You must also document in your SWPPP your rationale for why it is infeasible for you to implement one of the Part 2.2.1.a compliance alternatives, and describe any buffer width retained and supplemental erosion and sediment controls installed.
- For "small residential lot" construction *(i.e., a lot being developed for residential purposes that will disturb less than 1 acre of land, but is part of a larger residential project that will ultimately disturb greater than or equal to 1 acre)*, you have the option of complying with one of the "small residential lot" compliance alternatives in Part G.3 of this appendix.

Note that you must document in your SWPPP if any disturbances related to any of the above exceptions occurs within the buffer area on your site.

G.2.3 Requirements for Providing and Maintaining Natural Buffers

This part of the appendix applies to you if you choose compliance alternative 1 (50-foot buffer), compliance alternative 2 (a buffer of < 50 feet supplemented by additional erosion and sediment controls that achieve the equivalent sediment load reduction as the 50-foot buffer), or if you are providing a buffer in compliance with one of the "small residential lot" compliance alternatives in Part G.3.

Buffer Width Measurement

Where you are retaining a buffer of any size, the buffer should be measured perpendicularly from any of the following points, whichever is further landward from the water:

1. The ordinary high water mark of the water body, defined as the line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, and/or the presence of litter and debris; or
2. The edge of the stream or river bank, bluff, or cliff, whichever is applicable.

Refer to Figures G – 2 and **Error! Reference source not found.**. You may find that specifically measuring these points is challenging if the flow path of the water of the U.S. changes frequently, thereby causing the measurement line for the buffer to fluctuate continuously along the path of the waterbody. Where this is the case, EPA suggests that rather than measuring each change or deviation along the water's edge, it may be easier to select regular intervals from which to conduct your measurement. For instance, you may elect to conduct your buffer measurement every 5 to 10 feet along the length of the water.

Additionally, note that if earth-disturbing activities will take place on both sides of a water of the U.S. that flows through your site, to the extent that you are establishing a buffer around this water, it must be established on both sides. For example, if you choose compliance alternative 1, and your project calls for disturbances on both sides of a small stream, you would need to retain the full 50 feet of buffer on both sides of the water. However, if your construction activities will only occur on one side of the stream, you would only need to retain the 50-foot buffer on the side of the stream where the earth-disturbance will occur.

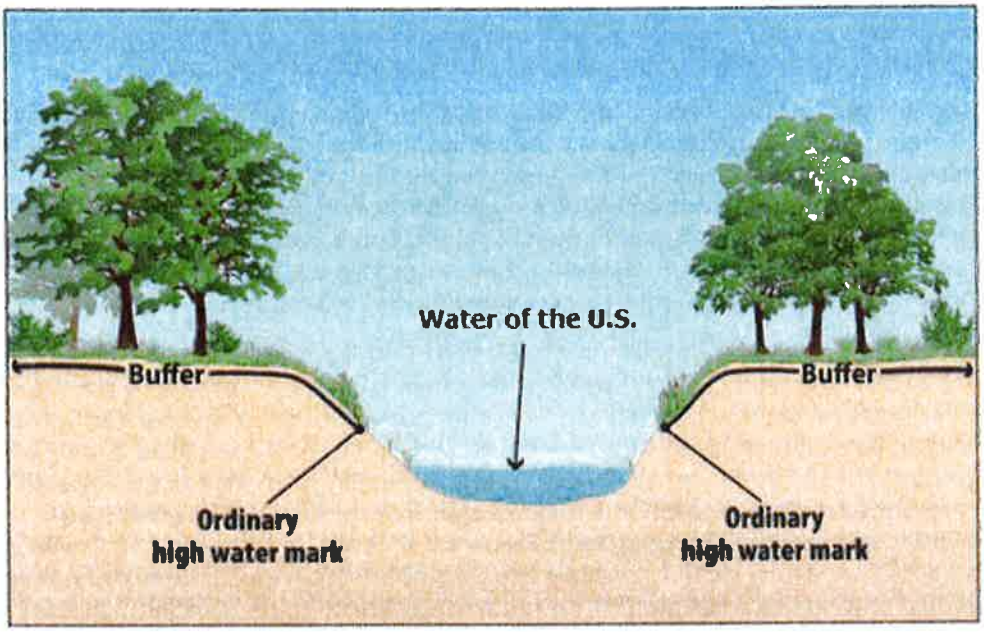


Figure G-2 Buffer measurement from the ordinary high water mark of the water body, as indicated by a clear natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, and/or the presence of litter/debris.

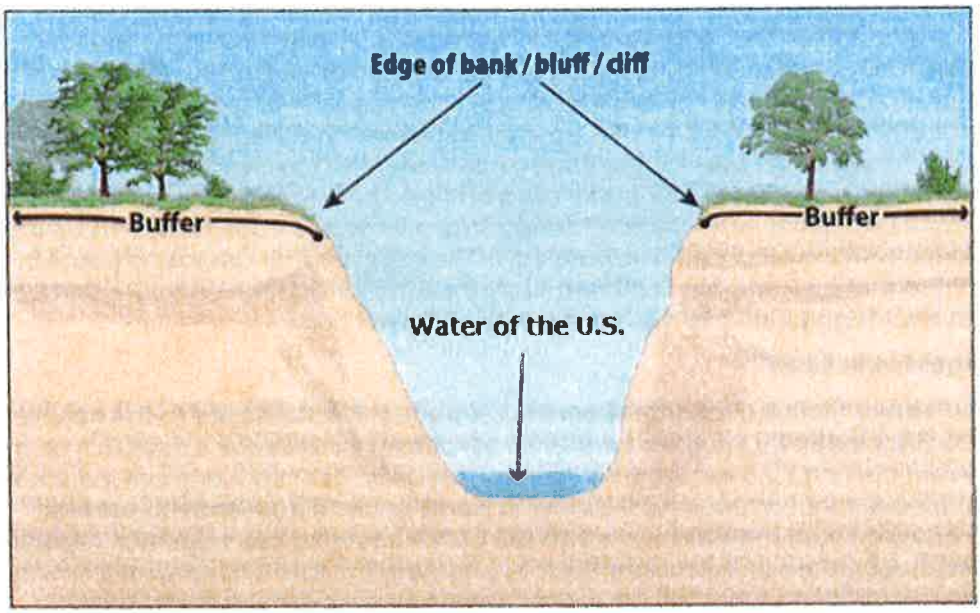


Figure G-3 Buffer measurement from the edge of the bank, bluff, or cliff, whichever is applicable.

Limits to Disturbance Within the Buffer

You are considered to be in compliance with the requirement to provide and maintain a natural buffer if you retain and protect from construction activities the natural buffer that existed prior to the commencement of construction. If the buffer area contains no vegetation prior to the commencement of construction (e.g., sand or rocky surface), you are not required to plant vegetation. As noted above, any preexisting structures or

impervious surfaces may occur in the natural buffer provided you retain and protect from disturbance the buffer areas outside of the preexisting disturbance.

To ensure that the water quality protection benefits of the buffer are retained during construction, you are prohibited from conducting any earth-disturbing activities within the buffer during permit coverage. In furtherance of this requirement, **prior to commencing earth-disturbing activities on your site, you must delineate, and clearly mark off, with flags, tape, or a similar marking device, the buffer area on your site.** The purpose of this requirement is to make the buffer area clearly visible to the people working on your site so that unintended disturbances are avoided.

While you are not required to enhance the quality of the vegetation that already exists within the buffer, you are encouraged to do so where such improvements will enhance the water quality protection benefits of the buffer. (Note that any disturbances within the buffer related to buffer enhancement are permitted and do not constitute construction disturbances.) For instance, you may want to target plantings where limited vegetation exists, or replace existing vegetation where invasive or noxious plant species (see http://plants.usda.gov/java/noxiousDriver) have taken over. In the case of invasive or noxious species, you may want to remove and replace them with a diversity of native trees, shrubs, and herbaceous plants that are well-adapted to the climatic, soil, and hydrologic conditions on the site. You are also encouraged to limit the removal of naturally deposited leaf litter, woody debris, and other biomass, as this material contributes to the ability of the buffer to retain water and filter pollutants.

If a portion of the buffer area adjacent to the water of the U.S. is owned by another party and is not under your control, you are only required to retain and protect from construction activities the portion of the buffer area that is under your control. For example, if you comply with compliance alternative 1 (provide and maintain a 50-foot buffer), but 10 feet of land immediately adjacent to the water of the U.S. is owned by a different party than the land on which your construction activities are taking place and you do not have control over that land, you must only retain and protect from construction activities the 40-foot buffer area that occurs adjacent to the property on which your construction activities are taking place. EPA would consider you to be in compliance with this requirement regardless of the activities that are taking place in the 10-foot area that is owned by a different party than the land on which your construction activities are taking place that you have no control over.

Discharges to the Buffer

You must ensure that all discharges from the area of earth disturbance to the natural buffer are first treated by the site's erosion and sediment controls *(for example, you must comply with the Part 2.2.3 requirement to install sediment controls along any perimeter areas of the site that will receive pollutant discharges)*, **and if necessary to prevent erosion caused by stormwater flows within the buffer, you must use velocity dissipation devices.** The purpose of this requirement is to decrease the rate of stormwater flow and encourage infiltration so that the pollutant filtering functions of the buffer will be achieved. To comply with this requirement, construction operators typically will use devices that physically dissipate stormwater flows so that the discharge entering the buffer is spread out and slowed down.

SWPPP Documentation

You are required to document in your SWPPP the natural buffer width that is retained. For example, if you are complying with alternative 1, you must specify in your SWPPP that you are providing a 50-foot buffer. Or, if you will be complying with alternative 2, you must document the reduced width of the buffer you will be retaining (and you must also

describe the erosion and sediment controls you will use to achieve an equivalent sediment reduction, as required in Part G.2.4 below). Note that you must also show any buffers on your site map in your SWPPP consistent with Part 7.2.4.i. Additionally, if any disturbances related to the exceptions in Part G.2.2 occur within the buffer area, you must document this in the SWPPP.

G.2.4 Guidance for Providing the Equivalent Sediment Reduction as a 50-foot Buffer

This part of the appendix applies to you if you choose compliance alternative 2 (provide and maintain a buffer that is less than 50 feet that is supplemented by erosion and sediment controls that achieve the sediment load reduction equivalent to a 50-foot buffer) or compliance alternative 3 (implement erosion and sediment controls to achieve the sediment load reduction equivalent to a 50-foot buffer).

Determine Whether it is Feasible to Provide a Reduced Buffer

EPA recognizes that there will be a number of situations in which it will be infeasible to provide and maintain a buffer of any width. While some of these situations may exempt you from the buffer requirement entirely (see G.2.2), if you do not qualify for one of these exemptions, there still may be conditions or circumstances at your site that make it infeasible to provide a natural buffer. For example, there may be sites where a significant portion of the property on which the earth-disturbing activities will occur is located within the buffer area, thereby precluding the retention of natural buffer areas.

Therefore, you should choose compliance alternative 2 if it is feasible for you to retain some natural buffer on your site. (Note: For any buffer width retained, you are required to comply with the requirements in Part G.2.3, above, concerning the retention of vegetation and restricting earth disturbances.) Similarly, if you determine that it is infeasible to provide a natural buffer of any size during construction, you should choose alternative 3.

Design Controls That Provide Equivalent Sediment Reduction as 50-foot Buffer

You must next determine what additional controls must be implemented on your site that, alone or in combination with any retained natural buffer, achieve a reduction in sediment equivalent to that achieved by a 50-foot buffer.

Note that if only a portion of the natural buffer is less than 50 feet, you are only required to implement erosion and sediment controls that achieve the sediment load reduction equivalent to the 50-foot buffer for discharges through that area. You would not be required to provide additional treatment of stormwater discharges that flow through 50 feet or more of natural buffer. See **Error! Reference source not found.**.

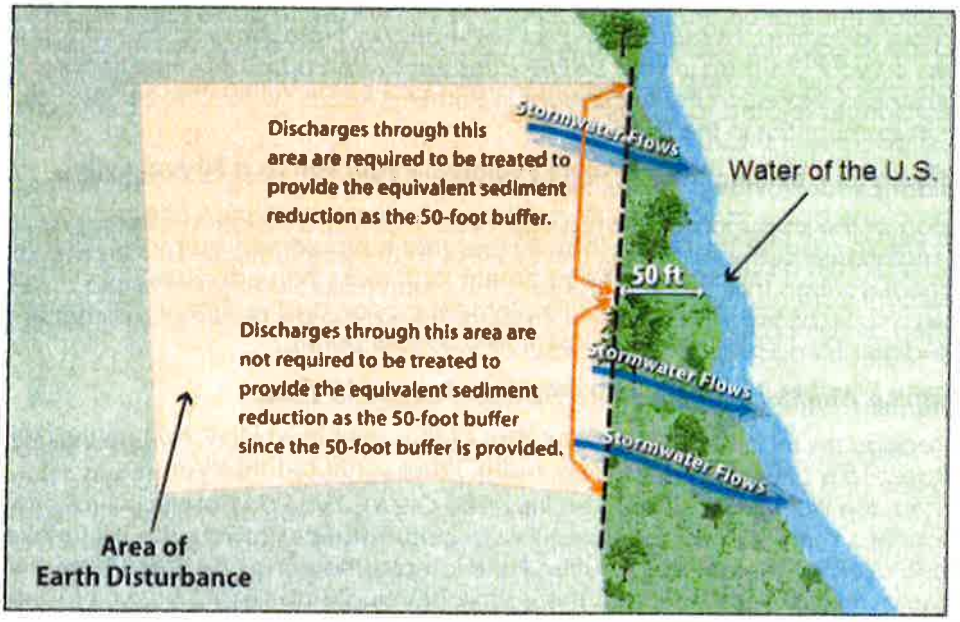


Figure G-4 Example of how to comply with the requirement to provide the equivalent sediment reduction when only a portion of your earth-disturbances discharge to a buffer of less than 50-feet. Area of Earth Disturbance

Steps to help you meet compliance alternative 2 and 3 requirements are provided below.

Step 1 - Estimate the Sediment Reduction from the 50-foot Buffer

In order to design controls that match the sediment removal efficiency of a 50-foot buffer, you first need to know what this efficiency is for your site. The sediment removal efficiencies of natural buffers vary according to a number of site-specific factors, including precipitation, soil type, land cover, slope length, width, steepness, and the types of erosion and sediment controls used to reduce the discharge of sediment prior to the buffer. EPA has simplified this calculation by developing buffer performance tables covering a range of vegetation and soil types for the areas covered by the CGP. See Attachment 1 of this Appendix, Tables G-8 through G-15. Note: buffer performance values in Tables G-8 through G-15 represent the percent of sediment captured through the use of perimeter controls (e.g., silt fences) and 50-foot buffers at disturbed sites of fixed proportions and slopes.[1]

[1] EPA used the following when developing the buffer performance tables:

- The sediment removal efficiencies are based on the U.S. Department of Agriculture's RUSLE2 ("Revised Universal Soil Loss Equation 2") model for slope profiles using a 100-foot long denuded slopes.
- Sediment removal was defined as the annual sediment delivered at the downstream end of the 50-foot natural buffer (tons/yr/acre) divided by the annual yield from denuded area (tons/yr/acre).
- As perimeter controls are also required by the CGP, sediment removal is in part a function of the reduction due to a perimeter control (i.e., silt fence) located between the disturbed portion of the site and the upstream edge of the natural buffer and flow traveling through a 50-foot buffer of undisturbed natural vegetation.
- It was assumed that construction sites have a relatively uniform slope without topographic features that accelerate the concentration for erosive flows.

Using Tables G-8 through G-15 (see Attachment 1 of this Appendix), you can determine the sediment removal efficiency of a 50-foot buffer for your geographic area by matching the vegetative cover type that best describes your buffer area and the type of soils that predominate at your site. For example, if your site is located in Massachusetts (Table G-9), and your buffer vegetation corresponds most closely with that of tall fescue grass, and the soil type at your site is best typified as sand, your site's sediment removal efficiency would be 81 percent.

In this step, you should choose the vegetation type in the tables that most closely matches the vegetation that would exist naturally in the buffer area on your site regardless of the condition of the buffer. However, because you are not required to plant any additional vegetation in the buffer area, in determining what controls are necessary to meet this sediment removal equivalency in Step 2 below, you will be able to take credit for this area as a fully vegetated "natural buffer."

Similarly, if a portion of the buffer area adjacent to the water of the U.S. is owned by another party and is not under your control, you can treat the area of land not under your control as having the equivalent vegetative cover and soil type that predominates on the portion of the property on which your construction activities are occurring.

> *For example, if your earth-disturbances occur within 50 feet of a water of the U.S., but the 10 feet of land immediately adjacent to the water of the U.S. is owned by a different party than the land on which your construction activities are taking place and you do not have control over that land, you can treat the 10 foot area adjacent to the stream as having the equivalent soil and vegetation type that predominates in the 40 foot area under your control. You would then make the same assumption in Step 2 for purposes of determining the equivalent sediment removal.*

Alternatively, you may do your own calculation of the effectiveness of the 50-foot buffer based upon your site-specific conditions, and may use this number as your sediment removal equivalency standard to meet instead of using Tables G-8 through G-15. This calculation must be documented in your SWPPP.

Step 2 - Design Controls That Match the Sediment Removal Efficiency of the 50-foot Buffer

Once you determine the estimated sediment removal efficiency of a 50-foot buffer for your site in Step 1, you must next select stormwater controls that will provide an equivalent sediment load reduction. These controls can include the installation of a single control, such as a sediment pond or additional perimeter controls, or a combination of stormwater controls. Whichever control(s) you select, you must demonstrate in your SWPPP that the controls will provide at a minimum the same sediment removal capabilities as a 50-foot natural buffer (Step 1). You may take credit for the removal efficiencies of your required perimeter controls in your calculation of equivalency, because these were included in calculating the buffer removal efficiencies in Tables G-8 through G-15. (Note: You are reminded that the controls must be kept in effective operating condition until you complete final stabilization on the disturbed portions of the site discharging to the water of the U.S.)

- It was assumed that vegetation has been removed from the disturbed portion of the site and a combination of cuts and fills have resulted in a smooth soil surface with limited retention of near-surface root mass.

To represent the influence of soil, EPA analyzed 11 general soil texture classifications in its evaluation of buffer performance. To represent different types of buffer vegetation, EPA evaluated 4 or more common vegetative types for each state/territory covered under the permit. For each vegetation type evaluated, EPA considered only permanent, non-grazed, and non-harvested vegetation, on the assumption that a natural buffer adjacent to the water of the U.S. will typically be undisturbed. EPA also evaluated slope steepness and found that sediment removal efficiencies present in Tables G-8 through G-15 are achievable for slopes that are less than nine percent.

To make the determination that your controls and/or buffer area achieve an equivalent sediment load reduction as a 50-foot buffer, you should use a model or other type of calculation. As mentioned above, there are a variety of models available that can be used to support your calculation, including USDA's RUSLE-series programs and the WEPP erosion model, SEDCAD, SEDIMOT, or other models. A couple of examples are provided in Attachment 3 to help illustrate how this determination could be made.

If you retain a buffer of less than 50 feet, you may take credit for the removal that will occur from the reduced buffer and only need to provide additional controls to make up the difference between the removal efficiency of a 50 foot buffer and the removal efficiency of the narrower buffer. For example, if you retain a 30 foot buffer, you can account for the sediment removal provided by the 30 foot buffer retained, and you will only need to design controls to make up for the additional removal provided by the 20 feet of buffer that is not being provided. To do this, you would plug the width of the buffer that is retained into RUSLE or another model, along with other stormwater controls that will together achieve a sediment reduction equivalent to a natural 50-foot buffer.

As described in Step 1 above, you can take credit for the area you retained as a "natural buffer" as being fully vegetated, regardless of the condition of the buffer area.

> *For example, if your earth-disturbances occur 30 feet from a water of the U.S., but the 10 feet of land immediately adjacent to the water of the U.S. is owned by a different party than the land on which your construction activities are taking place and you do not have control over that land, you can treat the 10-foot area as a natural buffer, regardless of the activities that are taking place in the area. Therefore, you can assume (for purposes of your equivalency calculation) that your site is providing the sediment removal equivalent of a 30-foot buffer, and you will only need to design controls to make up for the additional removal provided by the 20-foot of buffer that is not being provided.*

Step 3 - Document How Site-Specific Controls Will Achieve the Sediment Removal Efficiency of the 50-foot Buffer

In Steps 1 and 2, you determined both the expected sediment removal efficiency of a 50-foot buffer at your site, and you used this number as a performance standard to design controls to be installed at your site, which alone or in combination with any retained natural buffer, achieves the expected sediment removal efficiency of a 50-foot buffer at your site. The final step is to document in your SWPPP the information you relied on to calculate the equivalent sediment reduction as an undisturbed natural buffer.

EPA will consider your documentation to be sufficient if it generally meets the following:

- For Step 1, refer to the table in Attachment 1 that you used to derive your estimated 50-foot buffer sediment removal efficiency performance. Include information about the buffer vegetation and soil type that predominate at your site, which you used to select the sediment load reduction value in Tables G-8 through G-15. Or, if you conducted a site-specific calculation for sediment removal efficiency, provide the specific removal efficiency, and the information you relied on to make your site-specific calculation.
- For Step 2, (1) Specify the model you used to estimate sediment load reductions from your site; and (2) the results of calculations showing how your controls will meet or exceed the sediment removal efficiency from Step 1.

If you choose compliance alternative 3, you must also include in your SWPPP a description of why it is infeasible for you to provide and maintain an undisturbed natural buffer of any size.

G.3 SMALL RESIDENTIAL LOT COMPLIANCE ALTERNATIVES

EPA has developed two additional compliance alternatives applicable only to "small residential lots" that are unable to provide and maintain a 50 foot buffer.

A **small residential lot** is a lot or grouping of lots being developed for residential purposes that will disturb less than 1 acre of land, but that is part of a larger residential project that will ultimately disturb greater than or equal to 1 acre.

The following steps describe how a small residential lot operator would achieve compliance with one these 2 alternatives.

G.3.1 Small Residential Lot Compliance Alternative Eligibility

In order to be eligible for the small residential lot compliance alternatives, the following conditions must be met:

a. The lot or grouping of lots meets the definition of "small residential lot"; and

b. The operator must follow the guidance for providing and maintaining a natural buffer in Part G.2.3 of this Appendix, including:

i. Ensure that all discharges from the area of earth disturbance to the natural buffer are first treated by the site's erosion and sediment controls, and use velocity dissipation devices if necessary to prevent erosion caused by stormwater within the buffer;

ii. Document in the SWPPP the natural buffer width retained on the property, and show the buffer boundary on your site plan; and

iii. Delineate, and clearly mark off, with flags, tape, or other similar marking device, all natural buffer areas.

G.3.2 Small Residential Lot Compliance Alternatives

You must next choose from one of two small residential lot compliance alternatives and implement the stormwater control practices associated with that alternative.

Note: The compliance alternatives provided below are not mandatory. Operators of small residential lots can alternatively choose to comply with the any of the options that are available to other sites in Part 2.2.1.a and G.2.1 of this Appendix.

Small Residential Lot Compliance Alternative 1

Alternative 1 is a straightforward tiered-technology approach that specifies the controls that a small residential lot must implement based on the buffer width retained. To meet the requirements of small residential lot compliance alternative 1, you must implement the controls specified in Table G–1 based on the buffer width to be retained. See footnote 3, below, for a description of the controls you must implement.

For example, if you are an operator of a small residential lot that will be retaining a 35-foot buffer and you choose Small Residential Lot Compliance Alternative 1, you must implement double perimeter controls between earth disturbances and the water of the U.S.

In addition to implementing the applicable control, you must also document in your SWPPP how you will comply with small residential lot compliance alternative 1.

Table G-1 Alternative 1 Requirements[2]

Retain 50-foot Buffer	Retain <50 and >30 foot Buffer	Retain ≤ 30 foot Buffer
No Additional Requirements	Double Perimeter Controls	Double Perimeter Controls and 7-Day Site Stabilization

Small Residential Lot Compliance Alternative 2

Alternative 2 specifies the controls that a builder of a small residential lot must implement based on both the buffer width retained and the site's sediment discharge risk. By incorporating the sediment risk, this approach may result in the implementation of controls that are more appropriate for the site's specific conditions.

Step 1 – Determine Your Site's Sediment Risk Level

To meet the requirements of Alternative 2, you must first determine your site's sediment discharge "risk level" based on the site's slope, location, and soil type. To help you to determine your site's sediment risk level, EPA developed five different tables for different slope conditions. You should select the table that most closely corresponds to your site's average slope.

For example, if your site's average slope is 7 percent, you should use Table G–4 to determine your site's sediment risk.

After you determine which table applies to your site, you must then use the table to determine the "risk level" (e.g., "low", "moderate", or "high") that corresponds to your site's location and predominant soil type.[3]

For example, based on Table G-3, a site located in New Hampshire with a 4 percent average slope and with predominately sandy clay loam soils would fall into the "moderate" risk level.

Table G-2 Risk Levels for Sites with Average Slopes of ≤ 3 Percent

Soil Type / Location	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
CNMI / Guam	Moderate	Moderate	Moderate	Moderate	High
Puerto Rico	Moderate	Moderate	Moderate	Moderate	High

[2] **Description of Additional Controls Applicable to Small Residential Lot Compliance Alternatives 1 and 2:**

- **No Additional Requirements:** If you implement a buffer of 50 feet or greater, then you are not subject to any additional requirements. Note that you are required to install perimeter controls between the disturbed portions of your site and the buffer in accordance with Part 2.2.3.
- **Double Perimeter Control:** In addition to the reduced buffer width retained on your site, you must provide a double row of perimeter controls between the disturbed portion of your site and the water of the U.S. spaced a minimum of 5 feet apart.
- **Double Perimeter Control and 7-Day Site Stabilization:** In addition to the reduced buffer width retained on your site and the perimeter control implemented in accordance with Part 2.2.3, you must provide a double row of perimeter controls between the disturbed portion of your site and the water of the U.S. spaced a minimum of 5 feet apart, and you are required to complete the stabilization activities specified in Parts 2.2.14 within 7 calendar days of the temporary or permanent cessation of earth-disturbing activities.

[3] One source for determining your site's predominant soil type is the USDA's Web Soil Survey located at http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx.

Virgin Islands	Low	Moderate	Low	Moderate	Moderate
American Samoa	Moderate	Moderate	Moderate	Moderate	High
Massachusetts and New Hampshire	Low	Moderate	Low	Low	Moderate
Idaho	Low	Low	Low	Low	Low
New Mexico	Low	Low	Low	Low	Low
Washington D.C.	Low	Moderate	Low	Low	Moderate

Table G-3 Risk Levels for Sites with Average Slopes of > 3 Percent and ≤ 6 Percent

Soil Type / Location	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
CNMI / Guam	Moderate	Moderate	Moderate	Moderate	High
Puerto Rico	Moderate	Moderate	Moderate	Moderate	High
Virgin Islands	Moderate	Moderate	Moderate	Moderate	High
American Samoa	High	High	Moderate	High	High
Massachusetts and New Hampshire	Moderate	Moderate	Low	Moderate	High
Idaho	Low	Low	Low	Low	Low
New Mexico	Low	Low	Low	Low	Moderate
Washington D.C.	Moderate	Moderate	Moderate	Moderate	High

Table G-4 Risk Levels for Sites with Average Slopes of > 6 Percent and ≤ 9 Percent

Soil Type / Location	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
CNMI / Guam	Moderate	High	Moderate	High	High
Puerto Rico	Moderate	High	Moderate	Moderate	High
Virgin Islands	Moderate	Moderate	Moderate	Moderate	High
American Samoa	High	High	High	High	High
Massachusetts and New Hampshire	Moderate	Moderate	Moderate	Moderate	High
Idaho	Low	Low	Low	Low	Low
New Mexico	Low	Low	Low	Low	Moderate
Washington D.C.	Moderate	Moderate	Moderate	Moderate	High

Table G-5 Risk Levels for Sites with Average Slopes of > 9 Percent and ≤ 15 Percent

Soil Type / Location	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
CNMI / Guam	High	High	High	High	High
Puerto Rico	High	High	High	High	High
Virgin Islands	Moderate	High	Moderate	High	High
American Samoa	High	High	High	High	High
Massachusetts and New Hampshire	Moderate	Moderate	Moderate	Moderate	High
Idaho	Low	Low	Low	Low	Low
New Mexico	Low	Moderate	Low	Moderate	Moderate
Washington D.C.	Moderate	High	Moderate	Moderate	High

Table G-6 Risk Levels for Sites with Average Slopes of > 15 Percent

Soil Type / Location	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
CNMI / Guam	High	High	High	High	High
Puerto Rico	High	High	High	High	High
Virgin Islands	High	High	High	High	High
American Samoa	High	High	High	High	High
Massachusetts and New Hampshire	High	High	Moderate	High	High
Idaho	Low	Low	Low	Low	Moderate
New Mexico	Moderate	Moderate	Moderate	Moderate	High
Washington D.C.	High	High	Moderate	High	High

Step 2 – Determine Which Additional Controls Apply

Once you determine your site's "risk level", you must next determine the additional controls you need to implement on your site, based on the width of buffer you plan to retain. Table G-7 specifies the requirements that apply based on the "risk level" and buffer width retained. See footnote 3, above, for a description of the additional controls that are required.

For example, if you are the operator of a small residential lot that falls into the "moderate" risk level, and you decide to retain a 20-foot buffer, using Table G-7 you would determine that you need to implement double perimeter controls to achieve compliance with small residential lot compliance alternative 2.

You must also document in your SWPPP your compliance with small residential lot compliance alternative 2.

Table G - 7. Alternative 2 Requirements[2]

Risk Level Based on Estimated Soil Erosion	Retain ≥ 50' Buffer	Retain <50' and >30' Buffer	Retain ≤30' and >10' Buffer	Retain ≤ 10' Buffer
Low Risk	No Additional Requirements	No Additional Requirements	Double Perimeter Control	Double Perimeter Control
Moderate Risk	No Additional Requirements	Double Perimeter Control	Double Perimeter Control	Double Perimeter Control and 7-Day Site Stabilization

High Risk	No Additional Requirements	Double Perimeter Control	Double Perimeter Control and 7-Day Site Stabilization	Double Perimeter Control and 7-Day Site Stabilization

ATTACHMENT 1

Sediment Removal Efficiency Tables[4]

EPA recognizes that very high removal efficiencies, even where theoretically achievable by a 50-foot buffer, may be very difficult to achieve in practice using alternative controls. Therefore in the tables below, EPA has limited the removal efficiencies to a maximum of 90%. Efficiencies that were calculated at greater than 90% are shown as 90%, and this is the minimum percent removal that must be achieved by alternative controls.

Table G-8 Estimated 50-foot Buffer Performance in Idaho*

	Estimated % Sediment Removal				
Type of Buffer Vegetation**	**Clay**	**Silty Clay Loam or Clay-Loam**	**Sand**	**Sandy Clay Loam, Loamy Sand or Silty Clay**	**Loam, Silt, Sandy Loam or Silt Loam**
Tall Fescue Grass	42	52	44	48	85
Medium-density Weeds	28	30	28	26	60
Low-density Warm-season Native Bunchgrass (i.e., Grama Grass)	25	26	24	24	55
Northern Mixed Prairie Grass	28	30	28	26	50
Northern Range Cold Desert Shrubs	28	28	24	26	50

* Applicable for sites with less than nine percent slope
** Characterization focuses on the under-story vegetation

Table G-9 Estimated 50-foot Buffer Performance in Massachusetts and New Hampshire*

	Estimated % Sediment Removal				
Type of Buffer Vegetation**	**Clay**	**Silty Clay Loam or Clay-Loam**	**Sand**	**Sandy Clay Loam, Loamy Sand or Silty Clay**	**Loam, Silt, Sandy Loam or Silt Loam**
Warm-season Grass (i.e., Switchgrass, Lemongrass)	79	90	90	90	90
Cool-season Dense Grass (Kentucky Bluegrass, Smooth Bromegrass, Timothy)	78	90	90	90	90
Tall Fescue Grass	76	90	81	89	90
Medium-density Weeds	66	76	60	72	66

* Applicable for sites with less than nine percent slope
** Characterization focuses on the under-story vegetation

[4] The buffer performances were calculated based on a denuded slope upgradient of a 50-foot buffer and a perimeter controls, as perimeter controls are a standard requirement (see Part 2.2.3).

Table G-10 Estimated 50-foot Buffer Performance in New Mexico*

	Estimated % Sediment Removal				
Type of Buffer Vegetation **	**Clay**	**Silty Clay Loam or Clay-Loam**	**Sand**	**Sandy Clay Loam, Loamy Sand or Silty Clay**	**Loam, Silt, Sandy Loam or Silt Loam**
Tall Fescue grass	71	85	80	86	90
Medium-density Weeds	56	73	55	66	78
Low-density Warm-season Native Bunchgrass (i.e., Grama Grass)	53	70	51	62	67
Southern Mixed Prairie Grass	53	71	52	63	50
Southern Range Cold Desert Shrubs	56	73	55	65	53

* Applicable for sites with less than nine percent slope
** Characterization focuses on the under-story vegetation

Table G-11 Estimated 50-foot Buffer Performance in Washington, DC*

	Estimated % Sediment Removal				
Type of Buffer Vegetation **	**Clay**	**Silty Clay Loam or Clay-Loam**	**Sand**	**Sandy Clay Loam, Loamy Sand or Silty Clay**	**Loam, Silt, Sandy Loam or Silt Loam**
Warm-season Grass (i.e., Switchgrass, Lemongrass)	82	90	90	90	90
Cool-season Dense Grass (Kentucky Bluegrass, Smooth Bromegrass, Timothy)	81	90	90	90	90
Tall Fescue Grass	79	90	83	89	90
Medium-density Weeds	71	79	66	75	74

* Applicable for sites with less than nine percent slope
** Characterization focuses on the under-story vegetation

Table G-12 Estimated 50-foot Buffer Performance in American Samoa*

	Estimated % Sediment Removal				
Type of Buffer Vegetation **	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Bahiagrass (Permanent cover)	82	90	90	90	83
Warm-season Grass (i.e., Switchgrass, Lemongrass)	82	90	90	90	85
Dense Grass	82	90	90	90	83
Tall Fescue Grass	82	89	82	89	79
Medium-density Weeds	70	73	62	75	59

* Applicable for sites with less than nine percent slope
** Characterization focuses on the under-story vegetation

Table G-13 Estimated 50-foot Buffer Performance in CNMI and Guam*

	Estimated % Sediment Removal				
Type of Buffer Vegetation **	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Bahiagrass (Permanent cover)	80	90	90	90	89
Warm-season Grass (i.e., Switchgrass, Lemongrass)	80	90	90	90	90
Dense Grass	79	90	90	90	89
Tall Fescue Grass	76	90	80	88	87
Medium-density Weeds	63	73	53	68	61

* Applicable for sites with less than nine percent slope
** Characterization focuses on the under-story vegetation

Table G-14 Estimated 50-foot Buffer Performance in Puerto Rico*

	Estimated % Sediment Removal				
Type of Buffer Vegetation**	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Bahiagrass (Permanent cover)	83	90	90	90	90
Warm-season Grass (i.e., Switchgrass, Lemongrass)	83	90	90	90	90
Dense Grass	83	90	90	90	90
Tall Fescue Grass	82	90	84	90	89
Medium-density Weeds	72	78	65	76	64

* Applicable for sites with less than nine percent slope
** Characterization focuses on the under-story vegetation

Table G-15 Estimated 50-foot Buffer Performance in Virgin Islands*

Type of Buffer Vegetation**	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Bahiagrass (Permanent cover)	85	90	90	90	90
Warm-season Grass (i.e., Switchgrass, Lemongrass)	86	90	90	90	90
Dense Grass	85	90	90	90	90
Tall Fescue Grass	85	90	88	90	89
Medium-density Weeds	75	77	71	78	63

* Applicable for sites with less than nine percent slope
** Characterization focuses on the under-story vegetation

ATTACHMENT 2

Using the Sediment Removal Efficiency Tables – Questions and Answers

- *What if my specific buffer vegetation is not represented in Tables G-8 through G-15?* Tables G - 8 through G - 15 provide a wide range of factors affecting buffer performance; however, there are likely instances where the specific buffer vegetation type on your site is not listed. If you do not see a description of the type of vegetation present at your site, you should choose the vegetation type that most closely matches the vegetation type on your site. You can contact your local Cooperative Extension Service Office (http://nifa.usda.gov/partners-and-extension-map) for assistance in determining the vegetation type in Tables G-8 through G-15 that most closely matches your site-specific vegetation.
- *What if there is high variability in local soils?* EPA recognizes that there may be a number of different soil type(s) on any given construction site. General soil information can be obtained from USDA soil survey reports (http://websoilsurvey.nrcs.usda.gov) or from individual site assessments performed by a certified soil expert. Tables G-8 through G-15 present eleven generic soil texture classes, grouping individual textures where EPA has determined that performance is similar. If your site contains different soil texture classes, you should use the soil type that best approximates the predominant soil type at your site.
- *What if my site slope is greater than 9 percent after final grade is reached?* As indicated in the buffer performance tables, the estimated sediment removal efficiencies are associated with disturbed slopes of up to 9 percent grade. Where your graded site has an average slope of greater than 9 percent, you should calculate a site-specific buffer performance.
- *How do I calculate my own estimates for sediment reduction at my specific site?* If you determine that it is necessary to calculate your own sediment removal efficiency using site-specific conditions (e.g., slopes at your site are greater than 9 percent), you can use a range of available models that are available to facilitate this calculation, including USDA's RUSLE-series programs and the WEPP erosion model, SEDCAD, SEDIMOT, or other equivalent models.
- *What is my estimated buffer performance if my site location is not represented by Tables G-8 through G-15?* If your site is located in an area not represented by Tables G-8 through G-15, you should use the table that most closely approximates conditions at your site. You may instead choose to conduct a site-specific calculation of the buffer performance.
- *What if only a portion of my site drains to the buffer area?* If only a portion of your site drains to a water of the U.S., where that water is within 50 feet of your earth disturbances, you are only required to meet the equivalency requirement for the stormwater flows corresponding to those portions of the site. See Example 2 below for an example of how this is expected to work.

ATTACHMENT 3

Examples of How to Use the Sediment Removal Efficiency Tables

Example 1. Comparatively Wet Location (7.5 acre site located in Massachusetts)

The operator of a 7.5-acre construction site in Massachusetts has determined that it is infeasible to establish a buffer of any size on the site, and is now required to select and install controls that will achieve an equivalent sediment load reduction as that estimated in G-9 for their site conditions. The first step is to identify what percentage of eroded sediment is estimated to be retained from a 50-foot buffer. For this example, it is assumed that the site has a relatively uniform gentle slope (3 percent), so Table G-9 can be used to estimate the 50-foot buffer sediment load reduction. If the site's buffer vegetation is best typified by cool-season dense grass and the underlying soil is of a type best described as loamy sand, the 50-foot buffer is projected to capture 90 percent of eroded sediment from the construction site.

The second step is to determine what sediment controls can be selected and installed in combination with the perimeter controls already required to be implemented at the site (see Part 2.2.3), which will achieve the 90 percent sediment removal efficiency from Table G-9. For this example, using the RUSLE2 profile model, it was determined that installing a pair of shallow-sloped diversion ditches to convey runoff to a well-designed and maintained sediment basin provides 99 percent sediment removal. Because the estimated sediment reduction is greater than the required 90 percent that a 50-foot buffer provides, the operator will have met the buffer requirements. See **Error! Reference source not found.**. The operator could also choose a different set of controls, as long as they achieve at least a 90 percent sediment removal efficiency.

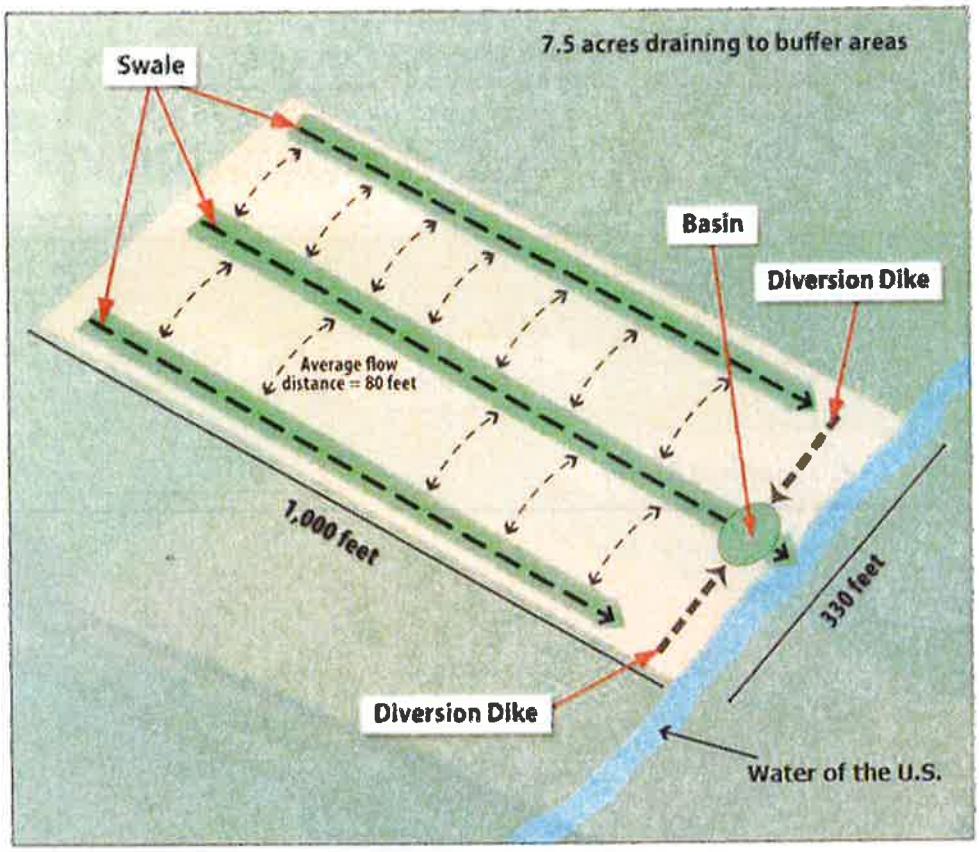


Figure G-5 Example 1 – Equivalent Sediment Load Reductions at a 7.5 ac Site in MA.

Example 2. Arid Location With Pre-existing Disturbances in the Natural Buffer (6.5 acre site located in New Mexico)

An operator of a site in New Mexico determines that it is not feasible to provide a 50-foot buffer, but a 28-foot buffer can be provided. Because the operator will provide a buffer that is less than 50 feet, the operator must determine which controls, in combination with the 28-foot buffer, achieve a sediment load reduction equivalent to the 50-foot buffer. In this example, the project will disturb 6.5 acres of land, but only 1.5 acres of the total disturbed area drains to the buffer area. Within the 28-foot buffer area is a preexisting concrete walkway. Similar to Example 1, the equivalence analysis starts with Step 1in Part G.2.4 of this Appendix with a review of the New Mexico buffer performance (Table G-10). The operator determines that the predominate vegetation type in the buffer area is prairie grass, the soil type is similar to silt, and the site is of a uniform, shallow slope (e.g., 3 percent grade). Although the operator will take credit for the disturbance caused by the concrete walkway as a natural buffer in Step 2, here the operator can treat the entire buffer area as being naturally vegetated with prairie grass. Based on this information, the operator refers to Table G-10 to estimate that the 50-foot buffer would retain 50 percent of eroded soil.

The second step is to determine, based on the 50 percent sediment removal efficiency found in Table G - 10, what sediment controls, in combination with the 28-foot buffer area, can be implemented to reduce sediment loads by 50 percent or more. The operator does not have to account the reduction in buffer function caused by the preexisting walkway, and can take credit for the entire 28-foot buffer being fully vegetated in the analysis. For this example, using the RUSLE2 profile model, the operator determined that installing a fiber roll barrier between the

silt fence (already required by Part 2.2.3) and the 28-foot buffer will achieve an estimated 84 percent sediment removal efficiency. See **Error! Reference source not found.**. Note that this operator is subject to the requirement in Part G.2.3 of this Appendix to ensure that discharges through the silt fence, fiber roll barrier, and 28-foot buffer do not cause erosion within the buffer. The estimated sediment reduction is greater than the required 50 percent; therefore the operator will have met the buffer alternative requirement.

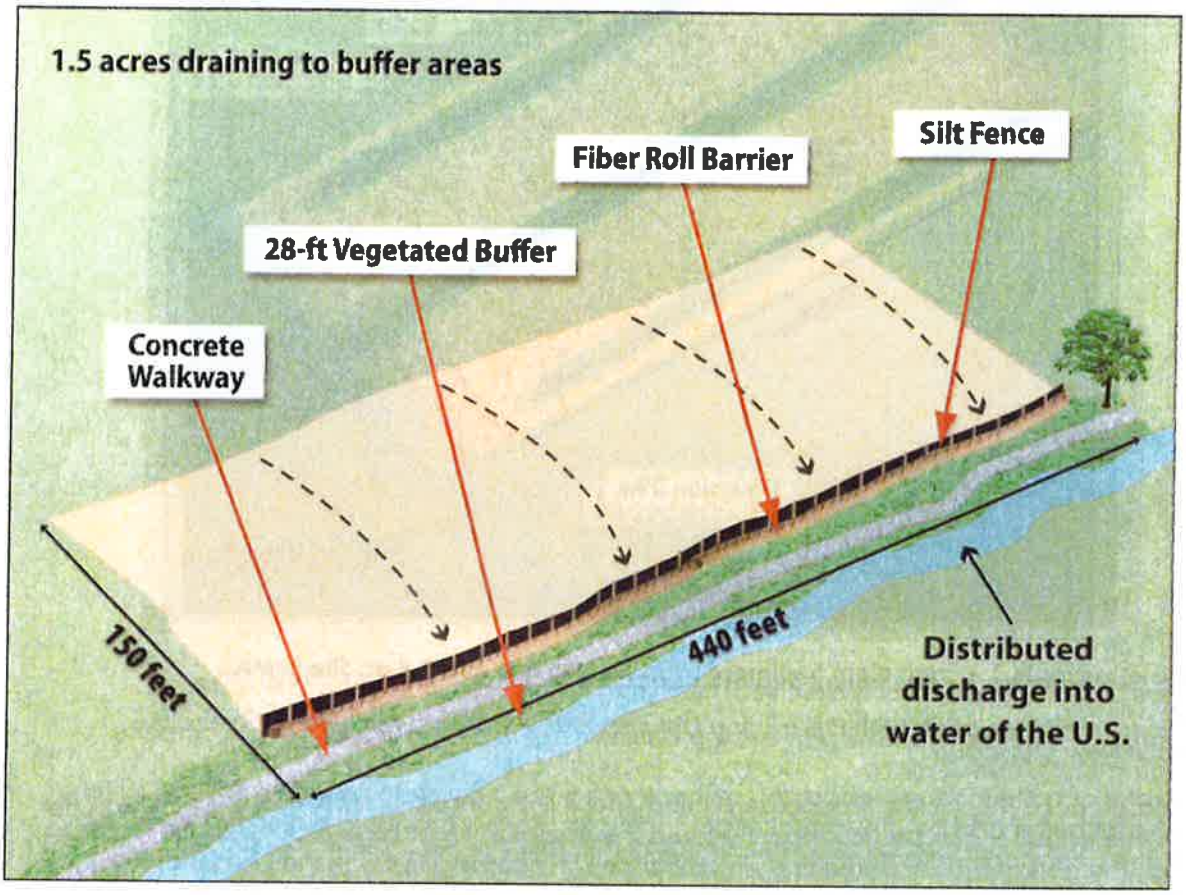


Figure G-6 Example 2 – Equivalent Sediment Load Reductions at a 6.5 ac Site in NM.

Appendix H – 2-Year, 24-Hour Storm Frequencies

Part 2.2.12 of the permit indicates that if you install a sediment basin, one of the design requirements is to provide storage for either (1) the calculated volume of runoff from a 2-year, 24-hour storm, or (2) 3,600 cubic feet per acre drained. This appendix is intended to provide a guide to permittees to determine the volume of precipitation associated with their local 2-year, 24-hour storm event.

The permittee should start out by determining their local 2-year, 24-hour storm volume. The rainfall frequency atlases, technical papers, and the Precipitation Frequency Data Server (PFDS) developed by the National Oceanic and Atmospheric Administration's (NOAA) National Weather Service (NWS) serve as national standards for rainfall intensity at specified frequencies and durations in the United States. Table H-1 identifies methods for determining precipitation frequency based on permit area. EPA notes that permittees may also use alternative peer-reviewed data sources not listed in Table H - 1 to determine the 2-year, 24-hour storm for their site.

Table H -1 – Method to Determine Precipitation Frequency Based on Permit Area

PERMIT AREA	METHOD TO DETERMINE PRECIPITATION FREQUENCY
District of Columbia	PFDS; NOAA Atlas 14, Vol. 2
Idaho	NOAA Atlas 2, Vol. 5; Technical Paper 40
Massachusetts	Technical Paper 40
New Hampshire	Technical Paper 40
New Mexico	PFDS; Technical Paper 40
Selected Pacific Islands	PFDS; Technical Paper 40
Puerto Rico and the U.S Virgin Islands	PFDS; Technical Paper 40
Other	PFDS; Technical Paper 40; NOAA Atlas 2 or 14

How to Determine Your Local 2-year, 24-hour Storm Size

Projects located in the **District of Columbia, Massachusetts, New Hampshire, New Mexico, Puerto Rico, U.S. Virgin Islands, or Pacific Islands** can use the PFDS at http://hdsc.nws.noaa.gov/hdsc/pfds/index.html or the appropriate NOAA's Atlas 14 Volume at http://www.nws.noaa.gov/oh/hdsc/currentpf.htm to determine their precipitation frequency.

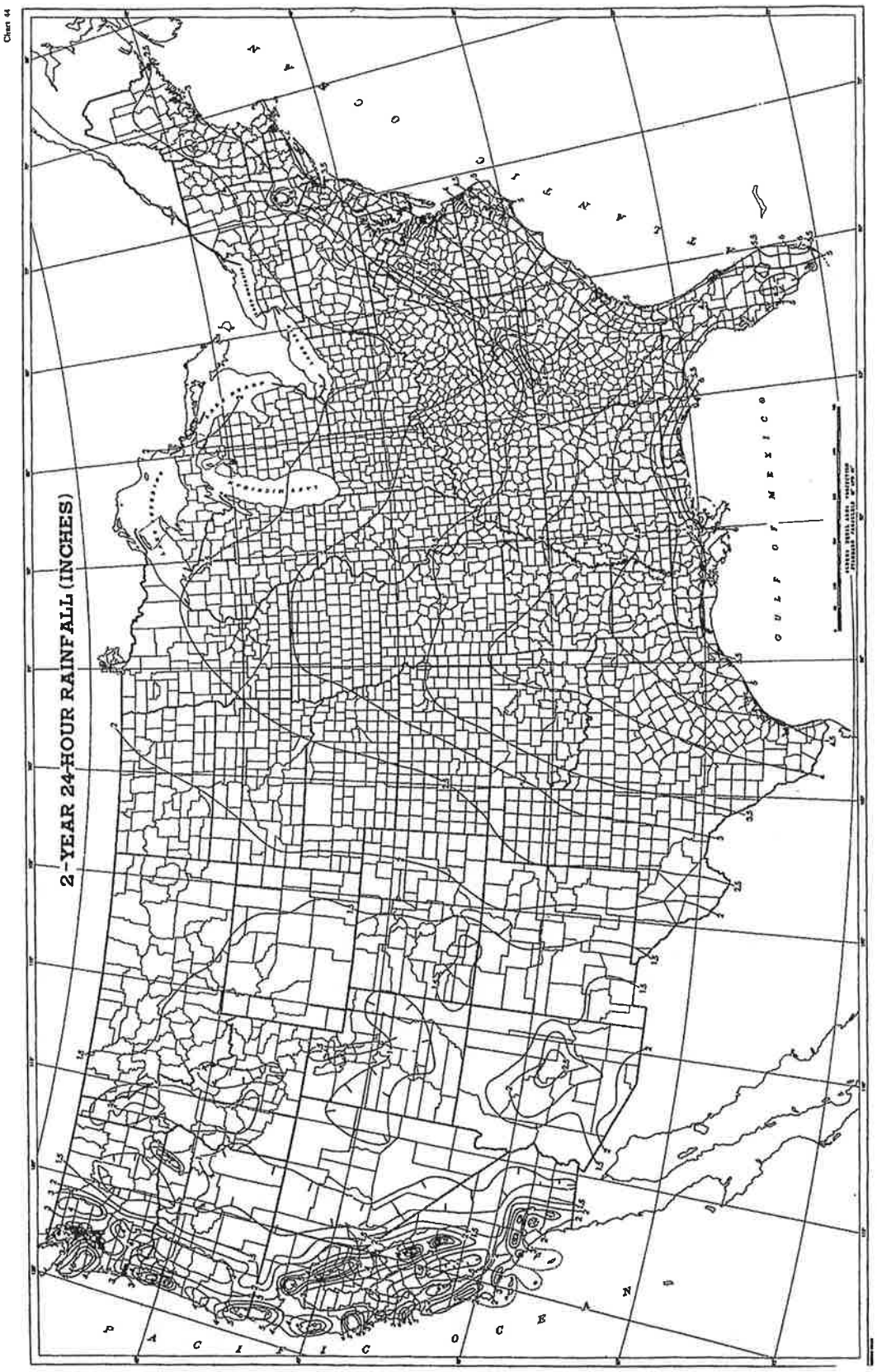
The PFDS is an easy to use, point-and-click interface to official U.S. precipitation frequency estimates and intensities. The opening PFDS screen is a clickable map of the United States. Upon clicking on a state, a state-specific interface appears. From this page the user selects the following:

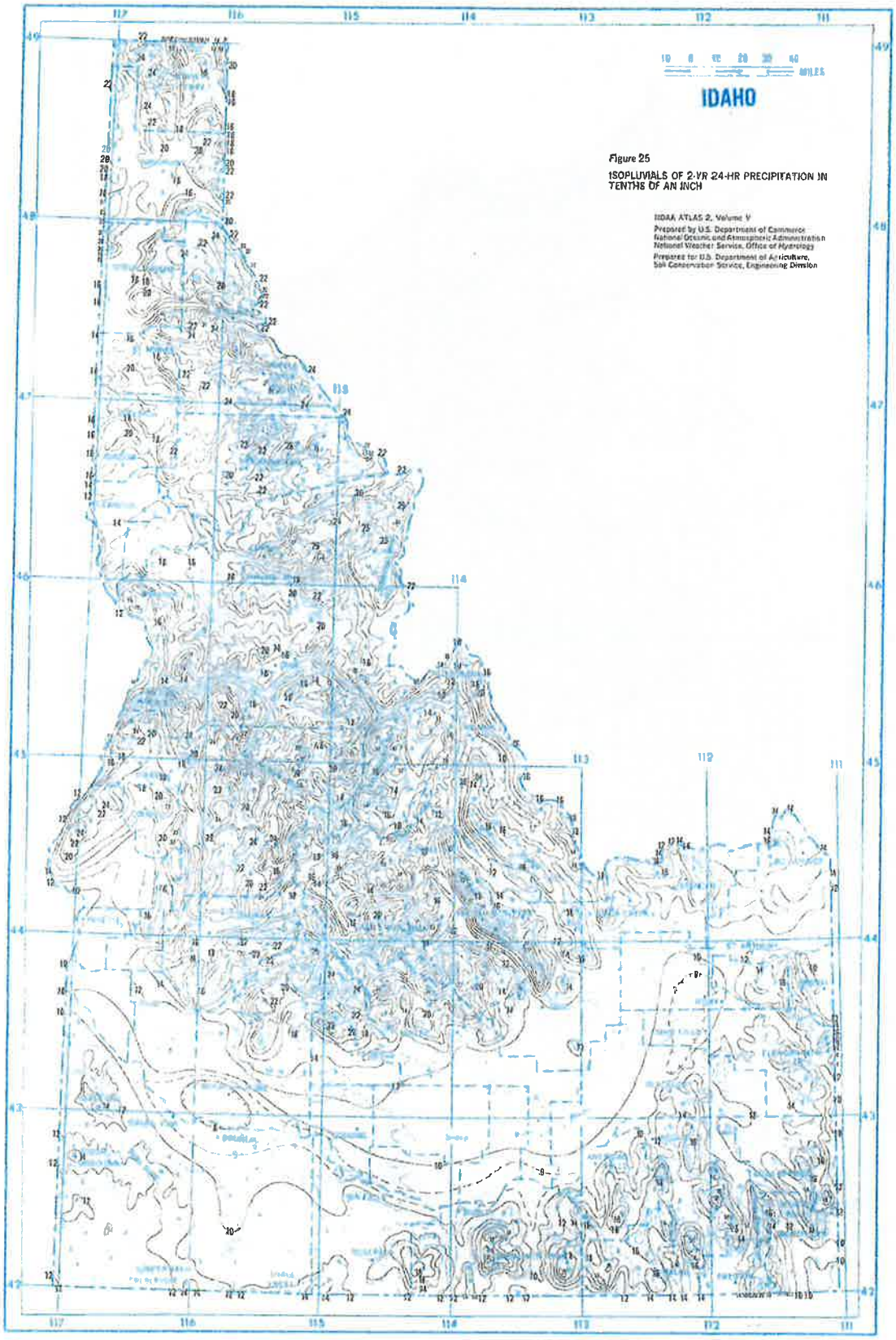
- A location: Either via clicking on the map or manually entering a longitude/latitude coordinate;
- Data type: precipitation depth or precipitation intensity
- Units: english or metric; and
- Time series type: partial duration or annual maximum.

Additionally, PFDS also serves as a tool for providing references and other information for other current precipitation frequency standards that are not yet updated.

Projects located in **Idaho** can use the NOAA Atlas 2, Vol. 5 to determine their precipitation frequency. NOTE: Precipitation Frequencies on the NOAA Atlas 2, Vol. 5 are in tenths of an inch and will have to be converted to inches to determine precipitation frequency. NOAA Atlas 2, Vol. 5 can be accessed at http://www.nws.noaa.gov/oh/hdsc/PF_documents/Atlas2_Volume5.pdf. (See also attached map of NOAA Atlas 2, Vol. 5)

Projects located in areas not covered by the PFDS or NOAA Atlases will need to use TP-40 to identify the precipitation frequency. TP-40 provides a map of the continental U.S. for the 2-year, 24-hour rainfall. TP40 can be accessed at http://www.nws.noaa.gov/oh/hdsc/PF_documents/TechnicalPaper_No40.pdf. (See also attached map of TP-40)


2-YEAR 24-HOUR RAINFALL (INCHES)
GULF OF MEXICO
PACIFIC OCEAN


IDAHO
Figure 25
ISOPLUVIALS OF 2-YR 24-HR PRECIPITATION IN TENTHS OF AN INCH
NOAA ATLAS 2, Volume V
Prepared by U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service, Office of Hydrology
Prepared for U.S. Department of Agriculture
Soil Conservation Service, Engineering Division

Appendix I - Standard Permit Conditions

Standard permit conditions in Appendix I are consistent with the general permit provisions required under 40 CFR 122.41.

I.1 Duty To Comply.

You must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

I.1.1 You must comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards, even if the permit has not yet been modified to incorporate the requirement.

I.1.2 Penalties for Violations of Permit Conditions: The Director will adjust the civil and administrative penalties listed below in accordance with the Civil Monetary Penalty Inflation Adjustment Rule (61 FR 252, December 31, 1996, pp. 69359-69366, as corrected in 62 FR 54, March 20, 1997, pp.13514-13517) as mandated by the Debt Collection Improvement Act of 1996 for inflation on a periodic basis. This rule allows EPA's penalties to keep pace with inflation. The Agency is required to review its penalties at least once every 4 years thereafter and to adjust them as necessary for inflation according to a specified formula. The civil and administrative penalties following were adjusted for inflation starting in 1996.

I.1.2.1 *Criminal Penalties.*

a. *Negligent Violations.* The CWA provides that any person who negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to criminal penalties of not less than $2,500 nor more than $25,000 per day of violation, or imprisonment of not more than one year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation or by imprisonment of not more than two years, or both.

b. *Knowing Violations.* The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both.

c. *Knowing Endangerment.* The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act and who knows at that time that he or she is placing another person in imminent danger of death or serious bodily injury shall upon conviction be subject to a fine of not more than $250,000 or by imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in Section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision be subject to a fine of not

more than $1,000,000 and can fined up to $2,000,000 for second or subsequent convictions.

d. *False Statement.* The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both. The Act further provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

I.1.2.2 *Civil Penalties.* The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed the maximum amount authorized by Section 309(d) of the Act, as adjusted pursuant to the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended (28 U.S.C. § 2461 note), and codified at 40 CFR § 19.4.

I.1.2.3 *Administrative Penalties.* The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to an administrative penalty, as follows

a. *Class I Penalty.* Not to exceed the maximum amounts authorized by Section 309(g)(2)(A) of the Act, as adjusted pursuant to the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note), as amended (28 U.S.C. § 2461 note), and codified at 40 CFR § 19.4.

b. *Class II Penalty.* Not to exceed the maximum amounts authorized by Section 309(g)(2)(B) of the Act, as adjusted pursuant to the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note), as amended, (28 U.S.C. § 2461 note), and codified at 40 CFR § 19.4.

I.2 Duty to Reapply.

If you wish to continue an activity regulated by this permit after the expiration date of this permit, you must apply for and obtain authorization as required by the new permit once EPA issues it.

I.3 Need to Halt or Reduce Activity Not a Defense.

It shall not be a defense for you in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

I.4 Duty to Mitigate.

You must take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

I.5 Proper Operation and Maintenance.

You must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by you to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by you only when the operation is necessary to achieve compliance with the conditions of this permit.

I.6 Permit Actions.

This permit may be modified, revoked and reissued, or terminated for cause. Your filing of a request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

I.7 Property Rights.

This permit does not convey any property rights of any sort, or any exclusive privileges.

I.8 Duty to Provide Information.

You must furnish to EPA or an authorized representative (including an authorized contractor acting as a representative of EPA), within a reasonable time, any information that EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. You must also furnish to EPA or an authorized representative upon request, copies of records required to be kept by this permit.

I.9 Inspection and Entry.

You must allow EPA or an authorized representative (including an authorized contractor acting as a representative of EPA), upon presentation of credentials and other documents as may be required by law, to:

I.9.1 Enter upon your premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

I.9.2 Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

I.9.3 Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

I.9.4 Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

I.10 Monitoring and Records.

I.10.1 Samples and measurements taken for the purpose of monitoring must be representative of the volume and nature of the monitored activity.

I.10.2 You must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date the permit expires or the date the permittee's authorization is terminated. This period may be extended by request of EPA at any time.

I.10.3 Records of monitoring information must include:

I.10.3.1 The date, exact place, and time of sampling or measurements;

I.10.3.2 The individual(s) who performed the sampling or measurements;

I.10.3.3 The date(s) analyses were performed

I.10.3.4 The individual(s) who performed the analyses;

I.10.3.5 The analytical techniques or methods used; and

I.10.3.6 The results of such analyses.

I.10.4 Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in the permit.

I.10.5 The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

I.11 Signatory Requirements.

I.11.1 All applications, including NOIs, must be signed as follows:

I.11.1.1 For a corporation: By a responsible corporate officer. For the purpose of this subsection, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

I.11.1.2 For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

I.11.1.3 For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this subsection, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of EPA).

I.11.2 Your SWPPP, including changes to your SWPPP, inspection reports, and any other compliance documentation required under this permit, must be signed by a person described in Appendix I, Subsection I.11.1 above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

I.11.2.1 The authorization is made in writing by a person described in Appendix I, Subsection I.11.1;

I.11.2.2 The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant

manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

I.11.2.3 The signed and dated written authorization is included in the SWPPP. A copy must be submitted to EPA, if requested.

I.11.3 Changes to Authorization. If an authorization under this permit is no longer accurate because a different operator has responsibility for the overall operation of the construction site, a new NOI must be submitted to EPA. See Table 1 in Part 1.4.2 of the permit. However, if the only change that is occurring is a change in contact information or a change in the facility's address, the operator need only make a modification to the existing NOI submitted for authorization.

I.11.4 Any person signing documents in accordance with Appendix I, Subsections I.11.1 or I.11.2 above must include the following certification:

> "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information contained therein. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information contained is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

I.11.5 For persons signing NOIs electronically, in addition to meeting other applicable requirements in Appendix I, Subsection I.11, such signatures must meet the same signature, authentication, and identity-proofing standards set forth at 40 CFR § 3.2000(b) for electronic reports (including robust second-factor authentication).

I.11.6 The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

I.12 Reporting Requirements.

I.12.1 Planned changes. You must give notice to EPA as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

I.12.1.1 The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or

I.12.1.2 The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1).

I.12.2 Anticipated noncompliance. You must give advance notice to EPA of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

I.12.3 Transfers. This permit is not transferable to any person except after notice to EPA. Where a facility wants to change the name of the permittee, the original permittee (the first owner or operators) must submit a Notice of Termination pursuant to Part 8. The new owner or operator must submit a Notice of Intent in accordance with Part 1.7 and Table 1. See also requirements in Appendix I, Subsections I.11.1 and I.11.2.

I.12.4 Monitoring reports. Monitoring results must be reported at the intervals specified elsewhere in this permit.

I.12.4.1 Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by EPA for reporting results of monitoring of sludge use or disposal practices.

I.12.4.2 If you monitor any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR 136 unless otherwise specified in 40 CFR Part 503, or as specified in the permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by EPA.

I.12.5 Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date.

I.12.6 Twenty-four hour reporting. In addition to reports required elsewhere in this permit:

I.12.6.1 You must report any noncompliance which may endanger health or the environment directly to the EPA Regional Office (see contacts at https://www2.epa.gov/national-pollutant-discharge-elimination-system-npdes/contact-us-stormwater#regional). Any information must be provided orally within 24 hours from the time you become aware of the circumstances. A written submission must also be provided within five days of the time you become aware of the circumstances. The written submission must contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

I.12.6.2 The following shall be included as information which must be reported within 24 hours under this paragraph.

a. Any unanticipated bypass which exceeds any effluent limitation in the permit. (See 40 CFR 122.41(m)(3)(ii))

b. Any upset which exceeds any effluent limitation in the permit

c. Violation of a maximum daily discharge limit for any numeric effluent limitation. (See 40 CFR 122.44(g).)

I.12.6.3 EPA may waive the written report on a case-by-case basis for reports under Appendix I, Subsection I.12.6.2 if the oral report has been received within 24 hours.

I.12.7 Other noncompliance. You must report all instances of noncompliance not reported under Appendix I, Subsections I.12.4, I.12.5, and I.12.6, at the time monitoring reports are submitted. The reports must contain the information listed in Appendix I, Subsection I.12.6.

I.12.8 Other information. Where you become aware that you failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Permitting Authority, you must promptly submit such facts or information.

I.13 Bypass.

I.13.1 Definitions.

I.13.1.1 Bypass means the intentional diversion of waste streams from any portion of a treatment facility See 40 CFR 122.41(m)(1)(i).

I.13.1.2 Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. See 40 CFR 122.41(m)(1)(ii).

I.13.2 Bypass not exceeding limitations. You may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Appendix I, Subsections I.13.3 and I.13.4. See 40 CFR 122.41(m)(2).

I.13.3 Notice.

I.13.3.1 Anticipated bypass. If you know in advance of the need for a bypass, you must submit prior notice, if possible at least ten days before the date of the bypass. See 40 CFR 122.41(m)(3)(i).

I.13.3.2 Unanticipated bypass. You must submit notice of an unanticipated bypass as required in Appendix I, Subsection I.12.6 (24-hour notice). See 40 CFR 122.41(m)(3)(ii).

I.13.4 Prohibition of bypass. See 40 CFR 122.41(m)(4).

I.13.4.1 Bypass is prohibited, and EPA may take enforcement action against you for bypass, unless:

a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

c. You submitted notices as required under Appendix I, Subsection I.13.3.

I.13.4.2 EPA may approve an anticipated bypass, after considering its adverse effects, if EPA determines that it will meet the three conditions listed above in Appendix I, Subsection I.13.4.1.

I.14 Upset.

I.14.1 Definition. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond your reasonable control. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. See 40 CFR 122.41(n)(1).

I.14.2 Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Appendix I, Subsection I.14.3 are met. No determination made during

administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. See 40 CFR 122.41(n)(2).

I.14.3 Conditions necessary for a demonstration of upset. See 40 CFR 122.41(n)(3). A permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

I.14.3.1 An upset occurred and that you can identify the cause(s) of the upset;

I.14.3.2 The permitted facility was at the time being properly operated; and

I.14.3.3 You submitted notice of the upset as required in Appendix I, Subsection I.12.6.2.b (24 hour notice).

I.14.3.4 You complied with any remedial measures required under Appendix I, Subsection I.4.

I.14.4 Burden of proof. In any enforcement proceeding, you, as the one seeking to establish the occurrence of an upset, have the burden of proof. See 40 CFR 122.41(n)(4).

I.15 Retention of Records.

Copies of the SWPPP and all documentation required by this permit, including records of all data used to complete the NOI to be covered by this permit, must be retained for at least three years from the date that permit coverage expires or is terminated. This period may be extended by request of EPA at any time.

I.16 Reopener Clause.

I.16.1 Procedures for modification or revocation. Permit modification or revocation will be conducted according to 40 CFR §122.62, §122.63, §122.64 and §124.5.

I.16.2 Water quality protection. If there is evidence indicating that the stormwater discharges authorized by this permit cause, have the reasonable potential to cause or contribute to an excursion above any applicable water quality standard, you may be required to obtain an individual permit, or the permit may be modified to include different limitations and/or requirements.

I.16.3 Timing of permit modification. EPA may elect to modify the permit prior to its expiration (rather than waiting for the new permit cycle) to comply with any new statutory or regulatory requirements, such as for effluent limitation guidelines that may be promulgated in the course of the current permit cycle.

I.17 Severability.

Invalidation of a portion of this permit does not necessarily render the whole permit invalid. EPA's intent is that the permit is to remain in effect to the extent possible; in the event that any part of this permit is invalidated, EPA will advise the regulated community as to the effect of such invalidation.

Appendix J - Notice of Intent (NOI) Form and Instructions

Part 1.4.1 requires you to use the NPDES eReporting Tool, or "NeT" system, to prepare and submit your NOI electronically. However, if the EPA Regional Office grants you a waiver to use a paper NOI form, and you elect to use it, you must complete and submit the following form.

NPDES FORM 3510-9	EPA	UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, DC 20460 NOTICE OF INTENT FOR THE 2017 NPDES CONSTRUCTION GENERAL PERMIT	Form Approved. OMB No. 2040-0004

Submission of this Notice of Intent (NOI) constitutes notice that the operator identified in Section III of this form requests authorization to discharge pursuant to the NPDES Construction General Permit (CGP) permit number identified in Section II of this form. Submission of this NOI also constitutes notice that the operator identified in Section III of this form meets the eligibility requirements of Part 1.1 CGP for the project identified in Section IV of this form. Permit coverage is required prior to commencement of construction activity until you are eligible to terminate coverage as detailed in Part 8 of the CGP. To obtain authorization, you must submit a complete and accurate NOI form. Discharges are not authorized if your NOI is incomplete or inaccurate or if you were never eligible for permit coverage. Refer to the instructions at the end of this form.

I. Approval to Use Paper NOI Form

Have you been granted a waiver from electronic reporting from the Regional Office *? ☐ YES ☐ NO

If yes, check which waiver you have been granted, , the name of the EPA Regional Office staff person who granted the waiver, and the date of approval:

Waiver granted: ☐ The owner/operator's headquarters is physically located in a geographic area (i.e., ZIP code or census tract) that is identified as under-served for broadband Internet access in the most recent report from the Federal Communications Commission.

☐ The owner/operator has issues regarding available computer access or computer capability.

Name of EPA staff person that granted the waiver:

Date approval obtained: __ / __ / ____

*** Note: You are required to obtain approval from the applicable Regional Office prior to using this paper NOI form. If you have not obtained a waiver, you must file this form electronically using the NPDES eReporting Tool (NeT).**

II. Permit Information

NPDES ID (EPA Use Only):

Master Permit Number: (see Appendix B of the CGP for the list of eligible permit numbers)

III. Operator Information

Operator Information

Operator Name:

Are you requesting coverage under this NOI as a "federal operator" as defined in Appendix A? ☐ YES ☐ NO

Mailing Address:

Street:

City: State: ZIP Code: -

County or Similar Government Division:

Phone: - - Ext.

E-mail:

Operator Point of Contact Information:

First Name, Middle Initial, Last Name:

Title:

NOI Preparer (Complete if NOI was prepared by someone other than the certifier):

First Name, Middle Initial, Last Name:

Organization:

Phone: ___ - ___ - ____ Ext. _____

E-mail: _____

IV. Project/Site Information

Project/Site Name: _____

Project/Site Address:

Street/Location: _____

City: _____ State: ___ ZIP Code: _____ - _____

County or Similar Government Subdivision: _____

For the project/site you are seeking permit coverage, provide the following information:

Latitude/Longitude (Use decimal degrees and specify method):

Latitude: ___.____ ____° N (decimal degrees) Longitude: ___ ___.____ ____° W (decimal degrees)

Latitude/Longitude Data Source: ☐ Map ☐ GPS ☐ Other_____ Horizontal Reference Datum: ☐ NAD 27 ☐ NAD 83 ☐ WGS 84

Is your project/site located in Indian country lands, or located on a property of religious or cultural significance to an Indian tribe? ☐ YES ☐ NO

If yes, provide the name of the Indian tribe associated with the area of Indian country (including name of Indian reservation, if applicable), or if not in Indian country, provide the name of the Indian tribe associated with the property:

_____

Estimated Project Start Date: ___ / ___ / ____ Estimated Project Completion Date: ___ / ___ / ____

Estimated Area to be Disturbed (to the nearest quarter acre): ____ . ___

Type of Construction Site (check all that apply): ☐ Single-Family Residential ☐ Multi-Family Residential ☐ Commercial ☐ Industrial

☐ Institutional ☐ Highway or Road ☐ Utility ☐ Other _____

Will there be demolition of any structure built or renovated before January 1, 1980? ☐ YES ☐ NO

If yes, do any of the structures being demolished have at least 10,000 square feet of floor space? ☐ YES ☐ NO

Was the pre-development land use used for agriculture (see Appendix A for definition of "agricultural land")? ☐ YES ☐ NO

Have earth-disturbing activities commenced on your project/site? ☐ YES ☐ NO

If yes, is your project an "emergency-related project" (see Appendix A)? ☐ YES ☐ NO

Have stormwater discharges from your project/site been covered previously under an NPDES permit? ☐ YES ☐ NO

If yes, provide the NPDES ID (if you had coverage under EPA's 2012 CGP or the NPDES permit number if you had coverage under an EPA individual permit: _____

V. Discharge Information

By indicating "Yes" below, I confirm that I understand that the CGP only authorizes the allowable stormwater discharges in Part 1.2.1 and the allowable non-stormwater discharges listed in Part 1.2.2. Any discharges not expressly authorized in this permit cannot become authorized or shielded from liability under CWA section 402(k) by disclosure to EPA, state, or local authorities after issuance of this permit via any means, including the Notice of Intent (NOI) to be covered by the permit, the Stormwater Pollution Prevention Plan (SWPPP), during an inspection, etc. If any discharges requiring NPDES permit coverage other than the allowable stormwater and non-stormwater discharges listed in Parts 1.2.1 and 1.2.2 will be discharged, they must be covered under another NPDES permit.
☐ YES

Does your project/site discharge stormwater into a Municipal Separate Storm Sewer System (MS4)? ☐ YES ☐ NO

Are there any waters of the U.S. within 50 feet of your project's earth disturbances? ☐ YES ☐ NO

Receiving Waters Information: (Attach a separate list if necessary)

Point of Discharge ID	For each point of discharge, provide the following receiving water information:		
	Provide the name of the first water of the U.S. that receives stormwater directly from the point of discharge and/or from the MS4 that the point of discharge discharges to:	If the receiving water is impaired (on the CWA 303(d) list), list the pollutants that are causing the impairment:	If a TMDL been completed for this receiving waterbody, providing the following information:
			TMDL Name and ID: Pollutant(s) for which there is a TMDL:
			TMDL Name and ID: Pollutant(s) for which there is a TMDL:
			TMDL Name and ID: Pollutant(s) for which there is a TMDL:
			TMDL Name and ID: Pollutant(s) for which there is a TMDL:

			TMDL Name and ID: **Pollutant(s) for which there is a TMDL:**
			TMDL Name and ID: **Pollutant(s) for which there is a TMDL:**

Are any of the waters of the U.S. to which you discharge designated by the state or tribal authority under its antidegradation policy as a Tier 2 (or Tier 2.5) water (water quality exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water) or as a Tier 3 water (Outstanding National Resource Water)? (See Appendix F).

☐ YES ☐ NO

If yes, name(s) of receiving water(s) and its designation (Tier 2, Tier 2.5 or Tier 3): _____

VI. Chemical Treatment Information

Will you use polymers, flocculants, or other treatment chemicals at your construction site? ☐ YES ☐ NO

If yes, will you use cationic treatment chemicals at your construction site*? ☐ YES ☐ NO

If yes, have you been authorized to use cationic treatment chemicals by your applicable EPA Regional Office in advance of filing your NOI*? ☐ YES ☐ NO

If you have been authorized to use cationic treatment chemicals by your applicable EPA Regional Office, attach a copy of your authorization letter and include documentation of the appropriate controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to a violation of water quality standards.

Please indicate the treatment chemicals that you will use: _____

_____

* Note: You are ineligible for coverage under this permit unless you notify your applicable EPA Regional Office in advance and the EPA office authorizes coverage under this permit after you have included appropriate controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to a violation of water quality standards.

VII. Stormwater Pollution Prevention Plan (SWPPP) Information

Has the SWPPP been prepared in advance of filing this NOI, as required? ☐ YES ☐ NO

SWPPP Contact Information:

First Name, Middle Initial Last Name:

Professional Title:

Phone: ___ - ___ - ____ Ext. ____

E-mail:

VIII. Endangered Species Protection

Using the instructions in Appendix D of the CGP, under which criterion listed below are you eligible for coverage under this permit? Check only 1 box, include the required information and provide a sound basis for supporting the criterion selected. You must consider Endangered Species Act listed threatened or endangered species (ESA-listed) and/or designated critical habitat(s) under the jurisdiction of both the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) and select the most conservative criterion that applies.

☐ **A** No ESA-listed species and/or designated critical habitat present in action area. Using the process outlined in Appendix D of this permit, you certify that ESA-listed species and designated critical habitat(s) under the jurisdiction of the USFWS or NMFS are not likely to occur in your site's "action area" as defined in Appendix A of this permit. ***[Basis statement content: A basis statement supporting the selection of this criterion should identify the USFWS and NMFS information sources used. Attaching aerial image(s) of the site to this NOI is helpful to EPA, USFWS, and NMFS in confirming eligibility under this criterion. Please Note: NMFS' jurisdiction includes ESA-listed marine and estuarine species that spawn in inland rivers.]***

☐ **B** Eligibility requirements met by another operator under the 2017 CGP. The construction site's discharges and discharge-related activities were already addressed in another operator's valid certification of eligibility for your "action area" under eligibility Criterion A, C, D, E, or F of the 2017 CGP and you have confirmed that no additional ESA-listed species and/or designated critical habitat under the jurisdiction of USFWS and/or NMFS not considered in the that certification may be present or located in the "action area." To certify your eligibility under this criterion, there must be no lapse of NPDES permit coverage in the other CGP operator's certification. By certifying eligibility under this criterion, you agree to comply with any conditions upon which the other CGP operator's certification was based. You must include in your NOI the NPDES ID from the other 2017CGP operator's notification of authorization under this permit. If your certification is based on another 2017 CGP operator's certification under criterion C, you must provide EPA with the relevant supporting information required of existing dischargers in criterion C in your NOI form. ***[Basis statement content: A basis statement supporting the selection of this criterion should identify the eligibility criterion of the other CGP NOI, the authorization date, and confirmation that the authorization is effective.]***

If you select criterion B, provide the NPDES ID from the other operator's notification of authorization under this permit: _ _ _ _ _ _ _ _ _

☐ **C** Discharges not likely to adversely affect ESA-listed species and/or designated critical habitat. ESA-listed species and/or designated critical habitat(s) under the jurisdiction of the USFWS and/or NMFS are likely to occur in or near your site's "action area," and you certify to EPA that your site's discharges and discharge-related activities are not likely to adversely affect ESA-listed threatened or endangered species and/or designated critical habitat. This certification may include consideration of any stormwater controls and/or management practices you will adopt to ensure that your discharges and discharge-related activities are not likely to adversely affect ESA-listed species and/or designated critical habitat. To certify your eligibility under this criterion, indicate 1) the ESA-listed species and/or designated habitat located in your "action area" using the process outlined in Appendix D of this permit; 2) the distance between the site and the listed species and/or designated critical habitat in the action area (in miles); and 3) a rationale describing specifically how adverse effects to ESA-listed species will be avoided from the discharges and discharge-related activities. You must also include a copy of your site map from your SWPPP showing the upland and in-water extent of your "action area" with this NOI. ***[Basis statement content: A basis statement supporting the selection of this criterion should identify the information resources and expertise (e.g., state or federal biologists) used to arrive at this conclusion. Any supporting documentation should explicitly state that both ESA-listed species and designated critical habitat under the jurisdiction of the USFWS and/or NMFS were considered in the evaluation.]***

What ESA-listed species and/or designated critical habitat are located in your "action area":

_____

_____

Distance between your site and the ESA-listed species and/or designated critical habitat within the action area (in miles, state "on site" if the ESA-listed species and/or designated critical habitat is within the area to be disturbed):

_____

_____

☐ **D** Coordination with USFWS and/or NMFS has successfully concluded. Coordination between you and the USFWS and/or NMFS has concluded. The coordination must have addressed the effects of your site's discharges and discharge-related activities on ESA-listed species and/or designated critical habitat under the jurisdiction of USFWS and/or NMFS, and resulted in a written concurrence from USFWS and/or NMFS that your site's discharges and discharge-related activities are not likely to adversely affect listed species and/or critical habitat. You must include copies of the correspondence with the participating agencies in your SWPPP and this NOI. ***[Basis statement content: A basis statement supporting the selection of this criterion should identify whether USFWS or NMFS or both agencies participated in coordination, the field office/regional office(s) providing that coordination, and the date that coordination concluded.]***

☐ **E** ESA Section 7 consultation has successfully concluded. Consultation between a Federal Agency and the USFWS and/or NMFS under section 7 of the ESA has concluded. The consultation must have addressed the effects of the construction site's discharges and discharge-related activities on ESA-listed species and/or designated critical habitat under the jurisdiction of USFWS and/or NMFS. To certify eligibility under this criterion, indicate the result of the consultation:

☐ biological opinion from USFWS and/or NMFS that concludes that the action in question (taking into account the effects of your site's discharges and discharge-related activities) is not likely to jeopardize the continued existence of listed species, nor the destruction or adverse modification of critical habitat; or

☐ written concurrence from USFWS and/or NMFS with a finding that the site's discharges and discharge-related activities are not likely to adversely affect ESA-listed species and/or designated critical habitat.

You must include copies of the correspondence between yourself and the USFWS and/or NMFS in your SWPPP and this NOI. ***[Basis statement content: A basis statement supporting the selection of this criterion should identify the federal action agencie(s) involved, the field office/regional office(s) providing that consultation, any tracking numbers of identifiers associated with that consultation (e.g., IPaC number, PCTS number), and the date the consultation was completed.]***

☐ **F** Issuance of section 10 permit. Potential take is authorized through the issuance of a permit under section 10 of the ESA by the USFWS and/or NMFS, and this authorization addresses the effects of the site's discharges and discharge-related activities on ESA-listed species and designated critical habitat. You must include copies of the correspondence between yourself and the participating agencies in your SWPPP and your NOI. ***[Basis***

statement content: A basis statement supporting the selection of this criterion should identify whether USFWS or NMFS or both agencies provided a section 10 permit, the field office/regional office(s) providing permit(s), any tracking numbers of identifiers associated with that consultation (e.g., IPaC number, PCTS number), and the date the permit was granted.]

:ovide a brief summary of the basis for criterion selection listed above *[the necessary content for a supportive basis statement is provided under the criterion ou selected.]*.

IX. Historic Preservation

Are you installing any stormwater controls as described in Appendix E that require subsurface earth disturbance? (Appendix E, Step 1) ☐ YES ☐ NO

If yes, have prior surveys or evaluations conducted on the site have already determined historic properties do not exist, or that prior disturbances have precluded the existence of historic properties? (Appendix E, Step 2) ☐ YES ☐ NO

If no, have you determined that your installation of subsurface earth-disturbing stormwater controls will have no effect on historic properties? (Appendix E, Step 3) ☐ YES ☐ NO

If no, did the SHPO, THPO, or other tribal representative (whichever applies) respond to you within the 15 calendar days to indicate whether the subsurface earth disturbances caused by the installation of stormwater controls affect historic properties? (Appendix E, Step 4) ☐ YES ☐ NO

If yes, describe the nature of their response:

- ☐ Written indication that no historic properties will be affected by the installation of stormwater controls.
- ☐ Written indication that adverse effects to historic properties from the installation of stormwater controls can be mitigated by agreed upon actions.
- ☐ No agreement has been reached regarding measures to mitigate effects to historic properties from the installation of stormwater controls.
- ☐ Other: _____

X. Certification Information

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

First Name, Middle Initial, Last Name: _____ _____ _____

Title: _____

Signature: _____ Date: ___/___/_____

Email: _____

Instructions for Completing EPA Form 3510-9

Notice of Intent for the 2017 NPDES Construction General Permit

NPDES Form Date (2/17) This Form Replaces Form 3510-9 (02/12) Form Approved OMB No. 2040-0004

Who Must File an NOI Form

Under the provisions of the Clean Water Act, as amended (33 U.S.C. 1251 et. seq.; the Act), federal law prohibits stormwater discharges from certain construction activities to waters of the U.S. unless that discharge is covered under a National Pollutant Discharge Elimination System (NPDES) permit. Operators of construction sites where one or more acres are disturbed, smaller sites that are part of a larger common plan of development or sale where there is a cumulative disturbance of at least one acre, or any other site specifically designated by the Director, must obtain coverage under an NPDES general permit. For coverage under the 2017 CGP, each person, firm, public organization, or any other entity that meets either of the following criteria must file a Notice of Intent form: (1) they have operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or (2) they have day-to-day operational control of those activities at the project necessary to ensure compliance with the permit conditions. If you have questions about whether you need a NPDES stormwater permit, or if you need information to determine whether EPA or your state agency is the permitting authority, contact your EPA Regional Office.

Completing the Form

Obtain and read a copy of the 2017 CGP, viewable at https://www.epa.gov/npdes/stormwater-discharges-construction-activities#cgp. To complete this form, type or print uppercase letters, in the appropriate areas only. Please place each character between the marks (abbreviate if necessary to stay within the number of characters allowed for each item). Use one space for breaks between words, but not for punctuation marks unless they are needed to clarify your response. If you have any questions on this form, telephone EPA's NOI Processing Center at (866) 352-7755. **Please submit the original document with signature in ink - do not send a photocopied signature.**

Section I. Approval to Use Paper NOI Form

You must indicate whether you have been granted a waiver from electronic reporting from the EPA Regional Office. Note that you are not authorized to use this paper NOI form unless the EPA Regional Office has approved its use. Where you have obtained approval to use this form, indicate the waiver that you have been granted, the name of the EPA staff person who granted the waiver, and the date that approval was provided.

See https://www.epa.gov/npdes/contact-us-stormwater#regional

for a list of EPA Regional Office contacts.

Section II. Permit Number

Provide the master permit number of the permit under which you are applying for coverage (see Appendix B of the general permit for the list of eligible master permit numbers)

Section III. Operator Information

Provide the legal name of the person, firm, public organization, or any other entity that operates the project described in this NOI. Refer to Appendix A of the permit for the definition of "operator".

Indicate whether you are seeking coverage under this permit as a "federal operator" as defined in Appendix A.

Also provide a point of contact, the operator's mailing address, county, telephone number, and e-mail address (to be notified via e-mail of NOI approval when available). Correspondence for the NOI will be sent to this address.

If the NOI was prepared by someone other than the certifier (for example, if the NOI was prepared by the facility SWPPP contact or a consultant for the certifier's signature), include the full name, organization, phone number, and email address of the NOI preparer.

Section IV. Project/Site Information

Enter the official or legal name and complete street address, including city, state, ZIP code, and county or similar government subdivision of the project or site. If the project or site lacks a street address, indicate the general location of the site (e.g., Intersection of State Highways 61 and 34). Complete site information must be provided for permit coverage to be granted.

Provide the latitude and longitude of your facility in decimal degrees format. The latitude and longitude of your facility can be determined in several different ways, including through the use of global positioning system (GPS) receivers, U.S. Geological Survey (U.S.G.S.) topographic or quadrangle maps, and web-based siting tools, among others. For consistency, EPA requests that measurements be taken from the approximate center of the construction site. For linear construction sites, the measurement should be taken midpoint of the site. If known, enter the horizontal reference datum for your latitude and longitude. The horizontal reference datum is shown on the bottom left corner of USGS topographic maps; it is also available for GPS receivers.

Indicate whether the project is in Indian country lands or located on a property of religious or cultural significance to an Indian tribe, and if so, provide the name of the Indian tribe associated with the area of Indian country (including name of Indian reservation, if applicable), or if not in Indian country, provide the name of the Indian tribe associated with the property.

Enter the estimated construction start and completion dates using four digits for the year (i.e., 10/06/2012). Indicate to the nearest quarter acre the estimated area to be disturbed.

Indicate the type of construction site, if demolition is occurring, and if so, if the structure has at least 10,000 square feet of floor space. Indicate whether the pre-development land use of the site was used for agriculture Appendix A defines "agricultural land" as cropland, grassland, rangeland, pasture, and other agricultural land, on which agricultural and forest-related products or livestock are produced and resource concerns may be addressed. Agricultural lands include cropped woodland, marshes, incidental areas included in the agricultural operation, and other types of agricultural land used for the production of livestock.

Indicate whether earth-disturbing activities have already commenced on your project/site. If earth-disturbing activities have commenced on your site because stormwater discharges from the site have been previously covered under a NPDES permit, you must provide the 2012 CGP NPDES ID or the NPDES permit number if coverage was under an individual permit.

Section V. Discharge Information

You must confirm that you understand that the CGP only authorizes the allowable stormwater discharges listed in Part 1.2.1 and the allowable non-stormwater discharges listed in Part 1.2.2.

Any discharges not expressly authorized under the CGP are not covered by the CGP or the permit shield provision of the CWA Section 402(k) and they cannot become authorized or shielded by disclosure to EPA, state, or local authorities via the NOI to be covered by the permit or by any other means (e.g., in the SWPPP or during an inspection). If any discharges requiring NPDES permit coverage other than the allowable stormwater and non-stormwater discharges listed in Parts 1.2.1 and 1.2.2 will be discharged, they must either be eliminated or covered under another NPDES permit.

Indicate whether discharges from the site will enter into a municipal separate storm sewer system (MS4), as defined in Appendix A.

Also, indicate whether any waters of the U.S. exist within 50 feet from your site. Note that if "yes", you are required to comply with the requirement in Part 2.2.1 of the permit to provide natural buffers or equivalent erosion and sediment controls.

For each unique point of discharge you list, you must specify the name of the first water of the U.S. that receives stormwater directly from the point of discharge and/or from the MS4 that the point of discharge discharges to. You must specify whether any waters of the U.S. that you discharge to are listed as "impaired" as defined in Appendix A, and the pollutants for which the water is impaired. You must identify any Total Maximum Daily Loads (TMDL) that have been completed for any of the waters of the U.S. that you discharge to.

Indicate whether discharges from the site will enter into a water of the U.S. that is designated as a Tier 2, Tier 2.5, or Tier 3 water. A list of Tier 2, 2.5, and 3 waters is provided as Appendix F. If the answer is "yes", name all waters designated as Tier 2, Tier 2.5, or Tier 3 to which the site will discharge.

Section VI. Chemical Treatment Information

Indicate whether the site will use polymers, flocculants, or other treatment chemicals. Indicate whether the site will employ cationic treatment chemicals. If the answer is "yes" to either question, indicate which chemical(s) you will use. Note that you are not eligible for coverage under this permit to use cationic treatment chemicals unless you notify your applicable EPA Regional Office in advance and the EPA office authorizes coverage under this permit after you have included appropriate controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to a violation of water quality standards. If you have been authorized to use cationic treatment chemicals by your applicable EPA Regional Office, attach a copy of your authorization letter and include documentation of the appropriate controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to a violation of water quality standards. Examples of cationic treatment chemicals include, but are not limited to, cationic polyacrylamide (C-PAM), PolyDADMAC (POLYDIALLYLDIMETHYLAMMONIUM CHLORIDE), and chitosan.

Section VII. Stormwater Pollution Prevention Plan (SWPPP) Information

All sites eligible for coverage under this permit are required to prepare a SWPPP in advance of filing the NOI, in accordance with Part 7. Indicate whether the SWPPP has been prepared in advance of filing the NOI.

Indicate the street, city, state, and ZIP code where the SWPPP can be found. Indicate the contact information (name, organization, phone, and email) for the person who developed the SWPPP for this project.

Section VIII. Endangered Species Information

Using the instructions in Appendix D, indicate under which criterion (i.e., A, B, C, D, E, or F) of the permit the applicant is eligible with regard to protection of ESA-listed endangered and threatened species and designated critical habitat. A description of the basis for the criterion selected must also be provided.

If criterion B is selected, provide the NPDES Number for the other operator who had previously certified their eligibility for the CGP under criterion A, C, D, E, or F. The Tracking Number was assigned when the operator received coverage under this permit, and is included in the notice of authorization.

If criterion C is selected, you must attach copies of your site map. See Part 7.2.4 of the permit for information about what is required to be in your site map. You must also specify the federally-listed species and/or federally-designated critical habitat that are located in the "action area" of the project, and provide the distance between the construction site and any listed endangered species and/or their designated critical habitat.

If criterion D, E, or F is selected, attach copies of any communications between you and the U.S. Fish and Wildlife Service and National Marine Fisheries Service and identify the participating agencies and Field Offices/Regional Offices you worked with in the basis statement of this NOI.

Section IX. Historic Preservation

Use the instructions in Appendix E to complete the questions on the NOI form regarding historic preservation.

Section X. Certification Information

The NOI must be signed as follows:

For a corporation: By a responsible corporate officer. For the purpose of this Section, a responsible corporate officer means:

(i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this Part, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or

(ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of EPA). Include the name and title of the person signing the form and the date of signing. An unsigned or undated NOI form will not be considered eligible for permit coverage.

Modifying Your NOI

If you have been granted a waiver from your Regional Office from electronic reporting, and if after submitting your NOI you need to correct or update any fields on this NOI form, you may do so by indicating changes on this same form. Paperwork Reduction Act Notice

Public reporting burden for this NOI is estimated to average 3.7 hours. This estimate includes time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments regarding the burden estimate, any other aspect of the collection of information, or suggestions for improving this form, including any suggestions which may increase or reduce this burden to: Chief, Information Policy Branch 2136, U.S. Environmental Protection, Agency, 1200 Pennsylvania Avenue, NW, Washington, D.C. 20460. Include the OMB control number on any correspondence. Do not send the completed form to this address.

Submitting Your Form

Submit your NOI form by mail to one of the following addresses:

For Regular U.S. Mail Delivery:
Stormwater Notice Processing Center
Mail Code 4203M, ATTN: 2017 CGP
U.S. EPA
1200 Pennsylvania Avenue, NW
Washington, DC 20460

For Overnight/Express Mail Delivery:
Stormwater Notice Processing Center
William Jefferson Clinton East Building - Room 7420
ATTN: 2017 CGP
U.S. EPA
1201 Constitution Avenue, NW
Washington, DC 20004

Visit this website for instructions on how to submit electronically:

https://www.epa.gov/npdes/stormwater-discharges-construction-activities#ereporting

Appendix K - Notice of Termination (NOT) Form and Instructions

Part 8.3 requires you to use the NPDES eReporting Tool, or "NeT" system, to prepare and submit your NOT electronically. However, if you are given a waiver by the EPA Regional Office to use a paper NOT form, and you elect to use it, you must complete and submit the following form.

NPDES FORM 3510-13	EPA	UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, DC 20460 NOTICE OF TERMINATION (NOT) FOR THE 2017 NPDES CONSTRUCTION GENERAL PERMIT	Form Approved. OMB No. 2040-0004

Submission of this Notice of Termination constitutes notice that the operator identified in Section III of this form is no longer authorized discharge pursuant to the NPDES Construction General Permit (CGP) from the site identified in Section IV of this form. All necessary information must be included on this form. Refer to the instructions at the end of this form.

I. Approval to Use Paper NOT Form

Have you been granted a waiver from electronic reporting from the Regional Office *? ☐ YES ☐ NO

If yes, check which waiver you have been granted, the name of the EPA Regional Office staff person who granted the waiver, and the date of approval:

Waiver granted:

☐ The owner/operator's headquarters is physically located in a geographic area (i.e., ZIP code or census tract) that is identified as under-served for broadband Internet access in the most recent report from the Federal Communications Commission.

☐ The owner/operator has issues regarding available computer access or computer capability.

Name of EPA staff person that granted the waiver:

Date approval obtained: ___/___/____

*** Note: You must have been given approval by the Regional Office prior to using this paper NOT form. If you have not obtained a waiver, you must file this form electronically using the NDPES eReporting Tool (NeT).**

II. Permit Information

NPDES ID:

Reason for Termination (Check only one):

☐ You have completed all construction activities at your site, and you have met all other requirements in Part 8.2.1.

☐ Another operator has assumed control over all areas of the site and that operator has submitted an NOI and obtained coverage under the CGP.

☐ You have obtained coverage under an individual permit or another general NPDES permit addressing stormwater discharges from the construction site.

III. Operator Information

Operator Name:

Mailing Address:

Street:

City: State: ZIP Code: -

County or Similar Government Division:

Phone: - - Ext.

E-mail:

IV. Project/Site Information

Project/Site Name:

Project/Site Address:

Street/Location:

City: State: ZIP Code: -

County or Similar Government Division:

V. Certification Information

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

First Name, Middle Initial, Last Name:

Title:

Signature: _____ Date: __ / __ / ____

Email:

Instructions for Completing EPA Form 3510-13

Notice of Termination for the 2017 NPDES Construction General Permit

NPDES Form Date (2/17) This Form Replaces Form 3510-13 (02/12) Form Approved OMB No. 2040-0004

Who May File an NOT Form

Permittees who are presently covered under the EPA-issued 2017 Construction General Permit (CGP) for Stormwater Discharges Associated with Construction Activity may submit an NOT form when: (1) earth-disturbing activities at the site are completed and the conditions in Parts 8.2.1.a through 8.2.1.b are met; or (2) the permittee has transferred all areas under its control to another operator, and that operator has submitted and obtained coverage under this permit; or (3) the permittee has obtained coverage under a different NPDES permit for the same discharges.

Completing the Form

Type or print, using uppercase letters, in the appropriate areas only. Please place each character between the marks. Abbreviate if necessary to stay within the number of characters allowed for each item. Use only one space for breaks between words, but not for punctuation marks unless they are needed to clarify your response. If you have any questions about this form, refer to https://www.epa.gov/npdes/stormwater-discharges-construction-activities#cgp or telephone EPA's NOI Processing Center at (866) 352-7755. **Please submit original document with signature in ink - do not send a photocopied signature.**

Section I. Approval to Use Paper NOT Form

You must indicate whether you have been granted a waiver from electronic reporting from the EPA Regional Office. Note that you are not authorized to use this paper NOT form unless the EPA Regional Office has approved its use. Where you have obtained approval to use this form, indicate the waiver that you have been granted, the name of the EPA staff person who granted the waiver, and the date that approval was provided.

Seehttps://www.epa.gov/npdes/contact-us-stormwater#regional for a list of EPA Regional Office contacts.

Section II. Permit Information

Enter the existing NPDES ID assigned to the project . If you do not know the permit tracking number, or contact EPA's NOI Processing Center at (866) 352-7755.

Indicate your reason for submitting this Notice of Termination by checking the appropriate box. Check only one.

Section III. Operator Information

Provide the legal name of the person, firm, public organization, or any other entity that operates the project described in this NOT and is covered by the NPDES ID identified in Section II. Enter the complete mailing address, telephone number, and email address of the operator.

Section IV. Project/Site Information

Enter the official or legal name and complete street address, including city, state, ZIP code, and county or similar government subdivision of the project or site. If the project or site lacks a street address, indicate the general location of the site (e.g., Intersection of State Highways 61 and 34). Complete site information must be provided for termination of permit coverage to be valid.

Section V. Certification Information

The NOT, must be signed as follows:

For a corporation: By a responsible corporate officer. For the purpose of this Part, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy-or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this Part, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of EPA).

Include the name, title, and email address of the person signing the form and the date of signing. An unsigned or undated NOT form will not be considered valid termination of permit coverage.

Paperwork Reduction Act Notice

Public reporting burden for this NOT is estimated to average 0.5 hours per notice, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments regarding the burden estimate, any other aspect of the collection of information, or suggestions for improving this form including any suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, 2136, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW, Washington, DC 20460. Include the OMB number on any correspondence. Do not send the completed form to this address.

Submitting Your Form:

Submit your NOT form by mail to one of the following addresses:

For Regular U.S. Mail Delivery:
Stormwater Notice Processing Center
Mail Code 4203M, ATTN: 2017 CGP
U.S. EPA
1200 Pennsylvania Avenue, NW
Washington, DC 20460

For Overnight/Express Mail Delivery:
Stormwater Notice Processing Center
William Jefferson Clinton East Building - Room 7420
ATTN: 2017 CGP
U.S. EPA
1201 Constitution Avenue, NW
Washington, DC 20004

Visit this website for instructions on how to submit electronically: https://www.epa.gov/npdes/stormwater-discharges-construction-activities#ereporting

Appendix L – Suggested Format for Request for Chemical Treatment

If you plan to add "cationic treatment chemicals" (as defined in Appendix A) to stormwater and/or authorized non-stormwater prior to discharge, Part 1.1.9 requires you to notify your applicable EPA Regional Office in advance of submitting your NOI. The EPA Regional Office will authorize coverage under this permit after you have included appropriate controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to an exceedance of water quality standards. To notify your EPA Regional Office, you may use following form.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460
SUGGESTED FORMAT FOR NOTIFYING EPA ABOUT PROPOSED USE OF CATIONIC TREATMENT CHEMICALS UNDER THE 2017 NPDES CONSTRUCTION GENERAL PERMIT

Under Part 1.1.9 of the 2017 CGP, if you plan to add "cationic treatment chemicals" (as defined in Appendix A) to stormwater and/or authorized non-stormwater prior to discharge, you may not submit your Notice of Intent (NOI) until you notify your applicable EPA Regional Office in advance and the EPA Regional Office authorizes coverage under this permit after you have included appropriate controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to a violation of water quality standards. You may use this suggested form to notify your EPA Regional Office about your proposed use of cationic treatment chemicals.

I. Operator Information

Operator Name:

Mailing Address:

Street:

City: State: ZIP Code: -

Phone: - - Ext.

E-mail:

II. Project/Site Information

Project/Site Name:

Project/Site Address:

Street/Location:

City: State: ZIP Code: -

County or Similar Government Subdivision:

Site contact name (if different from operator):

Site contact phone (if different from operator): - -

Name(s) of receiving waterbodies:

III. Map

Attach a map that illustrates the entire site including all of the below items. Include this map in your Stormwater Pollution Prevention Plan (SWPPP):
- All receiving waterbodies
- All proposed location(s) of chemical treatment system(s)
- All proposed point(s) of discharge to receiving waterbodies
- All soil types within areas to be disturbed
- All area of earth disturbance
- Sufficient indication of topography to indicate where stormwater flows

Attach a schematic drawing of the proposed treatment system(s). Include all components of the treatment train, sample points, and pipe configurations. In addition to sufficient holding capacity upstream of treatment, the system must have the capacity to hold water for testing and to re-treat water that does not meet water quality standards.

IV. Responsible Personnel

Treatment System Operator or Company Name (if subcontracted out):

Street/Location:

City: State: Zip Code: -

Responsible personnel. List personnel who will be responsible for operating the chemical treatment systems and application of the chemicals. Cite the training that the personnel have received in operation and maintenance of the treatment system(s) and use of the specific chemical(s) proposed.

V. Proposed Treatment

Check proposed treatment system.

- ☐ Chitosan enhanced sand filtration with discharge to infiltration (ground water)
- ☐ Chitosan enhanced sand filtration with discharge to temporary holding ponds (batch).
- ☐ Chitosan enhanced sand filtration with discharge to surface waters (flow-through).
- ☐ Other (describe below and submit documentation that the proposed system and chemical(s) demonstrate the ability to remove turbidity and produce non-toxic effluent/ discharge)

Check proposed cationic chemical(s) to be used:

- ☐ FlocClear™ (2% chitosan acetate solution)
- ☐ StormKlear™ LiquiFloc™ (1% chitosan acetate solution).
- ☐ ChitoVanTM (1% chitosan acetate solution).
- ☐ StormKlearTM LiquiFlocTM (3% Chitosan acetate solution)
- ☐ Other

Estimated Treatment Period Start Date: / / Estimated Treatment Period End Date: / /

Describe sampling and recordkeeping schedule. Attach additional sheets as needed:

Explain why you have selected this proposed treatment system and chemicals. Include an explanation of why the use of cationic treatment chemicals is necessary at the site. Reference how the soil types on your site influenced your choices. Describe or provide an illustration of how the site of the discharge will be stabilized and why the discharge location will not cause erosion of the discharge water's bank or bed (please note that a permit from the Corps and state agencies may be necessary to place rock in the water body for this stabilization). Attach as many additional sheets as needed for a full explanation. If you have a report from a chemical treatment contractor describing their recommended approach you may attach that.

VI. Certification Information

I have documented and hereby certify that the following information is correct and has been documented in the SWPPP for this project:

- The SWPPP includes a complete site-specific description of the chemical treatment system herein proposed for use, including specifications, design, and Material Safety Data Sheets for all chemicals to be used.
- The controls to be used on the site are compatible with the safe and effective use of cationic chemical treatment.
- I verified through jar tests that the site soil is conducive to chemical treatment.
- I verified that the chemical treatment system operators for this project received training.
- I read, understand, and will follow all conditions and design criteria in the applicable use designation(s).
- If the discharge is to tribal waters, I notified the appropriate tribal government of the intent to use chemical treatment on a site located within that jurisdiction.
- I will keep the use level designation, operation and maintenance manual, and training certificate on site prior to and during use of chemical treatment.
- A licensed engineer designed the system for this project including system sizing, pond sizing, and flow requirements.
- I verify that the discharge will not adversely affect downstream conveyance systems or stream channels (e.g. cause erosion).

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Authorized Official First Name, Middle Initial, Last Name:

Title:

Signature:

Date: / /

Email:

Instructions for Submitting This Form:

Submit your this form to your applicable EPA Regional Office. Contact information can be found at: https://www.epa.gov/npdes/contact-us-stormwater#regional

Appendix C – SMA and NECA NOI USEPA Authorization Email

Appendix D – Special Contract Requirements related to the SWPPP

2017 Regional Conditions to Nationwide Permits in the State of New Mexico

U.S. Army Corps of Engineers
Albuquerque District

REGIONAL CONDITIONS APPLICABLE TO ALL NATIONWIDE PERMITS WITHIN THE STATE OF NEW MEXICO

1. All Activities Conducted Under Nationwide Permits. In accordance with Code of Federal Regulations (CFR) 33 Part 330.4(c), the U.S. Army Corps of Engineers (USACE) hereby incorporates the current conditions of Clean Water Act (CWA) Section 401 Water Quality Certifications as conditions of the Section 404 Nationwide Permits in New Mexico. Water Quality Certifications are available at: http://www.spa.usace.army.mil/Missions/RegulatoryProgramandPermits/WaterQualityCertification.aspx.

2. Dredge and Fill Activities in Intermittent and Perennial Streams, and Special Aquatic Sites: (a) For all activities subject to regulation under the CWA Section 404 in intermittent and perennial streams, and special aquatic sites (including wetlands, riffle and pool complexes, and sanctuaries and refuges), Pre-Construction Notification to the District Engineer is required in accordance with General Condition 32.

(b) For projects in intermittent and perennial streams in which the New Mexico Environment Department (NMED) is the water quality certifying agency, the applicant must also notify the NMED Surface Water Quality Bureau and obtain confirmation of CWA, Section 401 Water Quality Certification prior to commencing work. Electronic submittals are preferred. A copy of NMED's confirmation must be provided to the USACE within 10 days of NMED's receipt of the applicant's notification.

3. Individual Water Quality Certification and Pre-Construction Notification. For all activities subject to regulation under the CWA Section 404 where Section 401 individual water quality certification is required, the applicant must provide Pre-Construction Notification to the District Engineer in accordance with General Condition 32 at the same time notification is provided to the water quality certifying authority. A copy of the individual 401 water quality certification must be provided to the District Engineer prior to commencing the regulated activity. A list of state agencies and tribes with Section 401 authority is on our website available at: http://www.spa.usace.army.mil/Missions/Regulatory-Program-and-Permits/Water-Quality-Certification/

4. Special Status Waters in New Mexico. The waters listed in **Attachment 1** have been designated by the State of New Mexico as waters important for the protection of water quality or

the protection and conservation of certain species. For all activities subject to regulation under the CWA Section 404 occurring in these waters, Pre-Construction Notification is required to the USACE in accordance with General Condition 32. The applicant must also provide Pre-Construction Notification to the New Mexico Department of Game and Fish, Ecological and Environmental Planning Division. Electronic submittals are preferred.

5. Activities in all Waters of the United States. Any activity subject to regulation under the CWA Section 404 that exceeds 1/2 acre of permanent fill in waters of the United States will require Pre-Construction Notification to the USACE in accordance with General Condition 32.

6. Springs. For all discharges of dredged or fill material within 100 feet of the point of groundwater discharge of natural springs, Pre-Construction Notification is required to the USACE in accordance with General Condition 32. A natural spring is defined as any location where ground water emanates from a point in the ground and has a defined surface water connection to another waters of the United States. For purposes of this regional condition, springs do not include seeps or other groundwater discharges which lack a defined surface water connection.

7. Channelization. General Condition 9 for Management of Water Flows is amended to add the following: Projects that would result in permanent channelization to previously un-channelized streams require Pre-Construction Notification to the District Engineer in accordance with General Condition 32.

8. Suitable Fill. Use of broken concrete as fill or bank stabilization material is prohibited unless the applicant demonstrates that its use is the only practicable material (with respect to cost, existing technology, and logistics). Any applicant who wishes to use broken concrete as bank stabilization must provide notification to the District Engineer in accordance with General Condition 32 (Pre-Construction Notification) along with justification for such use. Use of broken concrete with rebar or used tires (loose or formed into bales) is prohibited in all waters of the United States. See Note 'a' below.

9. Fens. All nationwide permits, except 3, 5, 6, 20, 27, 32 and 38, are revoked in fens and wetlands adjacent to fens. For activities in fens and wetlands adjacent to fens, use of nationwide permits 3, 20, and 27 requires Pre-Construction Notification to the District Engineer, in accordance with General Condition 32. For the purposes of this regional condition, fens are defined as follows:

> Fens are peat-forming wetlands consisting of soils (histosols) that are normally saturated throughout the growing season, although they may not be during drought conditions. The primary source of hydrology for fens is the surrounding watershed in inflowing streams and groundwater. Histosols are defined by the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) publications on Keys to Soil Taxonomy and Field Indicators of Hydric Soils in the United States (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/survey/class/taxonomy/ and http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_050723.pdf).

Additionally, peat-forming wetlands with spongy, water-logged soil containing a histosol or a mineral soil with a histic epipedon that may be termed in some literature as cienagas, marshes, or bogs (for example, the Alamo bog complex and the floating mat fen complex at Santo Domingo Pueblo) are included in this regional condition.

REGIONAL CONDITIONS APPLICABLE TO SPECIFIC NATIONWIDE PERMITS WITHIN THE STATE OF NEW MEXICO

10. Nationwide Permit No. 13 - Bank Stabilization. For bank stabilization activities in intermittent or perennial streams that average less than 20 feet in width (measured between the ordinary high water marks on each bank) the placement of fill is limited to no more than 1/4 cubic yard of suitable fill* material per running foot below the plane of the ordinary high water mark, unless the district engineer waives this criterion by making a written determination concluding that the discharge will result in minimal adverse effects. *See Note 'a' under Additional Information regarding suitable fill.

11. Nationwide Permit No. 23 – Approved Categorical Exclusions. Pre-Construction Notification to the District Engineer in accordance with General Condition 32 is required for all proposed activities under Nationwide Permit 23.

12. Nationwide Permit No. 27 – Aquatic Habitat Restoration, Establishment, and Enhancement Activities. For all proposed activities under Nationwide Permit 27 that require Pre-Construction Notification, a monitoring plan commensurate with the scale of the proposed restoration project and the potential for risk to the aquatic environment must be submitted to the USACE. (See "NWP 27 Guidelines" at http://www.spa.usace.army.mil/Missions/RegulatoryProgramandPermits/NWP.aspx).

ADDITIONAL INFORMATION

The following provides additional information regarding minimization of impacts and compliance with existing General Conditions:

a. Permittees are reminded of **General Condition 6** which prohibits the use of unsuitable material. Organic debris, building waste, asphalt, car bodies, individual tires and trash are **not** suitable fill material. Also, **General Condition 12** requires appropriate erosion and sediment controls (i.e., all fills must be permanently stabilized to prevent erosion and siltation into water and/or wetlands at the earliest practicable date). Streambed material or other small aggregate material placed along a bank as stabilization will not meet **General Condition 12.**

b. Permittees are reminded that Nationwide Permit 19 for Minor Dredging cannot be used in CWA, Section 404-only waters in accordance with the Nationwide Permit reissuance preamble in the Federal Register, Vol. 61, No. 241, Friday, December 13, 1996, page 65888.

ATTACHMENT 1
SPECIAL STATUS WATERS

OUTSTANDING NATIONAL RESOURCE WATERS

Waters listed by the State of New Mexico under 20.6.4.9.B New Mexico Administrative Code. A list of the Outstanding National Resource Waters in New Mexico is available at: http://164.64.110.239/nmac/parts/title20/20.006.0004.htm

SPECIAL REPTILE AND AMPHIBIAN HABITAT

All perennial reaches of the Gila River, the San Francisco River and Mule Creek. These waters are native habitat for the Narrowheaded gartersnake (*Thamnophis rufipunctatus*) and the Mexican garter snake (*Thamnophis eques*).

Black River, Delaware River and lower Pecos River below Carlsbad. These waters are occupied by state-listed western river cooter (*Pseudemys gorzugi*) and plain-bellied water snake (*Nerodia erythrogaster*).

Ute Creek, Cieneguilla Creek, Canadian River and tributaries below Maxwell, Bitter Lake National Wildlife Refuge (NWR) wetlands and Pecos River and tributaries downstream of Bitter Lake NWR, including the Black River, Delaware River, and lower Pecos River below Carlsbad. These waters are occupied by the state-listed western ribbon snake (*Thamnophis proximus*).

SPECIAL MAMMAL HABITAT

San Francisco River and tributaries. These waters are occupied by the state-listed Arizona montane vole (*Microtus montanus arizonensis*). This vole occupies mesic sedge and grass meadows bordering small creeks and marshes in the San Francisco drainage.

Tucumcari Lake, Salt Lake on Grulla NWR, and Bitter Lake National Wildlife Refuge and vicinity in the Pecos River Valley, including Bottomless Lakes State Park and BLM Overflow Wetlands. These waters are occupied by the state-listed least shrew (*Cryptotis parva*). Aquatic habitats this shrew occupies include mesic meadows with willows and cattails, and bulrush marshes.

SPECIAL INVERTEBRATE HABITAT

Blue Spring and associated riparian corridor, Eddy County. Blue Spring is the primary hydrologic source for perennial reaches of the Black River, and provides habitat for the endemic Pecos springsnail (*Pyrgulopsis pecosensis*) and the ovate vertigo snail (*Vertigo ovata*).

Thermal spring in Socorro County*. Habitat for the endemic Socorro springsnail (*Pyrgulopsis neomexicana*)

Ute River, Conchas Lake, and Ute Reservoir. Habitat for the paper pondshell (*Utterbackia imbecillis*)

All perennial reaches of the Black River, Eddy County, from Black River Village downstream to the Carlsbad Irrigation District dam. Habitat for Texas hornshell (*Popenaias popeii*)

Gila springsnail (***Pyrgulopsis gilae***)
Jordon Hot Springs, Middle Fork Gila River, Catron County
Unnamed thermal springs along Middle Fork Gila River, Catron County
Unnamed thermal springs along East Fork Gila River, Grant County
Unnamed springs along Beaver Creek, East Fork Gila River, Catron County
Unnamed springs along Taylor Creek, Catron County
Alum Hot Spring, Gila River, Grant County

New Mexico hot springsnail (***Pyrgulopsis thermalis***)
Unnamed thermal springs along East Fork Gila River, Grant County
Alum Hot Spring, Gila River, Grant County

Middle Fork Lake. Habitat for the state threatened Sangre de Cristo peaclam (*Pisidium sanguinichristi*).

Nambe Lake. Habitat for the state threatened Lilljeborg's peaclam (*Pisidium lilljeborgi*).

Road Canyon Creek. Habitat for state threatened swamp fingernailclam (*Musculium partumeium*).

Cieneguilla Creek (Colfax County). Habitat for state threatened lake fingernailclam (*Musculium lacustre*).

Road Canyon Creek, Ute Creek, and Clayton Lake (Union County), Cabra Springs (San Miguel County). Habitat for state threatened long fingernailclam (*Musculium transversum*).

* Release of site-specific locality information precluded by NMDGF Regulation 19.33.4.8, "*Release of Confidential Data Regarding Endangered Species.*"

SPECIAL FISH HABITAT

Roundtail chub (*Gila robusta*) and Headwater chub (*Gila nigra*):
Gila River: New Mexico reaches of the
Upper East Fork of the Gila River
Lower Middle fork of the Gila River
Lower most West Fork of the Gila River
Mainstem Gila River from confluence of East & West forks Gila River downstream to AZ/NM border

West Fork Gila River—from its confluence with East Fork Gila River upstream to Gila Wilderness boundary.
Middle Fork Gila River—from its confluence with West Fork Gila River upstream to Gila Wilderness boundary.
East Fork Gila River—from its confluence with West Fork Gila River upstream to confluence of Beaver and Taylor creeks.
Beaver Creek—from its confluence with Taylor Creek upstream to FS Road 150.
Taylor Creek—from its confluence with Beaver Creek upstream to Wall Lake.

San Juan River Drainage: New Mexico reaches of the
Mancos River
La Plata River
Animas River
Navajo River

Peppered chub (*Macrhybopsis tetranema*):
South Canadian River, downstream of Ute Dam to the Texas/New Mexico border.

Suckermouth minnow (*Phenacobius mirabilis*):
South Canadian
Dry Cimarron River
Lower reaches of Mora River

Southern redbelly dace (*Chrosomus erythrogaster*):
Headwaters of the Mora River, including Coyote Creek and tributaries to Black Lake Wetland associated with Mora River, located just east of Mora

Blue Sucker (*Cycleptus elongatus*):
Pecos River, downstream from Brantley Dam to the Texas - New Mexico border
Lower reaches of the Black River

Gray Redhorse (*Moxostoma congestum*):
Pecos River, from Carlsbad downstream to the New Mexico - Texas border
Lower reaches of the Black River.

Mexican tetra (*Astyanax mexicanus*):
Pecos River and associated floodplain habitats from Bitter Lake National Wildlife Refuge downstream to the New Mexico - Texas border
Black River
Delaware River

Pecos pupfish (*Cyprinodon pecosensis*):
Pecos River and associated floodplain habitats from Bitter Lake National Wildlife Refuge downstream to near Malaga Bend
Gypsum sinkholes, isolated oxbows and artificial impoundments on Bitter Lake National Wildlife Refuge

Aquatic habitats on Bottomless Lakes State Park
BLM Overflow Area on Bottomless Lakes State Park

Bigscale Logperch (*Percina macrolepida*):
Pecos River between Santa Rosa and Fort Sumner Reservoir
Lower Pecos (Bitter Lake NWR downstream to Brantley Reservoir)
Black River

Greenthroat darter (*Etheostoma lepidum*):
Bitter Creek and gravel-bottomed ponds on Bitter Lake National Wildlife Refuge
Cottonwood Creek, Blue Spring and Rattlesnake Springs in Carlsbad
Caverns National Park

SUSANA MARTINEZ
Governor
JOHN A. SANCHEZ
Lt. Governor

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BUTCH TONGATE
Cabinet Secretary

J. C. BORREGO
Deputy Secretary

March 1, 2017

Mr. Allan Steinle
U.S. Army Corps of Engineers
Albuquerque District, Regulatory Branch
4101 Jefferson Plaza NE
Albuquerque, New Mexico 87109-3434

Re: Clean Water Act Section 401 Water Quality Certification
United States Army Corps of Engineers 2017 Nationwide Permits

Dear Mr. Steinle:

The New Mexico Environment Department (NMED) has examined both the January 6, 2017 final notice of the Reissuance of Nationwide Permits (NWPs) under the Clean Water Act (CWA) §404 and Section 10 of the Harbors and Rivers Act, issued by the U.S. Army Corps of Engineers ("Corps") (see 84-4 FR 1860) and the January 6, 2017 Corps Albuquerque District public notice of the final NWPs and NMED's intent to consider certification of those permits under the CWA §401 (Certification). Certification is required by CWA §401 to ensure that the NWPs are consistent with state law, comply with the state Water Quality Standards (20.6.4 NMAC), the Water Quality Management Plan/Continuing Planning Process, including Total Maximum Daily Loads (TMDLs), and the Antidegradation Policy. Certification is also required to comply with General Condition 25 (Water Quality) and General Condition 27 (Regional and Case-By-Case Conditions) of the NWPs.

Pursuant to State regulations for permit certification (20.6.2.2002, NMAC), NMED issued a public notice of this activity and announced a public comment period, posted on the Surface Water Quality Bureau's web site: (www.nmenv.state.nm.us/swqb/WQA/Notice) on January 10, 2017. The public comment period ended on February 7, 2017. No comments were received.

The following conditions are necessary to assure compliance with the applicable provisions of the Clean Water Act §§301, 302, 303, 306, and 307 and with applicable requirements of State law. Compliance with the terms and conditions of the permit and this certification will provide reasonable assurance that the permitted activities will be conducted in a manner which will not violate applicable water quality standards or the Statewide Water Quality Management Plan, and will be in compliance with the state's antidegradation policy. The State of New Mexico certifies that the discharge will comply with these provisions and requirements upon inclusion of the following conditions in the permit:

Conditional Section 401 Certification of NWPs:

The following conditions apply to all uses of NWPs within State of New Mexico 401 certification authority area or region:

1. All proposed projects must avoid discharges to the maximum extent practicable; however, if discharges cannot be avoided the project must utilize the best available and practicable means to minimize adverse impacts. NMED encourages approaches based on natural ecosystem processes. Examples of Best Management Practices (BMPs) that may be applicable include:
   - Limit work in the channel to periods of no flow.
   - Store fuel, oil, hydraulic fluid, lubricants, and other petrochemicals in a secondary containment system capable of containing twice the volume of the product.
   - Restrict temporary crossings to a single location and construct perpendicular to and at a narrow point of the stream or wetland to minimize disturbance.
   - Design and install permeable fills in wetlands when practicable.
   - For culvert projects, NMED encourages lower-impact techniques such as bottomless and embedded culverts.
   - Schedule construction activities in wetlands during low water or winter (frozen) conditions.

2. NMED notification:

   a. Activities that require preconstruction notification to NMED can be found in the USACE's New Mexico Regional Condition 2.b. NMED preconstruction notification must include:

      i. Detailed project purpose and construction plans, including why the proposed approach does not result in more than minimal impact to the aquatic resource.

         1. Notification of projects to maintain or repair existing structures must include a description of how the existing structure failed and what will be done to prevent failure in the future.
         2. Notification of projects to extend existing bank stabilization must include a description of the existing bank stabilization, including the length, location, and the type of materials that were used.
         3. Notification of projects to install or repair culverts must include a description of how the culvert sizing was determined.
         4. Notification of projects to reshape an existing drainage ditch must describe the handling of excavation materials and how the structure, when fully operational, will maintain or improve water quality.

      ii. Description of potential adverse water quality impacts including the project's potential impact on turbidity, an optical measurement of water affected by the amount of suspended material, as well as oil, grease, or hydraulic fluid, and all other potential contaminants.

      iii. Description of methods to be used to prevent water quality impacts, including BMPs designed to minimize sediment, oil, grease, and other pollutants from entering the water.

1. Projects to remove riparian vegetation must describe methods to prevent subsequent erosion into aquatic resources.
2. Projects that would result in dredge or fill in waterbodies listed as impaired under Section 303(d) of the CWA must include specific measures that will be used to avoid causing or contributing to a violation of water quality standards. The current EPA-approved New Mexico list of impaired waters is available at https://www.env.nm.gov/swqb/303d-305b/ (see "All Impairments (Cat. 4 or 5)" spreadsheet).

b. Additionally, the following types of projects require notification to NMED:

i. NMED must be notified at least five days before starting construction to allow time to schedule monitoring or inspections.

ii. NMED must be notified immediately if the project results in an exceedance of applicable water quality standards. This condition applies to projects in any water of the State, including ephemeral waters.

iii. NMED must be notified if the project is delayed into times of predictable flooding (seasonal monsoons or snowmelt). Notification must describe BMPs to protect the stream from excessive turbidity, such as diversion structures capable of conveying the potential flood flows.

iv. NMED must be notified if the project involves work in standing or flowing surface water. Notification must include a description of planned methods to minimize turbidity in the stream and to avoid spills that would contaminate the surface water.

v. NMED must be notified of any proposed project to channelize a stream, whether previously channelized or not. Notification must include the information described under certification condition 2.a, above.

vi. NMED must be notified at least five days before starting construction to allow time to schedule monitoring or inspections. The NMED must be notified immediately if the project results in an exceedance of applicable Standards.

3. Unless approved by NMED:

a. Projects must not alter the natural stream channel size or shape (width, depth, gradient, direction or meander pattern), streamflow velocity (sediment transport rates), or water flow capacity. Requests for approval of such deviations must include descriptions of planned methods to minimize turbidity and avoid spills, as well as to stabilize the modified hydraulic geometry.

b. Bank stabilization projects must incorporate native vegetation or other bioengineered design techniques (e.g. willow plantings, root wads, large woody debris, etc.). Requests for such approval must describe why native vegetation or other bioengineered design techniques were rejected.

c. Stormwater management structures must not be located within natural drainage systems, such as sediment basins within a stream channel. Requests for such approval must include a description of "off-line" designs considered and why they were rejected.

d. Flowing water must be temporarily diverted around the work area, but remain within the existing channel to minimize erosion and turbidity and to provide for aquatic life movement. Requests for such approval must include descriptions of planned methods to minimize turbidity, to avoid

spills, and to provide a continuous zone of passage for aquatic life through or around the project area in which the water quality meets all applicable criteria including turbidity.

e. Heavy equipment must be operated from the bank or work platforms and not enter surface water. Requests for such approval must include a description of BMPs to minimize turbidity and to avoid spills.

f. Disturbed areas outside stream channels that are not otherwise physically protected from erosion must be reseeded or planted with native vegetation. Requests for approval of deviation from this condition must describe methods to minimize turbidity and avoid spills, as well as final grading plans.

g. All areas adjacent to the watercourse that are disturbed because of the project, including temporary access roads, stockpiles and staging areas, must be restored to pre-project elevations.

h. Culvert design must allow for the passage of fish and other aquatic organisms.

i. Wetland crossings must be restricted to a single location and constructed perpendicular to and at a narrow point of the wetland.

4. The permittee shall allow NMED representatives to inspect the authorized activity and any mitigation areas at any time deemed necessary to determine compliance with applicable State Water Quality Standards.

5. Structure design:

   a. Structures at stream crossings must be properly designed, installed and maintained to allow passage of sediment, bedload, and woody debris, and to prevent erosion problems or post-construction diversion of the stream from its natural channel.

   b. Culverts at stream crossings must be designed and installed to prevent upstream headcutting, downstream channel incision, and erosion of the stream banks or the crossing. Culverts at stream crossings must also be designed to prevent flood flows from being diverted away from the natural channel when the culvert is overtopped.

6. Scheduling: Project activities must avoid times of predictable flooding (seasonal monsoons or snowmelt) to avoid working in high water. Releases from dams must be incorporated into the work schedule to avoid working in high water.

7. Construction diversions: Diversion structures must be non-erodible, such as sand bags, water bladders, concrete barriers, or channel lined with geotextile or plastic sheeting. Dirt cofferdams are not acceptable diversion structures.

8. Use of heavy equipment:

   a. All heavy equipment used in the project area must be pressure washed and/or steam cleaned before the start of the project and inspected daily for leaks. A written log of inspections and maintenance must be completed and maintained throughout the project period. Leaking equipment must not be used in or near surface water.

   b. Fuel, oil, hydraulic fluid, lubricants, and other petrochemicals must not be stored within the 100-year floodplain. Refuel equipment at least 100 feet from surface water.

c. Heavy equipment must not be parked within the stream channel.

9. Construction materials and fuels:

a. Except as specified in the application, no debris, silt, sand, cement, concrete, oil or petroleum, organic material, or other construction related materials or wastes shall be allowed to enter into or be stored where it may be washed by rainfall or runoff into aquatic resources. Appropriate spill clean-up materials such as booms and absorbent pads must be available on-site at all times during construction. Dumping of any waste materials is prohibited.

b. Poured concrete must be fully contained in mortar-tight forms and/or placed behind non-erodible cofferdams to prevent contact with surface or ground waters. Appropriate measures must be used to prevent wastewater from concrete batching, vehicle wash-down, or aggregate processing impacting aquatic resources.

10. Construction (temporary) impacts:

a. Water used in dust suppression shall not contain contaminants that could violate water quality standards.

b. Protective measures must be used to prevent blast, ripped or excavated soil or rock from entering surface waters.

c. Materials associated with repair, demolition, treatments, or cleaning activities of bridges or associated structures must be kept out of the channel. Generally, impermeable containment material (e.g., plastic sheet, canvas, tarpaulins or other catchment devices) must be secured under the structure to capture falling debris. Sandblasting must include vacuum systems or the structures must be completely bagged to collect all paint and concrete debris. Any debris that falls onto the containment area or channel must be properly disposed in accordance with the New Mexico Solid Waste Regulations (20.9.1 NMAC). Applicable Material Safety Data Sheets of water repellants and surface finish treatments must be maintained at the project area.

11. Trenching:

a. Excavated trenches within or adjacent to aquatic resources must be backfilled and compacted to match the adjacent undisturbed soil.

b. Except for dewatering activities described in the submitted construction plans, excavated trenches must not result in draining any aquatic resource including wetlands.

c. Excavation dewatering discharges must be uncontaminated. Aquatic resources must be protected from excessive turbidity associated with dewatering, such as discharging to an uplands area behind a vegetative buffer. Note that dewatering discharges may be subject to NMED Discharge Permits. 20.6.2.1201 NMAC requires any person intending to make a new water contaminant discharge to file a notice of intent to discharge with the Ground Water Quality Bureau (https://www.env.nm.gov/gwb/) for discharges that may affect ground water and/or with the Surface Water Quality Bureau (https://www.env.nm.gov/swqb/) for discharges that may affect surface water. Based on the information provided in the notice of intent, the Bureau will notify the person if a discharge permit is required.

12. Wetlands: Wetland vegetation and excavated top soil must be retained and reused to improve seeding success. Flows to wetlands must not be permanently disrupted.

13. Post-construction stabilization:

    a. Permittees and their contractors shall take necessary steps to minimize channel and bank erosion during and after construction. Where applicable, banks shall be reseeded or replanted with native vegetation.

    b. Disturbed areas outside stream channels that are not otherwise physically protected from erosion must be reseeded or planted with native vegetation. Stabilization measures including vegetation are required at the earliest practicable date, but by the end of the first full growing season following construction. Native woody riparian and/or wetland species must be used in areas that support such vegetation. Plantings must be monitored and replaced for an overall survival rate of at least 80 percent by the end of the second growing season. Once established, native plants adapted to the site must be able to thrive with no supplemental water or treatment. Silt fences, seed free straw mulch, biodegradable straw wattles, and other techniques must be employed as appropriate to protect waters from sedimentation and other pollutants.

14. Posting: A copy of this Certification must be kept at the project site during all phases of construction. All contractors involved in the project must be provided a copy of this certification and made aware of the conditions prior to starting construction.

Denial of Certification of NWPs

NMED denies Certification for NWP-37 (Emergency Repair Activities), in favor of handling "emergency repairs" with an Emergency Regional General Permit Number (Repair and Protection Activities in Emergency Situations) or expedited permitting under another NWP permit.

For proposed activities in Outstanding National Resource Waters (ONRW, 20.6.4.9 NMAC) NMED denies Certification of all NWPs except NWP-27. NMED hereby certifies NWP-27 for restoration activities within ONRWs, pursuant to 20.6.4.8.A.4 NMAC. The certification process for activities covered by nationwide permits other than NWP-27 will be conducted pursuant to 20.6.2.2002 NMAC.

Please contact Neal Schaeffer of my staff at (505) 476-3017 should you have any questions.

Sincerely,

Shelly Lemon

Shelly Lemon
Acting Chief
Surface Water Quality Bureau

SL: cns

xc: Tom Nystrom, Wetlands, Region 6, USEPA
Matthew Wunder, New Mexico Department of Game and Fish
U.S. Fish and Wildlife Service
401 Certification File 1299

** See Volume 1 for Contract Documents, Appendices, and Exhibits*

VOLUME 2

Technical Specifications and Index to Design Drawings

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SECTION 01 00 00

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- 1.16: Field engineering.
- 1.17: Pre-Construction Conference.
- 1.18: Progress meetings.
- 1.19: Cutting and patching.

D. Submittals:
- 1.20: Submittal procedures.
- 1.21: Construction progress schedules.
- 1.22: Proposed products list.
- 1.23: Product data.
- 1.24: Shop drawings.
- 1.25: Test reports.
- 1.26: Manufacturer's instructions and certificates.

E. Quality Requirements:
- 1.27: Quality control.
- 1.28: Tolerances.
- 1.29: References.
- 1.30: Manufacturer's field services and reports.
- 1.31: Examination.

F. Temporary Facilities and Controls:
- 1.32: Temporary services.
- 1.33: Access roads.
- 1.34: Progress cleaning and waste removal.

1.35: Project identification.
1.36: Barriers and fencing.
1.37: Protection of installed work.
1.38: Security.
1.39: Water control.
1.40: Pollution and environmental control.
1.41: Removal of utilities, facilities, and controls.

G. Product Requirements:
1.42: Products.
1.43: Delivery, handling, storage, and protection.
1.44: Substitutions.

H. Execution Requirements:
1.45: Closeout procedures.
1.46: Final cleaning.
1.47: Starting of systems.
1.48: Demonstration and instructions.
1.49: Testing, adjusting and balancing.
1.50: Protecting installed construction.
1.51: Project record documents.
1.52: Operation and maintenance data.
1.53: Spare parts and maintenance materials.
1.54: Warranties.
1.55: Resident Project Representative.

1.2 CONTRACT DESCRIPTION

A. Work of the Project includes the installation of approximately 3 miles of 10-inch PVC DR 18 C-900 waterline (bell-and-spigot and fusible joints), surge tank, and flow control / metering vault, with appurtenances.

B. Perform Work of Contract on a unit cost basis with Owner in accordance with Conditions of Contract.

1.3 SPECIAL CONSIDERATIONS

A. Contractor shall abide by all permit stipulations and requirements, including but not necessarily limited to BLM, BIA and Navajo Nation environmental and archaeological stipulations, utility pipeline encroachment agreements, and Sandoval County and BIA-NRO Department of Transportation road crossing permits, regardless of whether such permits are obtained by the Owner, Engineer or Contractor.

1. BLM's and Navajo Nation's environmental and cultural stipulations for the pipeline and surge tank site are provided in Appendix C. Encroachment agreements are provided in Appendix D. Road permits are included in Appendix E. Contractor shall comply with all of these stipulations, terms and conditions. Said compliance shall be considered incidental to the cost of the project.

2. Final acceptance of ROW restoration on BLM lands, including but not limited to re-seeding, erosion controls, permanent traffic berms or barricades, and finished grading, shall be subject to approval by the BLM.

3. The BLM will issue their own Notice to Proceed at the same time the Owner issues its Notice to Proceed to the Contractor at the pre-construction conference.

4. Bare Soils Reclamation Procedures: Contractor shall comply with the BLM Farmington Field Office's Bare Soil Reclamation Procedure. The Procedure is located at: Appendix C. The procedure includes: Vegetation Reclamation – a pre-construction vegetation condition by BLM, revegetation plan, and monitoring the growth post construction.

B. It is the Contractor's responsibility to apply for and obtain all permits required for the Work that have not already been obtained by the Owner or Engineer. No additional compensation will be provided for obtaining permits and all costs will be considered incidental to the Project. It is anticipated the Contractor will need to obtain, at a minimum, a 402 permit from U.S. EPA for pipeline flushing, and building permits (including electrical) from the New Mexico Construction Industries Division. Contractor is wholly responsible to determine what additional permits may be required.

C. Contractor is responsible for obtaining encroachment agreements from petroleum/gas line companies. Contractor is responsible for all correspondence including notifying Owner, Engineer and utility companies at least 30 working days prior to any construction activities at crossings. Contractor shall adhere to all requirements of the gas line companies and any special notes provided on Drawings, including notification requirements. Contractor is advised that the exact depth, location and diameter of utility lines are unknown, and must be determined by the Contractor in the presence of the corresponding utility company representatives. Furthermore, any depth, location or diameter information provided in the Drawings regarding existing utility lines are only approximations and the Contractor shall be responsible to verify such information in the presence of the corresponding utility company representatives.

D. In the event that an encroachment agreement from power line companies is required the Contractor is solely responsible for obtaining said agreement. Contractor is responsible for compliance, including notifying Owner, Engineer and utility companies prior to crossings. Contractor shall adhere to all requirements of the electrical power line crossing permits, and any special notes provided in design drawings, including notification requirements.

E. BIA Road Construction of Driveway Permit is included in Appendix E of the Contract Documents. Contractor is responsible for compliance, including notifying Owner, Engineer and NRDOT. Contractor shall adhere to all requirements of the permit, and any special notes provided in design drawings.

F. Cultural Resources Requirements:

1. Contractor must be familiar with and abide by the BLM cultural resource stipulations included in Appendix C of the Contract Documents.

2. Contractor must allow archaeologist and/or Owner's representative to have access to the project site for examination of cultural resources. Contractor must allow archaeologist and/or Owner's representative to halt work, as necessary, to examine cultural resources in spoils and/or trenches. Contractor may move equipment to another location while archaeologist completes his/ her examination of cultural resources. Contractor shall not request additional compensation for any delays caused by archaeological examinations. However, such delays may be considered excused delays and not count toward Contractor's deadline for substantial

completion, provided Contractor requests additional time within one (1) week of the delay.

3. Archaeological Discovery in thePresence orAbsence of Archaeological Monitoring: If, in its operations, the contractor discovers any previously unidentified historic or prehistoric cultural resources, then all work within 100 feet of the discovery will be suspended and the discovery promptly reported to the Engineer. The BLM (for non-Indian lands) or Navajo Nation Historic Preservation Department (for Navajo lands) will then specify what action is to be taken. If the discovery is evaluated as being significant, treatment of the discovery may be required prior to allowing the project to proceed. Further damage to significant cultural resources will not be allowed until any required treatment is completed.

G. Biological Resources Requirements:

1. The Owner will provide, at no cost to the Contractor, a qualified wildlife biologist to conduct pre-construction survey(s) for migratory bird nests.
2. In the event an active bird nest is discovered, the Owner's wildlife biologist will flag the required buffer zone around the nest. The buffer zone is typically a 150 ft radius around the nest. This buffer zone will not be barricaded by the Owner's surveyor.
3. The Owner's wildlife biologist will monitor the nest and notify the Contractor when work may commence within the buffer zone.
4. The Contractor shall not encroach within the flagged buffer zone until notified by the Owner's wildlife biologist.

H. At all wash crossings, the contractor will adhere to all Clean Water Act Section 404 General Conditions, Regional Conditions, and Conditional Section 401 Certification for all approved Nationwide Permits, as well as any Special Conditions that may be determined by the U.S. Army Corps of Engineers (refer to URL given below for each document pertaining to the relevant Nationwide Permit process).

1. ~~2012~~ 2017 Nationwide Permits, Conditions, District Engineer's Decision, Further Information, and Definitions (with corrections): http://www.usace.army.mil/Portals/2/docs/civilworks/nwp/2012/NWP2012_corrections_21-sep-2012.pdf (page 1, pages 7 through 9 [up to but not including paragraph 14], page 28 [starting at C. Nationwide Permit General Conditions] through page 46)
2. ~~2012~~ 2017 Regional Conditions in New Mexico http://www.spa.usace.army.mil/Portals/16/docs/civilworks/regulatory/Regional%20Conditions/NM%20regional%20conditions%20FINAL.pdf (pages 1 through 2)
3. NMED conditional Water Quality Certification for Nationwide Permits http://www.spa.usace.army.mil/Portals/16/docs/civilworks/regulatory/Water%20Quality%20Certification/404%20NWP%20Final%20Certs.pdf (all pages)

I. Storm Water Pollution Prevention Plan (SWPPP): Contractor shall be wholly responsible for the preparation and implementation of the SWPPP, and any erosion/ sediment practices described therein. Such implementation shall include, but not necessarily be limited to, obtaining any required NPDES permit(s) and submitting a Notice of Intent (NOI) to competent agencies prior to construction, implementation and maintenance of all Best Management Practices (BMPs) specified in the SWPPP, inspection of entire

project site as specified in the SWPPP, maintaining and providing all documentation required in the SWPPP (including keeping up-to-date project maps and as-builts before, during and after construction), filing of a Notice of Termination (NOT) upon completion of the project and removal of BMPs upon the required time interval after completion of the project.

J. No reports or drawings relating to Hazardous Environmental Conditions at the site are known to the Owner.

K. Exhibit A to the Contract Documents contains geotechnical reports which include in-situ soil moisture measurements, and Standard Proctor test results (including optimal moisture content) from test holes at various locations within the project area. Contractor is advised that test holes reveal information about only a very small area, and sub-surface conditions between the test holes may vary. Contractor is wholly responsible for any assumptions made about sub-surface conditions between the test holes. Moreover, in-situ moisture content varies with time, and the Owner makes no representation that the in-situ moisture at the time the measurements were taken will be the same at the time of construction. The results of the Proctor and in-site moisture tests are provided for Contractor's convenience only; they are not considered "Technical Data", as defined in Article 5.03 of the General Conditions, upon which the Contractor is entitled to base his/ her bid.

1. The Contractor is entitled, however, to rely upon the soil bearing capacity and other geotechnical design criteria for the surge tank building foundations. Moreover, the Contractor shall be required to follow the recommendations of the geotechnical report for building foundation design, sub-foundation, and over excavation.

L. Contractor is advised that if there is subsurface rock present, there will be no additional payment made for its removal and disposal, nor the importing of special bedding material to meet the specifications, nor special excavation methods required to excavate in rock. All such work will be considered incidental to the cost of waterline installation.

1. Data in Exhibit B – Soil and Rock Potholing Information identifies the results of the 'potholing' that was performed at various locations along the waterline alignment. Contractor is advised that test potholes reveal information about only a very small area, and sub-surface conditions between the test holes may vary. The results of the potholing are provided for Contractor's convenience only; they are not considered "Technical Data", as defined in Article 5.03 of the General Conditions, upon which the Contractor is entitled to base his/ her bid. Contractor shall not make any claims due to differing sub-surface conditions based on the information provided in Exhibit B.

2. Excavated rock may be disposed of within the ROW as long as the finished grade meets Technical Specification 31 22 13 Article 3.5, matches natural surroundings, and is approved by the engineer.

M. Contractor is solely responsible for providing all water for the construction of the project and no guarantees are made by the Owner or Engineer as to the availability of any particular water sources. All costs associated with purchase, permits, hauling, etc. for construction water shall be considered incidental,

1. As a convenience only, Contractor is advised that possible sources of construction water have been identified at the locations listed below. Neither the Owner nor the Engineer makes any representations regarding the quantity, quality, accessibility,

availability, or price of this water. Contractor remains wholly responsible to make all arrangements for water, whether from these sources or elsewhere.

a. The Jicarilla Apache Nation Water Administration operates two wells with storage tanks for the purpose of selling water for construction and energy well drilling. The first of these wells is located along Hwy 37, approximately 1 mile northeast of the Apache Nugget Casino at the intersection of Hwy 37 and US 550. This well includes two tanks that hold 12,500 gallons each. The second well is located along Hwy 37 approximately 7 miles northeast of the Hwy 37 / US 550 junction. The JAN Water Administration charges $0.01 per gallon for this water at the time of this writing and requires a water purchase contract. Bidders are advised to contact Warren Vigil with the JAN Water Administration at 575-759-7512 to confirm pricing and availability.

b. The Blanco Trading Post, located along US 550 at approximately mile marker 123, also sells water for construction. Bidders are advised to contact the Trading Post to determine pricing and availability.

c. Turtle Mountain Water, located along US 550 at approximately mile marker 108, also sells water for construction at a rate of $30.00 per 80 barrels. Bidders are advised to contact Turtle Mountain Water at 505-486-6905 to confirm pricing and availability. Note that water at this location is provided directly from a spring-fed pond; contractors must provide their own pump.

N. The contractor is advised that a Water Import Permit is required for any construction water obtained within the Navajo Nation. The water import permit can be acquired from the Navajo Nation Water Code Administration. The import permit fee is a one-time cost of $25.00. The permit will typically take one day to process.

O. Contractor is advised that compaction requirements shall be strictly enforced. In the event that the contractor is unable to meet compaction requirements for pipe embedment using select material, the Contractor shall have the option to use soil cement at no additional cost to the Owner.

P. Contractor is advised that the trench widths shown in the Drawings are minimum widths only. In the event that the Contractor is unable to meet pipe embedment and compaction specifications using the minimum trench width and needs to increase trench width in order to meet these specifications, such increase in trench width shall be provided at no additional cost to the Owner.

Q. Contractor is advised that pipeline line and grade specifications will be strictly enforced. See Section 33 11 13 for specifications on horizontal and vertical pipe line and grade.

R. Contractor must coordinate use of NTUA potable water for filling and flushing the pipeline, with NTUA and Engineer at least 2 weeks prior to using NTUA water. Contractor must provide NTUA and Engineer with key information, such as desired maximum instantaneous flow rate (gpm), desired maximum daily flow rate (gpd), desired schedule of water use, and other information as required by NTUA.

S. Contractor must not infringe on NTUA's ability to serve its existing customers by excessive water use. NTUA water shall not be used for compaction, dust abatement or similar activities without express written permission by NTUA. Note that NTUA and/or Engineer may limit the maximum allowable instantaneous flow rate, daily flow rate, water usage days, etc. NTUA will not charge for water going into the pipeline.

1. Contractor is advised that NTUA is experiencing a severe water shortage in the project area. Actual flow rate of NTUA water available for line filling and flushing may be significantly less than the maximum allowable flow rate specified in the Technical Specifications. Contractor shall allow adequate time in construction schedule to fill and flush the pipeline given the amount of water available at the time of construction, and shall not request additional compensation due to water shortages for filling and flushing the pipeline.

T. The Navajo Tribal Utility Authority (NTUA) will be the operator of the completed pipeline. NTUA will not be the owner's RPR for the project. The Engineer will provide RPR services. However, NTUA will be on the job site periodically to inspect work. NTUA must be present for the key inspections of the waterline, including hydrostatic tests and bacteriological tests, pre-final walkthrough, and final inspection. NTUA's final approval will be required for the contractor to receive substantial completion. The contractor is required to coordinate all these activities with NTUA. Please note, this coordination process may take up to three (3) weeks.

U. Contractor may use the flush valves designed in the proposed pipeline, to flush water out of the system. Flushed water may be disposed of in the natural waterways adjacent to the flush valves and drains, provided the rate of flushing does not damage the surrounding environment (i.e. by flooding, erosion, etc.). Do not flush water from designated flush valves prior to installing riprap at the flush valve outlets. Water chlorinated to levels above those normally associated with drinking water shall be neutralized prior to discharge.

1. Contractor shall obtain Clean Water Act 402 permits from U.S. EPA, as required, and shall abide by all stipulations of said permits.

V. Contractor is advised that a 40' wide permanent right-of-way easement is established along the proposed pipeline alignment, 20' to each side of the centerline. An additional 30' of temporary construction easement (TCE) is provided on each side of this permanent easement, resulting in a total of 100' wide corridor to which the Contractor must limit all construction activities.

1. Contractor is advised that at certain locations the temporary construction easement may be truncated on one side or the other to avoid encroaching on culturally sensitive areas or adjacent properties. These areas are indicated on the Drawings and will be staked by the Owner's Surveyor. Contractor shall not encroach beyond the established work space in these areas.
2. Temporary construction easement is for temporary construction activities only. All pipe, valves and other appurtenances must remain within the permanent right-of-way.
3. Contractor is permitted to use any area within the approved right-of-way and temporary construction easement for staging and storage, including surge tank site, provided such use does not disturb other land users or areas outside the ROW and TCE and that the staging areas are restored to their original condition prior to final completion.
    a. Contractor is wholly responsible for location, set-up, security, and any required temporary utilities associated with staging and storage areas.

b. All staging and storage areas within the project area must be approved in advance by the Owner.

4. All areas disturbed during construction shall be reclaimed in accordance with the Contract Documents, regardless of whether they are part of the permanent ROW or temporary construction easement.

W. Contractor shall restore fences to original condition or better, and shall install 10-ft wide lockable 'rancher-style' gates with H-braces on both sides within pipeline right-of-way at all fence crossings except for the Jicarilla Apache Nation (JAN) boundary fence per the Construction Drawings. Contract shall repair all gates and fences in a timely manner to prevent livestock ingress/ egress. The fence crossings at the JAN boundaries will be restored to original or better condition without gates of any type.

X. Restore all open-cut driving surfaces, including parking lots, roads and driveways, to original condition or better, including replacement of base course, gravel or pavement as needed. Dirt roads and driveways shall be restored with compacted backfill as indicated in the drawings and specifications, plus surface material as specified. All restoration work for which no bid item is given shall be considered incidental.

Y. Contractor is advised that electrical power is not available at the time of bidding at the Surge Tank site. Power will be provided during the course of the project.

Z. Contractor is responsible for providing schedule and plans with locations for lane and shoulder closures to the Engineer, Sandoval County and BIA-NRO Department of Transportation prior to starting work. Contractor shall obtain any required supplemental permits from the relevant agencies.

AA. Excess dirt from cutting may be disposed of on-site, provided the finished grade and compaction meet specifications and are approved by the Engineer.

BB. Upon request, CAD files for the plan and profile sheets will be made available to the winning Contractor after Notice of Award. However, neither the Owner nor Engineer shall assume any liability for their use, nor shall use of any electronic files relieve the Contractor of his/her responsibility to meet the conditions of the Contract Documents, including the published Drawings. Contractor must submit an Electronic Data File Transfer and Sharing Agreement to the Engineer prior to receiving CAD files.

CC. In the event that a Navajo Nation Forestry Department (NNFD) tree cutting permit becomes required, any fees directly charged by NNFD may be covered under the testing allowance.

DD. Prior to beginning construction activities, the Contractor will furnish full-coverage photo or video documentation of the entire construction site per requirements set forth in Article 3.2.A of Section 33 11 13 of the Technical Specifications.

1.4 WORK BY OWNER

A. Owner-provided Surveyor:

1. Certain construction survey staking, benchmarks, and as-built surveying services shall be provided by the Owner at no cost to the Contractor.

2. Refer to Section 02 21 13 – Surveying for specific services to be provided by the Owner, exclusions, and responsibilities of the Contractor.

B. Owner-provided Wildlife Biologist:

1. The Owner shall provide the services of a qualified wildlife biologist at no cost to the Contractor. If required by BLM, the Owner's wildlife biologist will perform pre-construction bird nest survey(s), delineate the required avoidance buffer around any discovered nests, and monitor any active nests until the nests are vacated. Refer to foregoing section for Contractor's responsibilities in these areas.

1.5 CONTRACTOR'S USE OF PREMISES

A. No work shall be done before 7:00 A.M. or after 7:00 P.M., local time on a working day, on Sundays, or on legal holidays, except as necessary for the proper care and protection of work already performed, or during emergencies. Any deviations from this specification shall require prior written approval by the Owner.

B. The Contractor shall make every effort to minimize noise caused by his operations. Equipment shall be equipped with silencers or mufflers designed to operate with the least possible noise.

C. The Contractor shall restrict his operations as nearly as possible to the immediate site. Unnecessary cutting of vegetation adjacent to the site is prohibited. Every effort shall be made to minimize erosion during and after construction and the site shall be returned to its original condition, except where improvements are indicated or required.

D. The Contractor shall take affirmative action to prevent the misuse of the natural environment, wasting of natural resources, or destruction of natural values.

E. The Contractor shall conform to all requirements set forth in the latest edition of the "New Mexico Standard Specifications for Public Works Construction" with latest revision, and "Occupational Safety and Health Administration Regulations" for trenching, shoring and excavation.

1.6 SPECIFICATION CONVENTIONS

A. These specifications are written in imperative mood and streamlined form. This imperative language is directed to the Contractor, unless specifically noted otherwise. The words "shall be" are included by inference where a colon (:) is used within sentences or phrases.

B. The Contractor shall furnish all materials, labor, plant and equipment necessary to complete the contract work as called for by the Technical Specifications and as indicated on the Drawings. Material and work, either expressed or implied, necessary for the satisfactory completion of the contract work shall be considered an integral part thereof.

C. All standards incorporated herein by reference shall be the latest edition, unless otherwise specified. The abbreviations and applicable standards are described below:

AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AIA	American Institute of Architects
ANSI	American National Standards Institute, Inc.
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWS	American Welding Society
AWWA	American Water Works Association

CID	Construction Industries Division of the NM Regulation and Licensing Department
EJCDC	Engineers Joint Contract Documents Committee
EPA	Environmental Protection Agency
ISO	International Organization for Standardization
MSJC	Masonry Standards Joint Committee
NACE	National Association of Corrosion Engineers
NAPF	National Association of Pipe Fabricators
NFPA	National Fire Protection Agency
NMDOT	New Mexico Department of Transportation
NMED	New Mexico Department of Environment
NNOLR	Navajo Nation Office of Labor Relations
NTUA	Navajo Tribal Utility Authority
NSF	National Sanitation Foundation
OSHA	Occupational Safety and Health Administration
SAE	Society of Automotive Engineers
SSPC	Society for Protective Coatings
IBC	International Building Code

1.7 MINIMUM WAGE RATE DETERMINATION

A. The Navajo Nation prevailing wage rates will apply to this project. The wage rate determination provided by the Navajo Office of Labor Relations (NOLR) is provided in Appendix B to the Contract Documents. It is wholly the responsibility of the Contractor to inform him/herself of and abide by all regulations and requirements set forth by the NOLR.

B. The Federal Davis-Bacon Act and the New Mexico Public Works Minimum Wage Act do not apply to the present project.

1.8 TESTING AND INSPECTION ALLOWANCES

A. Testing Allowance: The bid schedule includes a predetermined sum to cover the cost of testing and inspection services as required in the Contract Documents.

B. Costs Included in Allowance: Fees charged by testing firm performing the testing, including field and laboratory costs for compaction, concrete, and PVC fusion joint testing only.

C. Costs Not Included in Allowance:

1. Incidental labor and facilities required to assist testing or inspection firm, such as preparation of test pits, surface preparation, provision of safe access for testing personnel, and other work performed by the Contractor to facilitate testing.
2. Work performed by the testing laboratory that is not part of actual testing.
3. Cost of disinfection of waterlines, chlorine tests, or bacteriological tests.
4. Costs of hydrostatic pressure testing or testing of material welds as called for in the Contract Documents.
5. Costs of failed tests as determined by Engineer.
6. Any other tests not specifically authorized in advance by the Engineer.

D. Costs will be drawn from testing allowance and paid based on invoice(s) submitted to Contractor by testing or inspection firm(s).

1.9 SCHEDULE OF VALUES

A. Submit schedule on EJCDC Form C-620 (2002 Edition), or on other form provided by Engineer. Contractor's standard form or electronic media printout will be considered.

B. Base structure of Schedule of Values on Bid Schedule with identical item numbering, quantities, and values.

C. Submit Schedule of Values in duplicate at least 15 days prior to first Progress Meeting.

1.10 APPLICATIONS FOR PAYMENT

A. Application for Payment is synonymous with Partial Payment Estimate.

B. Submit copies of each application on the Partial Payment Estimate form provided in the Contract Documents, together with updated Schedule of Values identifying fully the list of items in the Application for Payment.

1. The number of copies to be submitted will be established at the Pre-Construction Conference.

C. Submit up-to-date revisions of the following documents every month with Application for Payment. Application for Payment will not be processed without these updated documents.

1. Record Drawings
2. Construction Schedule, including overall project schedule and look-ahead schedule
3. All relevant documentation of testing performed during the pay period, such as concrete testing, compaction testing, weld x-rays, PVC fusion joint testing, holiday and other coating testing, and any other testing specified in the Contract Documents
4. Fusion machine data logs

D. Payment Period: Monthly

1.11 CHANGE PROCEDURES

A. All Change Orders shall be prepared on the form provided in these Contract Documents.

B. Unit Price Change Order: For pre-determined unit prices and quantities, Change Order will be executed on fixed unit price basis. For unit costs or quantities of units of work not pre-determined, refer to Article 12 - Change of Contract Price; Change of Contract Times, of the Standard General Conditions (EJCDC C-710 Standard General Conditions of the Construction Contract - Funding Agency Edition).

1.12 UNIT PRICES

A. Engineer will take measurements and compute quantities accordingly. The Contractor will assist in taking of measurements and determination of work completed prior to preparation of corresponding Application for Payment.

1.13 ALTERNATES

A. Not applicable.

1.14 COORDINATION

A. Coordinate scheduling, submittals, and Work of various sections of specifications to ensure efficient and orderly sequence of installation of interdependent construction elements.

B. Verify utility requirement characteristics of operating equipment are compatible with building utilities.

C. Abide by Traffic Control Plan provided by Engineer and coordinate all lane closures and other traffic control activities with relevant agencies, as described above.

D. Contractor shall obtain permits from Sandoval County and BIA-NRO Department of Transportation prior to encroaching on any county or BIA roads, except for permits already obtained by the Owner or the Engineer.

1. Contractor shall notify the BIA-NRO Department of Transportation and the Engineer at least five (5) working days prior to working within the ROW of any BIA road.

E. Contractor must coordinate use of NTUA potable water, such as for filling and flushing the pipeline, with NTUA at least two (2) weeks prior to using NTUA water. Contractor must provide NTUA with key information, such as maximum instantaneous flow rate (gpm), maximum daily flow rate (gpd), schedule of water use, and other information as required by NTUA. NTUA will advise Contractor of flow rate available for pipeline filling and flushing.

1. Contractor must not infringe on NTUA's ability to serve its existing customers by excessive water use. Contractor shall limit water use to avoid such infringement.

2. Contractor is advised that actual flow rate of NTUA water available for line filling and flushing may be significantly less than the maximum allowable flow rate specified in the Technical Specifications. Contractor shall adjust construction schedule based on actual available flow rate.

F. All hydrostatic pressure tests must be witnessed by NTUA personnel. Contractor is responsible for coordination of testing schedule with NTUA to allow NTUA's representative to be present.

G. The tie-ins to the existing NTUA waterlines at the beginning and end of the project shall be cut-in tees or crosses, not wet taps. Connections to existing tanks shall be floor penetrations.

1. Contractor must also notify NTUA at least two (2) weeks prior to tapping any existing NTUA water facility or crossing existing NTUA waterlines with proposed waterlines.

2. Contractor shall coordinate all tapping activities with NTUA and must receive NTUA approval prior to tapping any NTUA facility.

3. Contractor may be required to provide temporary tanks to maintain water service to NTUA's existing customers while tapping tanks. Such temporary tanks, if required, shall be provided at no additional cost to the Owner.

H. Contractor is responsible for coordination with NTUA of final project inspection by NTUA personnel prior to NTUA acceptance and signature of Affidavit of Punch List Completion. NTUA typically requires 21 days notice prior to final inspection. NTUA requires that all bacteriological samples be obtained with passing results within 30 days or less prior to system transfer. Any bacteriological tests performed more than 30 days prior to final acceptance and signature of the Affidavit of Punch List Completion by NTUA shall not be considered valid and shall be re-tested at no additional cost to the Owner.

I. Contractor must notify the Engineer at least five (5) working days prior to performing work within 100 feet of any culturally sensitive area, as designated on the Drawings.

J. The Contractor is responsible for obtaining all applicable local, county, state and tribal building and development permits not previously obtained by Engineer or Owner. This includes permits from the Construction Industries Division of the Regulation and Licensing Department of the State of New Mexico, and any other regulatory agency having jurisdiction.

K. Contractor is responsible for timely scheduling of any pertinent inspections with local, county, state and tribal agencies with jurisdiction, and as required by the permits.

L. Coordinate space requirements and installation of mechanical and electrical work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable.

M. All notices, demands, requests, instructions, approvals, proposals and claims must be in writing or email. Official email address(es) for notices will be designated during the pre-construction conference. Documents requiring written notice will be delineated at the pre-construction conference.

1. Any notice to or demand upon the Contractor shall be sufficiently given if delivered at the office of the Contractor stated on the signature page of the Agreement or to the official contact email address designated at the pre-construction conference.

2. All papers required to be delivered to the Owner shall, unless otherwise specified in writing to the Contractor, be delivered to the Owner at the address stated on the signature page of the Agreement, and a copy shall be delivered to the Engineer at 3451 Candelaria Rd NE Suite D, Albuquerque, NM 87107.

3. Any such notice shall be deemed to have been given as of the time of actual delivery, in the case of mailing, when the same should have been received in due course of post, or in the case of telegrams, certified mail, or telephone facsimiles, at the time of actual receipt as the case may be.

N. Coordination with Owner's Surveyor: Refer to Section 02 21 13 – Surveying.

O. Contractor shall coordinate seeding dates to coincide with the dates stipulated in the NNAD and BLM re-vegetation requirements and stipulations, provided in Appendix C.

1. Contractor shall indicate exact proposed re-seeding dates in project schedule, and shall notify the Engineer and BLM as early as possible of any deviations from this proposed seeding schedule.

P. Contractor shall provide on-site office space / work area for Resident Project Representative and other supervisory staff provided by Owner. Such office space may consist of a reasonably-sized room within the Contractor's project office trailer.

1.15 SUSPENSION OF WORK

A. The Owner may order suspension of work due to seasonal or other conditions unsuitable for construction work.

B. Maintenance during suspension: Prior to suspension for any cause, the Contractor shall take necessary precautions to protect the work during the period of suspension from any factors which would contribute to its deterioration.

C. Time elapsed during suspension of the work shall not count as contract time. The Contractor shall make no claim for damages due to delay, additional mobilization charges, nor any additional costs that may be incurred solely due to suspension of work.

D. Requests for additional time to be added after the "contract completion date" due to delays or extra work shall be made to the Owner in writing by the Contractor within ten (10) days after the time of the occurrence of the delay or receipt of a Change Order for extra work. Such requests shall set forth the justification for the additional time.

E. Upon approval, the additional contract time shall then be in full force and effect, the same as though it were the original date for completion, and will be shown as the completion date plus an amount of additional working days. Any time required to complete the work beyond the contract time or additional contract time will result in the assessment of liquidated damages, as specified in the Contract Documents. Failure to make such requests within the above limits will be considered as a waiver on the part of the Contractor as to the need for additional contract time.

1.16 FIELD ENGINEERING

A. Establish elevations, lines, and levels and certify elevations and locations of the Work conforming with the Contract Documents.

B. Verify field measurements are as indicated on shop drawings or as instructed by manufacturer.

C. From the information provided by the Owner, the Contractor shall develop and make all detail surveys needed for construction such as slope stakes, batter boards, easement alignments, stakes for pipe locations and other working points, lines, elevations and cut sheets.

1.17 PRE-CONSTRUCTION CONFERENCE

A. Engineer will schedule Pre-Construction Conference after Notice of Award for affected parties.

B. The Contractor, or his duly authorized representative, and subcontractor representatives will attend the meeting.

1.18 PROGRESS MEETINGS

A. Schedule in coordination with the Engineer at maximum monthly intervals, and attend all Progress Meetings throughout progress of the Work.

B. The purpose of the meetings will be to review the following:

1. Work progress since previous meetings.
2. Field observations, problems, conflicts.
3. Problems which impede construction schedule.
4. Corrective measures and procedures to regain projected schedule.
5. Revisions to construction schedule.
6. Plan progress and schedule during succeeding work period.
7. Coordination of schedules.
8. Off-site fabrication and delivery schedules.
9. Maintenance of quality standards.
10. Proposed changes, construction schedule and completion date.
11. Coordination of separate contracts.
12. Record or "as-built" drawings of completed work.
13. Other business as required.
14. Regulatory requirements including OSHA, New Mexico Board of Labor, and others as applicable.
15. Funding requirements including RUS, NMED, NMFA, DFA, USEPA and others as applicable.

C. During each meeting, the Contractor is required to present any issues which may impact his Work, with a plan to resolve these issues expeditiously.

1.19 CUTTING AND PATCHING

A. Submit written request in advance of cutting or altering elements with possible detrimental effects.

B. Execute Work by methods to avoid damage to other Work and to provide proper surfaces to receive patching and finishing.

C. Restore Work with new products according to requirements of Contract Documents.

D. Fit Work tight to pipes, sleeves, ducts, conduits, and other penetrations through surfaces. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.

E. Refinish surfaces to match adjacent finishes.

1.20 SUBMITTAL PROCEDURES

A. Identify Project, Contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, appropriate to submittal.

B. Apply Contractor's stamp, signed or initialed, certifying that review, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with requirements of the Work and Contract Documents.

C. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of completed Work.

D. Revise and resubmit submittals as required by the Engineer; identify changes made since previous submittal.

E. Submit number of copies Contractor requires, plus two copies Engineer will retain, at a minimum, unless otherwise indicated at the Pre-Construction Conference.

F. Transmit each submittal with Engineer accepted form.

G. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.

1.21 CONSTRUCTION PROGRESS SCHEDULES

A. Submit initial progress schedule in duplicate within fifteen [15] days after date of Owner-Contractor Agreement for Engineer review.

B. Submit revised schedules with each Application for Payment, identifying changes since previous version. Indicate estimated percentage of completion for each item of Work at each submission. Interim applications for payment shall not be processed without updated schedules.

C. Distribute copies of reviewed schedules to Project site file, subcontractors, suppliers, and other concerned parties.

D. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate early and late start, early and late finish, float dates, and duration.

1.22 PROPOSED PRODUCTS LIST

A. Unless required as an attachment to the contract documents, within 15 days after date of Owner-Contractor Agreement, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.

B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.23 PRODUCT DATA

A. Product Data: Submit to Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.

B. Submit copies and distribute in accordance with Submittal Procedures article.

C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

D. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

1.24 SHOP DRAWINGS

A. Shop Drawings:

1. Submitted to Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
2. Include detail design calculations, shop drawings, fabrication, and installation drawings, erection drawings, list, graphs, catalog sheets, data sheets, and similar items.
3. Design calculations shall bear the signature and seal of an engineer registered in the appropriate branch and in the state wherein the project is to be built, unless otherwise directed.
4. After review, provide copies and distribute in accordance with Submittal Procedures article and for record documents purposes as specified.
5. Except as may otherwise be indicated herein, the Engineer will return copies of each submittal to the Contractor with comments noted thereon, within 30 calendar days following their receipt by the Engineer.

B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

C. Submit number of opaque reproductions Contractor requires, plus two copies Engineer will retain.

1.25 TEST REPORTS

A. Submit for Engineer's knowledge as contract administrator or for Owner.

B. Submit test reports for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.26 MANUFACTURER'S INSTRUCTIONS AND CERTIFICATES

A. When specified in individual specification sections, submit manufacturer printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to Engineer for delivery to Owner in quantities specified for Product Data.

B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

C. When specified in individual specifications sections, submit certifications by manufacturer to Engineer, in quantities specified for Product Data.

D. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

E. Certificates may be recent or previous test results on material or Product, but must be acceptable to Engineer.

1.27 QUALITY CONTROL

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

B. Comply with manufacturer's instructions.

C. Comply with specified standards as minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

1.28 TOLERANCES

A. Monitor fabrication and installation tolerance control of installed products over suppliers, manufacturers, products, site conditions, and workmanship, to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply fully with manufacturer's tolerances.

1.29 REFERENCES

A. Conform to reference standards by date of issue current as of date of Contract Documents.

B. When specified reference standard conflict with Contract Documents, request clarification from Engineer before proceeding.

1.30 MANUFACTURER'S FIELD SERVICES AND REPORTS

A. When specified in individual specification sections, require material or product suppliers or manufacturers to furnish qualified staff personnel to observe site conditions and to initiate instructions when necessary.

B. Report observations and site decisions or instructions that are supplemental or contrary to manufacturer's written instructions.

1.31 EXAMINATION

A. Verify existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.

B. Verify utility services are available, of correct characteristics, and in correct location.

C. Contractor is solely responsible for utility location, protection and verification. Contractor must notify New Mexico One Call System Inc., at 811, and all local utility providers (including NTUA), at least three (3) days before starting utility line construction. Additional notice may be required for certain utilities, as noted on the Drawings and Specifications.

D. It shall be the responsibility of the Contractor to become acquainted with the location of all underground structures which may be encountered or which may affect the Work hereunder.

1.32 TEMPORARY SERVICES

A. Provide, maintain and pay for suitable quality water service as required.

B. Maintain uninterrupted water and electric service to all properties adjoining the Work, including existing NTUA customers, at all times, except where specifically approved by the authority having jurisdiction. Services damaged by the Contractor shall be immediately and permanently repaired or replaced at the expense of the Contractor. Give a minimum of 48-hour advance notice to occupants of adjacent properties, including all

existing NTUA customers, before interrupting any service. Any interruption of service shall be kept to the minimum length of time possible.

1. When tapping existing NTUA water tanks, Contractor shall take necessary measures, including provision of temporary tanks and piping, to maintain uninterrupted water service until existing tanks can be put back into service. Such temporary tanks, if needed, shall be provided at no additional cost to the Owner.

C. Until final inspection and approval of the Work and issuance of the Certificate of Substantial Completion, the Contractor is responsible for all Work directly or indirectly affected by the Contractor's activities. Such responsibility continues for all Work detailed on the punch list that may accompany the Certificate of Substantial Completion, until satisfactorily completed by the Contractor and approved by the Owner and Engineer.

D. Furnish, install and maintain any temporary water storage structures, electrical connections, meters, wiring, outlets, switches, lamps, etc., as necessary for the work. The Contractor shall provide such temporary heat as may be necessary for the prevention of injury to the work or material through dampness or cold. All temporary connections, installations, facilities and supplies furnished or installed as specified in this paragraph, shall be removed prior to the completion of the Contract, and the premises left perfectly clean and satisfactory to the Owner.

E. Maintain ambient temperature above freezing in enclosed/occupied areas where construction is in progress, unless indicated otherwise in specifications.

F. Provide temporary electricity and power outlets for construction operations, connections, branch wiring, distribution boxes, and flexible power cords as required. Do not disrupt Owner's need for continuous service.

G. Provide and maintain required sanitary facilities and enclosures in clean and sanitary condition.

H. All temporary power costs/bills, including power to surge tank site, shall be borne by the Contractor until final project acceptance and signature of the Affidavit of Punch List Completion by NTUA.

1.33 ACCESS ROADS

A. The project right-of-way and temporary construction easement may be used for construction traffic. Do not construct any new roads. All trafficked areas must be restored to original condition prior to final completion of the project.

B. Existing on-site roads, designated by the Owner, may be used for construction traffic, provided the roads are not damaged and access to roads by local land users is not affected. Existing roads must be restored to original condition prior to final completion of the project.

1.34 PROGRESS CLEANING AND WASTE REMOVAL

A. Collect and maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.

B. Maintain new and existing structures free of dust and construction debris at all times.

C. Remove waste and surplus materials, rubbish, and construction facilities from site. Restore all job sites and adjoining areas, including roads and driveways, to a condition equal to or better than the original status. Special attention will be made to not disturb unimproved roads by placing any excavated material to the sides of these roads when water lines are located along the right-of-way.

D. Brush and trees shall be felled parallel to the right-of-way to minimize damage to trees and structures on adjacent property. All brush, tree tops, stumps and other debris shall be removed from the right-of-way and disposed of by the Contractor, subject to and in conformity with the special provisions applying to the tract of land involved (if any). The Contractor shall not destroy nor remove any trees, shrubbery, nor any other improvements, without permission of the Owner.

E. The Contractor shall not dispose of debris, refuse or sanitary wastes in an open dump or in a natural watercourse, whether on public or private property, or in such places that undesirable wastes can eventually be exposed or carried to a natural watercourse.

F. Removal of obstructions required for completion of the project, whether specifically listed or not, shall be considered incidental to the work.

1. The Contractor shall remove and supply all usable materials to the Owner at a site designated by the Owner.
2. The Contractor shall remove and dispose of all unusable materials in accordance with relevant environmental regulations.

1.35 PROJECT IDENTIFICATION

A. Project sign requirements: None.

B. The Contractor shall not erect, or permit the erection of advertising signs. Only minimal identification and direction signs shall be permitted on the site. Unnecessary or obnoxious posters, pictures, signs, symbols, drawings or writing on work, material or equipment, resulting from vandalism or other causes, shall be covered or removed by the Contractor.

1.36 BARRIERS AND FENCING

A. Provide barriers or fencing to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage.

1.37 PROTECTION OF INSTALLED WORK

A. Protect installed Work and provide special protection where specified in individual specification sections.

B. Contractor shall remain wholly responsible for protection of all stored materials and installed work until acceptance and signature of Affidavit of Punch List Completion of the project by the Owner and NTUA.

1.38 SECURITY

A. Provide security and facilities to protect Work and existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

B. Security of Contractor's equipment, stored materials, work, and staging areas shall be entirely the responsibility of the Contractor. The Owner assumes no liability for any damage, vandalism, or theft of Contractor's property.

1.39 WATER CONTROL

A. Provide erosion control.

B. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

C. Contractor must abide by all stipulations and requirements within the Storm Water Pollution Prevention Plan (SWPPP) to be provided by the Contractor throughout all construction phases, including all proposed pollution prevention and sediment control measures. This shall be done in accordance with the National Pollution Discharge Elimination System (NPDES) general permit requirements for all construction activities, and shall include all required reporting. If the Bid Form does not include an item for preparation and implementation of the SWPPP, the cost thereof will be considered incidental to related work.

D. The Contractor shall conduct his operations to minimize damage to natural watercourses, and shall not permit petroleum products, volatile fluid wastes, or any other wastes which are prohibited by local ordinances, or excessive amounts of silt, clay, or mud to enter any drainage system. The bed of natural watercourses or man-made irrigation ditches shall be restored to normal gradient and cross-section after being disturbed.

E. Do not fill in any natural washes or drainages or impede natural water flow unless otherwise indicated in the plans or specifications, or directed by the Engineer in the field.

1.40 POLLUTION AND ENVIRONMENTAL CONTROL

A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.

B. Provide dust control, erosion and sediment control, noise control, pest control and rodent control to allow for proper execution of the Work. Motor equipment shall be kept in repair and equipped with anti-pollution devices, if possible, to cut down on exhaust emissions. Burning as a method of cleaning or disposal will not be permitted without approval of the proper authorities. Short term effects of dust produced by equipment will be mitigated by sprinkling traffic areas with water.

C. Comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act of 1970 (42 U.S.C. 1251 et seq.) as amended. Violations shall be reported to the New Mexico Environment Department.

D. The Contractor shall be responsible for the reporting and the cleanup of spills associated with project construction and shall report and respond to spills of hazardous materials such as gasoline, diesel, motor oil, solvents, chemicals, toxic and corrosive substances, and other materials which may be a threat to the public health or the environment.

E. The Contractor shall be responsible for reporting past spills encountered during construction and of current spills not associated with construction. Reports shall be made to the New Mexico State Police at 575-289-3443 or 505-334-6622, or call the New Mexico Environment Department Emergency Response Team at 505-827-9329 and to the Owner's Representative.

F. The Contractor shall clean up any unreported spills associated with project construction identified after construction.

G. Fuel, oil, hydraulic fluid, lubricants, and other petrochemicals must not be stored within the 100-year floodplain or within 100 ft of any wash, and must have a secondary containment system to prevent spills.

H. Do not change or add oil, hydraulic fluid, or other petrochemical-based fluids to any piece of machinery within the 100-year floodplain or within 100 ft of any wash.

I. Appropriate spill clean-up materials such as brooms and absorbent pads must be available where materials are stored or equipment is working at all times.

1.41 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, and materials, prior to Substantial Completion review.

B. Clean and repair damage caused by installation or use of temporary work.

C. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

1.42 PRODUCTS

A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work, but does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components specifically identified for reuse.

B. Do not use materials and equipment removed from existing premises, except as specifically identified or allowed by the Contract Documents.

C. Provide interchangeable components of same manufacture for components being replaced.

1.43 DELIVERY, HANDLING, STORAGE, AND PROTECTION

A. Deliver, handle, store, and protect Products in accordance with manufacturer's instructions.

1.44 SUBSTITUTIONS

A. Substitutions will only be considered when Product becomes unavailable through no fault of Contractor.

B. Specific manufacturers may be required for certain items in order to maintain consistency with the Owner's existing inventory. In such cases, substitutions may not be allowed.

C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.

D. Submit three [3] copies of request for Substitution to the Engineer for consideration. Limit each request to one proposed Substitution.

1.45 CLOSEOUT PROCEDURES

A. Submit written certification Contract Documents have been reviewed, Work has been inspected, and Work is complete in accordance with Contract Documents and ready for Engineer's inspection.

B. Submit final Application for Payment identifying total adjusted Contract Price, previous payments, and amount remaining due.

C. Project closeout submittals shall include, but not necessarily be limited to:

1. NTUA Affidavit of Punch List Completion
2. Project Record Documents
3. Operations and Maintenance Data
4. Spare Parts and Maintenance Materials
5. Extended Warranties
6. Release of Liens
7. Consent of Surety
8. Certification of Labor Standards
9. Complete packages of all testing results, start-up reports and data logs, including: manufacturer's testing data, pipe fusion data logs, fusible PVC fusion tests, line purge records, bacteriological tests, pressure tests, concrete tests, compaction tests, surge tank tests, weld x-rays, cathodic protection start-up reports, and other quality control/ quality assurance documentation required in the Specifications.

D. Affidavit of Punch List Completion must be signed by NTUA prior to Final Completion.
1. Final payment will not be processed until Affidavit of Punch List Completion is accepted by NTUA.
2. Warrantee period shall commence upon execution of Affidavit of Punch List Completion by NTUA.

1.46 FINAL CLEANING

A. Execute final cleaning prior to final inspection.

B. Upon completion of the work under this contract, thoroughly clean and make any needed repairs caused by damage during construction to any existing utilities or other structures on the site.

C. Notify the Engineer in writing once final cleaning is complete. The final payment will not be made until the Contractor has complied with all requirements set forth and the Engineer has made his final inspection of the entire work and is satisfied that it is properly constructed and the site properly cleaned.

D. All costs related to cleaning shall be considered incidental to the project.

1.47 STARTING OF SYSTEMS

A. Provide at least seven [7] days notification prior to start-up of each item. Contractor shall coordinate scheduling of such start-up services with the manufacturer and Engineer.

B. Ensure each piece of equipment or system is ready for operation.

C. Execute start-up under supervision of responsible persons in accordance with manufacturer's instructions.

D. Submit written report stating equipment or system has been properly installed and is functioning correctly.

1.48 DEMONSTRATION AND INSTRUCTIONS

A. Demonstrate operation and maintenance of Products to Owner's personnel two weeks prior to date of Substantial Completion.

B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six [6] months.

C. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed-upon times, at designated location.

1.49 TESTING, ADJUSTING, AND BALANCING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

B. Owner retains the right to appoint, employ, and pay for services of independent firm to perform testing, adjusting, and balancing. Reports will be submitted by independent firm to Engineer indicating observations and results of tests and indicating compliance or non-compliance with specified requirements and with requirements of Contract Documents.

C. Contractor will cooperate with independent firm; furnish assistance as requested.

D. Re-testing required because of non-conformance to specified requirements will be charged to Contractor.

1.50 PROTECTING INSTALLED CONSTRUCTION

A. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

B. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

C. Prohibit traffic or storage upon waterproofed or roofed surfaces. When traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

D. Prohibit traffic from landscaped areas.

1.51 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of Contract Documents to be utilized for record documents.

B. Record actual revisions to the Work. Record information concurrent with construction progress.

C. Specifications: Legibly mark and record at each Product section description of actual Products installed.

D. Record Documents and Shop Drawings (As-Built Drawings):

1. Legibly mark each item to record actual construction.

E. If any surveying is provided by the Contractor to supplement Owner-provided surveying, submit records and digital survey data.

F. Submit updated record documents to Engineer together with claims for interim Application for Payment. Interim and final applications for payment shall not be processed without updated record documents.

G. All mapping and other documentation requirements associated with the Contractor's SWPPP shall be the responsibility of the Contractor.

1.52 OPERATION AND MAINTENANCE DATA

A. Submit 3 sets prior to final inspection, bound in 8-1/2 x 11 inch text pages, 3 ring binders with durable plastic covers.

B. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS" and title of project.

C. Internally subdivide binder contents with permanent page dividers, logically organized.

D. Contents:

1. Part 1: Directory

a. List names, addresses, and telephone numbers of Engineer, Contractor, subcontractors, and major equipment suppliers.

2. Part 2: Operation and maintenance instructions, arranged by system:

a. Equipment summary, operational procedures, preventive maintenance procedures and schedules, parts list, shop drawings, safety issues.

3. Part 3: Project documents and certificates.

a. All equipment warranties, affidavits, and certifications required by the Technical Specifications shall be placed in this part.

1.53 SPARE PARTS AND MAINTENANCE MATERIALS

A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual specification sections.

B. Deliver to project site and place in location as directed by Engineer; obtain receipt prior to final payment.

1.54 WARRANTIES

A. Contractor warrants to Owner that all materials and workmanship covered by this Agreement, collectively referred to as the Work, supplied or performed by the Contractor, Contractor's sub-contractors, or Contractor's suppliers, will conform with the specifications, drawings, and other descriptions supplied or adopted by Owner and will be new, fit, and sufficient for the purposes for which they are intended as evidenced in this Agreement and in the drawings and specifications referred to therein, of good material, design and workmanship, free from defects, and will fulfill satisfactorily the operating conditions specified herein.

B. Contractor shall execute and assemble transferable warranty documents from subcontractors, suppliers, and manufacturers for all products with extended warranties beyond one (1) year.

C. Contractor shall submit all warranty documentation prior to final Application for Payment.

D. All warranty periods shall commence upon the date of final acceptance of the work and execution of the Affidavit of Punch List Completion by NTUA. A copy of the Affidavit of Punch List Completion form is included in the Permission to Tap application package provided in Appendix F to the Contract Documents.

E. If during the warranty period, any Work fails to conform with the foregoing guarantees, the defective Work shall be promptly repaired or replaced per these specifications and to the satisfaction of the Owner, at no cost to the Owner, including but not limited to prepayment of all packing and transportation costs; the cost of excavation, removal, and replacement of the defective material and all other adjacent materials affected by these actions; the cost of bedding and compaction and all required testing; as well as the costs of construction oversight, management and testing of materials by the Engineer.

F. Contractor will not be chargeable for repairs made by Owner to correct such failure within the foregoing warranty unless Contractor has been given written notice of such failure and thereafter has failed to take prompt and effective action to correct the failure in accordance with the foregoing.

1.55 RESIDENT PROJECT REPRESENTATIVE

A. The Owner shall provide a Resident Project Representative (RPR) to observe construction of the project.

B. The RPR shall:

1. Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences and other project-related meetings.
2. Serve as Engineer's liaison with Contractor, working principally through Contractor's authorized representative, assist in providing information regarding the intent of the Contract Documents.
3. Receive Samples which are furnished at the Site by Contractor, and notify Engineer of availability of Samples for examination.
4. Conduct on-Site observations of Contractor's work in progress to assist Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.
5. Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel, and that Contractor maintains adequate records thereof.
6. Review Applications for Payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the schedule of values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.

7. During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Specifications to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.
8. Participate in a Substantial Completion inspection, assist in the determination of Substantial Completion and preparation of punch lists.
9. Participate in a final inspection in the company of Engineer, Owner, and Contractor and prepare a final list of items to be completed and deficiencies to be remedied.

C. The RPR shall not:

1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items).
2. Exceed limitations of Engineer's authority as set forth in the Contract Documents.
3. Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers.
4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of Contractor's work.
5. Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.
6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.
7. Accept Shop Drawing or Sample submittals from anyone other than Contractor.
8. Authorize Owner to occupy the Project in whole or in part.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

C. Contractor shall preserve and maintain primary control points until otherwise authorized. Engineer may reestablish damaged or destroyed primary control points and backcharge cost to the Contractor.

1.4 RIGHT-OF-WAY AND TEMPORARY CONSTRUCTION EASEMENT

A. Contractor is advised that a 40' wide permanent right-of-way (ROW) easement is established along the proposed pipeline alignment, 20' to each side of the centerline. An additional 30' is provided on each side of this permanent easement to provide a temporary construction easement (TCE), resulting in a total of 100' wide corridor to which the Contractor must limit all construction activities, staging, and construction traffic.

B. Contractor is advised that at certain locations the temporary construction easement is truncated on one side or the other to avoid encroaching on culturally sensitive areas or adjacent properties. These truncated areas are indicated on the Drawings and will be barricaded by the Owner's Surveyor. Contractor shall not encroach beyond the established work space in these areas.

C. Contractor shall not work in any area where the designated work area has not been staked by Owner's Surveyor.

D. Contractor shall be wholly liable for any damage caused by working in areas that have not been staked, or by encroaching outside the staked work area.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 OWNER-PROVIDED SURVEY SERVICES

The Owner's Surveyor (herein defined as New Mexico-licensed Professional Surveyor or his designated field representative, contracted directly by the Owner) shall provide the following services at no cost to the Contractor:

A. Construction Staking:

1. ROW/ TCE limit Staking:

a. Owner's Surveyor will stake the TCE boundaries every 100 feet and at all horizontal points of inflection.

b. Where the temporary construction easement is truncated to avoid culturally sensitive or restricted areas, the Owner's Surveyor will barricade the truncated ends of the temporary construction easement with multiple stakes spaced no more than 10 ft apart to protect against inadvertent encroachment outside the designated work area by construction personnel or others.

SECTION 03 30 00

CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 SUMMARY

A. The Contractor shall furnish all materials for concrete in accordance with the provisions of this Section and shall form, mix, place, cure, repair, finish, and do all other work as required to produce finished concrete, in accordance with the requirements of the Contract Documents. All requirements included on the Drawings shall apply and shall take precedent over any indications in the present Section of the technical specifications in the case of contradictions.

B. The following types of concrete shall be covered in this Section:

1. Sitework Concrete: Concrete to be used for curbs, gutters, catch basins, sidewalks, pavements, thrust blocks, fence and guard post embedment, and other concrete ties unless otherwise shown.
2. Structural Concrete: Concrete to be used where noted in the Contract Documents.
3. Lean Concrete: Concrete to be used for pipe trench cut-off walls and cradles, where the preceding items are detailed on the Drawings as un-reinforced.
4. Duct Bank Concrete: Red colored concrete to be used for electrical duct banks.

C. The term "hydraulic structure" used in these specifications shall refer to environmental engineering concrete structures for the containment, treatment, or transmission of water, wastewater, or other fluids.

D. Related Sections:

1. Sheets DT-14 and DT-23 of the Design Drawings - General Notes and Specifications.
2. Section 03 10 00 - Concrete Forms and Accessories.
3. Section 03 20 00 - Concrete Reinforcement.
4. Section 03 29 00 - Joints in Concrete.
5. Section 03 60 00 - Grout.
6. Section 31 23 23 - Backfill.
7. Section 32 31 13 - Chain Link Fences and Gates.
8. Section 33 11 13 - Public Water Distribution Systems.

1.2 REFERENCES

A. American Concrete Institute:

1. ACI 117 - Standard Tolerances for Concrete Construction and Materials.
2. ACI 214 - Recommended Practice for Evaluation of Strength Test Results of Concrete.

D. The maximum concrete shrinkage for specimens cast in the field shall not exceed the trial batch maximum shrinkage requirement by more than twenty-five percent (25%).

E. If the required shrinkage limitation is not met during construction, the Contractor shall take all necessary action, at not additional cost to the Owner, for securing the specified shrinkage requirements. These actions may include changing the source of aggregates, cement and/or admixtures; reducing water content ratio; washing or aggregate to reduce fines; increasing the number of construction joints; modifying the curing requirements; or other actions designed to minimize shrinkage or the effects of shrinkage.

2.7 CEMENT GROUT

A. Cement grout materials shall be as specified in Section 03 60 00 - Grout.

2.8 UNIT MASONRY GROUT

A. Unit masonry grout materials shall be as specified in Section 04 20 00 – Unit Masonry.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 00 00 - Administrative Requirements: Coordination and project conditions.

B. Verify requirements for concrete cover over reinforcement.

C. Verify anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with placing concrete.

3.2 MIXING CONCRETE

A. Mixing equipment shall be subject to the Engineers approval. Mixers shall be of the stationary plant or truck mixer type. Adequate equipment and facilities shall be provided for accurate measurement and control of all materials and for readily changing the proportions of the material. The mixing equipment shall be maintained in good working order and shall be capable of combining the aggregates, cement and water within the specified time into a thoroughly mixed and uniform mass and of discharging the mixture without segregation. Cement and aggregate shall be proportioned by weight.

B. The batch plant shall be capable of controlling and delivering of all material to within one percent (1%) by weight of the individual material. If bulk cement is used, it shall be weighed on a separate visible scale that will accurately register the scale load at any stage of the weighing operation from zero to full capacity.

1. Cement shall not come in contact with aggregate or with water until the materials are in the mixer ready for complete mixing with all mixing water. The procedure of mixing cement with sand or with sand and coarse aggregate for delivery to the jobsite for final mixing and an addition of mixing water will not be permitted. Retempering of concrete (addition of water to previously prepared concrete mix) will not be permitted. The entire batch shall be discharged before recharging. The volume of the mixed material per batch shall not exceed the manufacturers rated capacity of the mixer.

D. No concrete shall be placed during rain or snow storms, unless completely covered to prevent storm water from coming in contact with it. Sufficient protective covering material shall be kept on hand at all times should rain or snow storms arise during concrete placement operations.

E. Concrete shall be deposited at or near its final position to avoid segregation caused by rehandling or flowing. Concrete shall not be deposited in large quantities in one place and worked along the forms with vibrator or other means. Concrete shall be uniformly distributed during the placing process and in no case after depositing shall any portion be displaced in the forms more than 2-feet in horizontal direction. Concrete shall be deposited in forms in horizontal layers not to exceed 24-inches in depth and shall be brought up evenly in all parts of the form. The rate of placement of concrete in forms shall not exceed 5-feet of vertical rise per hour. As the concrete is placed it shall be consolidated thoroughly and uniformly by mechanical vibration to secure a dense mass, close bond with reinforcement and other embedded items and smooth surface. The mechanical vibrator shall penetrate not only the freshly placed concrete, but also the previously placed lift to ensure the lifts become monolith. New concrete shall be placed against previously placed concrete, not away from it. When concrete is placed on a slope, placement shall begin at the lower end of the slope and progress to the upper end for the full width of the placement. Consolidation by mechanical vibration shall follow directly behind placement and the rate of placement shall never get ahead of the consolidation crew. Concrete placement shall continue without avoidable interruption, in a continuous operation until the end of the placement is reached.

F. The drop of concrete into slab or wall forms shall be vertical. Concrete shall not be dropped through reinforced steel, but deposited in forms using a hopper with a drop chute to avoid segregation and to keep mortar from coating the reinforcement steel and forms above the in-place concrete. In no case shall the free fall of concrete exceed 4-feet below the end of the hopper or chute.

G. If it takes more than 20-minutes to get back to place concrete over concrete previously placed, the depth of the layers being placed at one time shall be reduced, and/or placing equipment increased, until it is possible to return with the placing operation to previously placed concrete within 20-minutes. If concrete is to be placed over previously poured concrete and more than 20-minutes have elapsed, then a layer of grout not less than 1/2-inch thick shall be spread over the surface before placing the additional concrete.

H. The placement of concrete for slabs, beams or walkways cast monolithically with walls or columns shall not commence until the concrete in the walls or columns has been allowed to set and shrink. The time allowed for shrinkage shall be not less than one (1) hour.

I. Concrete shall be placed with the aid of approved mechanical vibrators. Vibration shall be supplemented by manual forking or spading adjacent to the forms on exposed faced in order to secure smooth dense surfaces. The concrete shall be thoroughly consolidated around reinforcement, pipes or other shapes built into the work. The vibration shall be sufficiently intense to cause the concrete to flow and settle readily into place and to visibly affect the concrete over a radius of at least 18-inches.

1. Sufficient vibrators shall be on hand at all times to vibrate the concrete as placed. In addition to the vibrators in actual use while concrete is being placed, the Contractor shall have on hand one (1) spare vibrator in serviceable condition. No

SECTION 04 20 00

UNIT MASONRY

PART 1 GENERAL

1.1 SUMMARY

A. Section includes split face and smooth face concrete masonry units; fire brick and reinforcement, anchorage, and accessories.

B. The Contractor shall furnish all materials and construct the brick masonry work for the project, complete, including the furnishing, fabrication and placing of reinforcing steel, clips, ties, anchors and the setting of embedded items all in accordance with the requirements of the Contract Documents.

1.2 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

A. The International Building Code, as referenced herein, shall be the most recent New Mexico Construction Industries Division (CID) adopted edition of International Building Code (IBC).

B. American Society for Testing and Materials (ASTM)

1. ASTM C90.
2. ASTM C404 - Standard Specifications for Aggregates for Masonry Grout.
3. ASTM A615 - Standard Specifications for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
4. ASTM C270 - Standard Specification for Mortar for Unit Masonry.
5. ASTM A92 - Standard Specification for Steel Wire, Plain for Concrete Reinforcement.
6. ASTM C144 - Standard Specification for Aggregates for Masonry Mortar.
7. ASTM C150 - Standard Specification for Portland Cement.
8. ASTM C207 - Standard Specification for Hydrated Lime for Masonry.

1.3 CONTRACTOR SUBMITTALS

A. Submit full-sized samples of concrete masonry units of each type, color and texture required. Also submit certification that the product meets ASTM C90, Type I moisture controlled, Grade N units.

B. Submit color chart for mortar.

C. The Contractor shall prepare in accordance with IBC Section 2105a set of five (5) masonry prisms using a representative test batch of mortar and masonry materials to be used in the structure. These prisms shall be tested by a certified testing laboratory. Samples of the trial batch mortar used in preparing the prisms shall also be taken in accordance with IBC Section 2105 and tested by a certified testing laboratory. The prism

4. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges.

5. Vertical and horizontal mortar joints shall be 3/8-inch and tooled to a concave pattern.

D. Set or embed all required anchors, bolts, reglets, sleeves, conduits and other items as called for in the Drawings. Protect all adjoining work including door jams and corners from damage or disturbance during the masonry work. Protect all sills, ledges and offsets from droppings of mortar.

E. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace. Isolate top joint of masonry partitions from horizontal structural framing members and slabs or decks with compressible joint filler.

F. Reinforcing Steel:

1. Reinforcement bar details to conform to ACI 530/ASCE 5-05/TMS 402 and placed as shown on the Drawings. All dowels shall be in proper location prior to start of the work. Secure reinforcing bars in their proper position.

2. Horizontal joint reinforcement to conform to ACI 530/ASCE 5-05/TMS 402 and placed as shown on the Drawings.

3. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum of 16 inches on each side of opening. Place joint reinforcement continuous in first and second joint below top of walls. Lap joint reinforcement ends minimum of 6 inches.

G. Grouting:

1. Grouting operations and conditions to conform to ACI 530 Section 3.5. Only low lift grouting to a maximum height of 5-feet will be permitted during any twenty-four (24) hour period.

2. Grout placed in a continuous pour, consolidated by puddling or mechanical vibrating during placing, and reconsolidated after excess moisture has been absorbed, but before plasticity has been lost.

H. Pointing and Cleaning:

1. At the completion of the work all holes or defective mortar joints in exposed masonry shall be pointed. Defective joints shall be cut out and repointed.

2. Exposed masonry shall be protected against staining from wall grouting or other sources and excess mortar shall be cleaned off the surfaces as the work progresses.

3. At the completion of the work, all exposed masonry shall be cleaned using a dilute acid solution.

4. All waste and surplus masonry materials shall be removed from the job and all stains or dirt from this operation affecting adjacent surfaces shall be removed by an approved cleaning method.

SECTION 09 92 00

PROTECTIVE ANTI-GRAFFITI COATINGS

PART 1 GENERAL

1.1 SUMMARY

A. Materials and methods specifications for the following:

1. GRAFFITI PROOFER® GPA-300 (Anti-graffiti top coat)
2. Sealer Prime SCS-002SP (Concrete primer)

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. Section 04 20 00 - Unit Masonry

C. Section 08 11 13 - Steel Doors and Frames

D. Section 08 33 23 - Overhead Coiling Doors

1.3 SUBMITTAL REQUIREMENTS

A. General: Submit in accordance with Division 01 00 00.

B. Before any materials are delivered to the job site, the Contractor shall submit a complete list of all materials proposed to be furnished and applied under this section.

C. For each product, the Contractor shall provide the manufacturer's specific application instructions.

1.4 QUALITY ASSURANCE

A. Schedule of References: To the extent specified elsewhere in this Division, comply with the requirements of the following standards and associations.

1. Steel Structure Painting Council Specifications (SSPC).
2. National Association of Corrosion Engineers Standards (NACE).
3. Applicable Standards of American National Standards Institute, Inc. (ANSI).
4. Occupational Safety and Health Act regulations (OSHA).

B. Painter's Qualifications. The Contractor shall cause the work specified under this section to be performed by or under the supervision of a qualified painter. The Contractor shall be prepared to document the painter's experience, competence and ability to comply with the requirements of these specifications and to complete the work in a timely manner.

C. Standard Products. All materials, supplies and articles provided shall be the standards products of recognized, reputable manufacturers. All coatings shall be the products of a single manufacturer. The Contractor shall also minimize the number of suppliers.

2. MIXING:

   a. Mix well by shaking the product container. After mixing, ensure the product is clear in appearance, consistent in thickness and that there is no settled/cured material within the container. Any cured or foreign material must be removed, by pouring the product through a paint strainer, prior to application.

3. POT LIFE & THINNING:

   a. Do not thin. Pot life can vary dependent upon temperature and humidity. Application time should not exceed 8 hours after the product has been opened.

4. EQUIPMENT:

   a. Apply via HVLP, airless sprayer, pump sprayer, aerosol can, roller or brush. Use a flood coat and apply liberally.

5. ROLLER:

   a. Use a ½" synthetic nap roller. Apply to porous substrates from the bottom up. To help ensure the product penetrates porous substrates, saturate the roller and apply slowly, allowing excess product to build on top of the roller.

6. SPRAY:

   a. Use a clean, independent line when spraying and use a .011 -.021" spray tip. Apply from top to bottom, chasing runs, and back-roll if needed. This will typically provide a 6 MIL WFT and 2 MIL DFT. Product can be applied wet-on-wet or wet-on-dry. For optimum performance allow the first coat to fully dry and cure before applying the second coat.

7. CLEANUP:

   a. Flush and clean all equipment immediately after use. MEK (Methyl Ethyl Ketone) is the preferred cleaning solvent, but mineral spirits may also be used. If flushing with mineral spirits, extreme care must be taken to ensure that ALL product is removed from spray lines.

8. APPLICATION TIPS:

   a. Ensure primer is fully cured before applying Graffiti Proofer.

   b. Ensure coverage is uniform by standing 2"- 3" away from the substrate while standing parallel to the surface (looking across the substrate at a 180° angle). The applied film should appear shiny across the entire surface. Reapply the Graffiti Proofer to any areas that are visually dull in appearance.

   c. Once cured, use a dry cloth to rub back and forth across the Proofer's surface. If this causes the Proofer to ball up and release from the surface, a second coat should be applied, allowed to cure and retest again. If rubbing the dry film with a dry cloth does not remove the Proofer from the substrate, proceed with the next step to test graffiti removal performance.

The Dry Film Thickness (DFT) must be 2 mils or greater (6 mil WFT) to ensure proper graffiti removal performance.

9. Upon completion of all coating activities, the Contractor shall remove all surplus materials, protective coverings and accumulated rubbish and thoroughly clean all surfaces and repair any overspray or other coating-related damage.

E. SEALER PRIME SCS-002SP

1. GENERAL INFORMATION:

   a. SCS-002SP is designed for above grade use only.

   b. Take special care to saturate joints, cracks and large pores.

   c. When first applied, the emulsified resins appear milky white. The micro emulsions will then coalesce drying clear and colorless. The milky appearance should last no longer than approximately 30 minutes.

   d. When applying the SCS-002SP for use a prime coat, always test an inconspicuous area to determine how fast the sealer is absorbed into the substrate. After the test application, let dry for 30-60 minutes and then feel the dry film on the substrate. Press your thumb firmly against the dry film and pull back slowly; one should feel a sticky sensation. If this is not experienced the SCS-002SP has not provided a sufficient film and an additional coat should be applied.

2. WATER BEAD TEST:

   a. Spray water onto the dry film with a trigger spray bottle. Water will either bead on the surface or darken/wet out the underlying substrate, which indicates absorption and an additional coat should be applied. If the water beads and does not absorb or darken the substrate the film is providing some moisture protection. For further and more in depth technical testing use a Rilem Tube to test the film's moisture resistance. If the SCS-002SP has passed the Water Bead and/or Rilem Tube test(s), the coating is intact and ready for an application of a topcoat.

3. MIXING:

   a. Mix well by shaking the product. Ensure there is no settled/cured material on the film or within the container. Cured or foreign matter must be removed prior to application.

4. POT LIFE & THINNING:

   a. Do not thin. Pot life can vary depending temperature and humidity but typically open product can be used for up to 1 month if sealed and stored according to specification.

5. APPLICATION EQUIPMENT:

   a. Mix or shake well before application. Ensure product is consistent in thickness after stirring. Apply via HVLP, airless sprayer, pump sprayer, roller or brush. Use a flood coat and apply liberally.

b. Roller:

1) Use ½" synthetic nap roller. To a porous substrate apply from the bottom up. Excess buildup of product can accumulate on roller. Allow the product to saturate and flood the top of the roller and apply slowly as this will allow product to penetrate the substrate.

c. Spray:

1) Apply with low pressure using a tip size ranging from .011-.021". Back roll if needed. Apply from top to bottom chasing runs. Product can be applied wet on wet or wet on dry. For optimum performance allow the first coat to fully dry and cure before applying the second coat.

2) Hold spray tips 4-12 inches from the surface depending on application and substrate, start at the top and work down the substrate chasing the run with an overlapping horizontal spray pattern.

6. CLEAN UP:

a. Flush and clean all equipment immediately after using warm soapy water.

7. STORAGE & HANDLING:

a. Must be stored and handled in compliance with all current local regulations for flammable liquids. Store in cool, dry, well-ventilated areas, out of direct sunlight and moisture.

8. GENERAL APPLICATION NOTES:

a. Allow a minimum of 2 hours to cure before proceeding with water-bead testing as described below.

b. Spray water via a hand-pump or trigger sprayer onto the application area to determine if any substrate darkening occurs. If a sufficient amount of SP has been used, the substrate should not darken and the water will bead up on the surface. Water may also be sprayed onto an uncoated area to determine the highest level of darkening to compare against. If an unacceptable amount of darkening occurs on the SP applied area, and water does not simply bead up and run off the surface, an additional coat of SP should be applied, allowed to cure and the surface should be retested for darkening via the same water test method. If a second coat of SP prevents the substrate from darkening when using the water test method, it may be possible to decrease the coverage rates for the first coat of SP to alleviate the need for applying a second coat.

c. Substrate areas that have received concrete patching material may have increased absorbency and may require more SP to be applied while carrying out the initial product application.

9. Upon completion of all coating activities, the Contractor shall remove all surplus materials, protective coverings and accumulated rubbish and thoroughly clean all surfaces and repair any overspray or other coating-related damage.

3.5 TESTING

A. GRAFFITI PROOFER GPA-300

1. A minimum of 24 hours curing time is ideal before testing graffiti removal performance.
2. When testing the Proofer's cured film for graffiti removal performance, apply spray paint to a small inconspicuous area and allow the spray paint to fully cure before proceeding with its removal.
    a. Not allowing the spray paint to fully cure before removing it, may damage the Proofer's film.
3. A dry cloth is an acceptable means of testing for removing graffiti from the cured film; however, dampening the cloth with water will allow it to slide across the protective coating much easier. If the coating film is of proper thickness, spray paint should be easily removed.

3.6 REMOVAL OF GRAFFITI

A. Remove graffiti as soon as possible after surface has been vandalized.

B. If the coating has been damaged or removed, make sure the surface is clean and dry and reapply as described in the Application section.

C. Always test chemical cleaners before moving into a full application.

D. Options for removing graffiti:

1. Dry rag or cloth
    a. To remove markers always use a dry cloth first.
2. Pressure washer with pressure setting of less than 1000 psi.
3. Water and no more than 10% detergent with a rag or cloth.
4. SEI's TWL-200 Graffiti Remover Towels
5. SEI's Graffiti Remover GR-SYS-P

E. Flush the coating with water after chemical cleaning to ensure the integrity of the coating.

F. For removing graffiti over large areas, or for removing graffiti from rough surfaces:

1. Use a cold-water pressure washer with a 25 - 40° nozzle and a pressure setting of 1,000 psi or less.
2. Start the flow of water away from the removal area and then reposition the nozzle at a slight angular distance of 4"- 6" from the Graffiti Proofer coated surface.
3. Move the pressure washing wand in a continuous back and forth motion, so as not to focus the nozzle in one location during the graffiti removal.
    a. Focusing the nozzle in one location may damage the Proofer's film.

END OF SECTION

SECTION 31 10 00
SITE CLEARING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Removing surface debris.
2. Removing designated paving, curbs, and other obstructions.
3. Removing designated trees, shrubs, and other plant life.
4. Removing abandoned utilities.
5. Excavating topsoil.

B. Related Sections:

1. Section 02 21 32 - Surveying
2. Section 31 22 13 - Rough Grading.

1.2 QUALITY ASSURANCE

A. Perform Work in accordance with the most recent edition of the New Mexico Standard Specifications for Public Works Construction, with latest revisions.

B. Conform to applicable State of New Mexico code for environmental requirements, disposal of debris, burning debris on site, use of herbicides.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 00 00 - Quality Requirements: Examination of existing conditions before starting work.

B. Verify existing plant life designated to remain is tagged or identified.

C. Identify waste area and/or salvage area for placing removed materials.

3.2 PREPARATION

A. Call New Mexico "One Call" at 811 and/or local utility companies at least three (3) working days before performing Work.

1. Request that underground utilities be located and marked within and surrounding construction areas.

B. Contractor shall not work in any area where the designated work area has not been staked by Owner's Surveyor. Contractor shall be wholly liable for any damage caused by working in areas that have not been staked, or by encroaching outside the staked work area.

C. Notify Engineer at least five (5) working days prior to commencing work within 100 feet of any designated restricted area or culturally sensitive area, as shown on Plans. Do not commence work unless barricades are in place and/or archaeological monitor is present, as required. Refer to Section 01 00 00 – Basic Requirements and the Drawings for site-specific requirements.

3.3 PROTECTION

A. Locate, identify, and protect utilities indicated to remain, from damage.

B. Protect trees, plant growth, and features designated to remain, as final landscaping.

C. Protect benchmarks, survey control points, and existing structures from damage or displacement.

3.4 CLEARING

A. Clear areas required for access to site and execution of Work.

B. Remove trees and shrubs within indicated areas. Remove stumps and surface rock.

C. Clear undergrowth and deadwood, without disturbing subsoil.

D. Apply herbicide to remaining stumps to inhibit growth.

3.5 REMOVAL

A. Remove debris, rock, and extracted plant life from site, as directed in field by Engineer.

B. Tree removal:

1. Trees larger than 3" in diameter shall be cut, de-limbed, and left in stacks on edge of ROW for public firewood gatherers. Place firewood such that the public may gather it without creating safety hazards or additional disturbance to the public, work site or the environment.
2. Trees smaller than 3" in diameter, slash, and brush shall either be chipped and spread on the ROW or hauled to appropriate disposal site. Chipped material shall be distributed so as not to interfere with successful re-vegetation efforts.
3. Tree stumps and other material that cannot be chipped or used by the public shall be hauled to an appropriate disposal facility.
4. Contractor shall abide by all conditions contained in BLM pipeline and site ROW stipulations contained in Appendix C, regardless of land ownership status.

C. Partially remove paving, curbs, and other obstructions as indicated on Drawings. Neatly saw cut edges at right angle to surface.

D. Remove abandoned utilities as directed by Owner and/or Engineer. Indicate removal termination point for underground utilities on Record Documents.

E. Continuously clean up and remove waste materials from site. Do not allow materials to accumulate on site.

F. The Engineer will indicate to the Contractor which obstructions are to be removed, disposed of, or salvaged, and will require special documentation.

G. All existing fences crossed by the Work, or are within the construction area, are to be removed and rebuilt to original condition or better. Fence materials resulting from such removal are to be stored or disposed of as directed by the Engineer. Fence materials suitable for reuse or salvage that are damaged, lost or destroyed due to the Contractor's negligence or carelessness are to be replaced at the Contractor's expense.

1. Refer to Section 01 00 00 and the BLM pipeline ROW stipulations contained in Appendix C for additional fence crossing requirements.

H. Do not burn or bury materials on site. Leave site in clean condition.

3.6 TOPSOIL EXCAVATION

A. Excavate top 6 inches of topsoil from areas to be further excavated, relandscaped, or regraded, without mixing with foreign materials or vegetable matter for use in finish grading.

B. Do not excavate wet topsoil.

C. Stockpile in area designated on site to depth not exceeding 8 feet and protect from erosion. Stockpile material on impervious material and cover over with same material, until disposal.

D. Remove excess topsoil not intended for reuse, from site.

E. All equipment shall be properly maintained and with proper safety devices.

F. Contractor must maintain control of dust and minimize blowing debris.

END OF SECTION

SECTION 31 22 13

ROUGH GRADING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Excavating subsoil.
2. Cutting, grading, filling, rough contouring, and compacting site for site structures and building pads.

B. Related Sections:

1. Section 02 21 32 - Surveying
2. Section 31 10 00 - Site Clearing: Excavating topsoil.
3. Section 31 23 17 - Trenching: Trenching and backfilling for utilities.
4. Section 31 23 23 - Backfill: General building area backfilling.
5. Section 33 11 13 – Public Water Transmission Systems: Pipeline Right-of-Way grading

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. The following payment concepts only apply when a corresponding item is included in the Bid Schedule. If no specific item is provided, then this work shall be considered incidental to any items which require grading.

B. Topsoil Fill:

1. Basis of Payment: Includes excavating existing soil, supplying soil materials, stockpiling, scarifying substrate surface, placing where required, and compacting.

C. Subsoil Fill:

1. Basis of Payment: Includes excavating existing subsoil, supplying subsoil materials, stockpiling, scarifying substrate surface, placing where required, and compacting.

D. Structural Fill:

1. Basis of Payment: Includes excavating existing subsoil, supplying structural fill materials, stockpiling, scarifying substrate surface, placing where required, and compacting.

1.3 REFERENCES

A. Subsurface data:

1. Report prepared by X8e Vinyard, entitled: "Geotechnical Investigation Navajo Gallup Water Supply Project (NGWSP) JAN 24.1 Sandoval County, New

G. Remove excess subsoil not intended for reuse and dispose of in accordance with these Technical Specifications.

H. Benching Slopes: Horizontally bench existing slopes greater than 4:1 (H:V) to key placed fill material to slope to provide firm bearing.

1. Do not exceed maximum slope of 4:1 (H:V) unless otherwise noted on the Drawings or directed by the Engineer.

I. Stability: Replace damaged or displaced subsoil as specified for fill.

J. Notify Owner of any utility damage at once so emergency measures can be taken. The Contractor will pay for any required repairs.

K. Remove and exclude water, including storm water, groundwater, irrigation water, and/or other waters, from all excavations. Dewatering wells, well-points, sump pumps, or other means shall be used to remove water and continuously maintain groundwater at a level below the bottom of excavations. Water shall be removed and excluded until backfilling is complete and all field soils testing have been completed.

L. Excavation Below Fills and Embankments: The subgrade areas beneath embankments shall be excavated to remove not less than the top 1 foot of native material and, where such sub-grade is sloped, the native material shall be benched. After the required excavation or over-excavation has been completed, the top 12 inches of material shall be scarified and moisture added or material dried to optimum moisture and the exposed surface shall be proof rolled.

M. Excavation under areas to be paved shall extend to the bottom of the sub-base. After the required excavation has been completed, the area shall be scarified a minimum of 12 inches below the subgrade surface and recompacted prior to the placement of the sub-base aggregate and/or base course aggregate. The finished sub-grade shall be even, self-draining, and in conformance with the slope of the finished pavement. Areas that could accumulate standing water shall be regraded to provide a self-draining subgrade.

N. Damage to existing or new facilities or work caused by the Contractor's operations shall be repaired at no additional cost to the Owner.

O. Material beyond prescribed lines which is loosened by the Contractor's operations shall be removed, replaced and/or compacted, as directed by the Engineer, at no additional cost to the Owner.

3.4 FILLING

A. See Technical Specification 31 23 23 – Backfill.

3.5 DISPOSAL OF EXCAVATED MATERIALS

A. Excess excavated material or excavated material not suitable for backfill may be disposed of on-site, provided that:

1. The finished grade substantially conforms with the drawings, or any deviation therefrom is approved by the Engineer

a. Blend with natural terrain

b. Minimum slope: 2%

c. Maximum slope: 4:1 (H:V)

2. All excess excavated material spread on the right-of-way is compacted to the same specifications as final backfill, as set for in Technical Specification 31 23 23 - Backfill and the Drawings, and

3. All on-site disposal of material is approved by the Engineer.

B. Do not dispose of waste material by dumping from tops of slopes.

C. Do not dispose of excess material within 15 feet of any wash, drainage or waterway.

D. Re-seed waste material areas in accordance with Technical Specification 32 92 19 - Seeding.

3.6 TOLERANCES

A. Section 01 00 00 - Quality Requirements: Tolerances.

B. Top Surface of Subgrade: Plus or minus 1/10 foot from required elevation.

3.7 FIELD QUALITY CONTROL

A. Section 01 00 00 - Execution Requirements: Testing, adjusting, and balancing.

B. Determine compaction characteristics of materials in accordance with ASTM D698.

C. Classify soils in accordance with ASTM D2487.

D. Field moisture content measured as specified in Section 31 23 23 - Backfill.

E. Unit weight of in-place compacted material shall be measured as specified in Section 31 23 23 - Backfill.

F. Perform in place compaction tests as specified in Section 31 23 23 - Backfill.

3.8 CORRECTION OF SUB-STANDARD WORK

A. Section 31 23 23 – Backfill: Correction of Sub-Standard Work.

END OF SECTION

SECTION 31 23 17

TRENCHING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Excavating trenches for utilities.
2. Sheeting and shoring.
3. Disposal of excavated material.

B. Related Sections:

1. Section 02 21 32 - Surveying
2. Section 03 30 00 - Cast-in-Place Concrete.
3. Section 31 22 13 - Rough Grading: Topsoil and subsoil removal from site surface.
4. Section 31 23 23 - Backfill: General backfilling.
5. Section 33 11 13 - Public Water Transmission Systems.

1.2 REFERENCES

A. Sub-surface Data:

B. Subsurface data:

1. Report prepared by X8e Vinyard, entitled: "Geotechnical Investigation Navajo Gallup Water Supply Project (NGWSP) JAN 24.1 Sandoval County, New Mexico", Project No.: 14-1-087, dated December 30, 2014. Refer to Exhibit A of the Contract Documents.
2. "Soil and Rock Potholing Data", as prepared by Souder, Miller & Associates. Refer to Exhibit B of the Contract Documents.
3. Soil Chemical Analysis, as prepared by Hall Environmental Analysis Laboratory, dated January 7, 2015. Refer to Exhibit C of the Contract Documents.
4. Note that in the event of any discrepancy or difference in requirements between the geotechnical report referenced above and the Technical Specifications, the more stringent requirement shall apply.
5. Refer to Section 01 00 00 regarding Contractor's ability to rely on sub-surface data provided by Owner.

C. NMSSPWC

1. NMSSPWC Sections 701, 801 & 802 "Trenching, Excavation and Backfill".

D. American Association of State Highway and Transportation Officials:

1. Request underground utilities to be located and marked within and surrounding construction areas.

B. Contractor shall not work in any area where the designated work area has not been staked by Owner's Surveyor. Contractor shall be wholly liable for any damage caused by working in areas that have not been staked, or by encroaching outside the staked work area.

C. Notify Engineer at least five (5) working days prior to commencing work within 100 feet of any designated restricted area or culturally sensitive area, as shown on Plans. Do not commence work unless barricades are in place and/or archaeological monitor is present, as required. Refer to Section 01 00 00 – Basic Requirements and the Drawings for site-specific requirements.

D. Identify required lines, levels, contours, and datum locations.

E. Protect plant life, lawns and other features remaining as portion of final landscaping.

F. Protect benchmarks, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

G. Maintain and protect above and below grade utilities indicated to remain.

H. Establish temporary traffic control and detours when trenching is performed in public right-of-way. Relocate controls and reroute traffic as required during progress of Work.

3.2 LINES, GRADES AND DIMENSIONS

A. Excavate trench to lines and grades indicated on Drawings.

1. Engineer reserves right to make changes in lines, grades, and depths of utilities when changes are required based on field conditions.

2. Deviations from horizontal and vertical pipe line and grade by Contractor: Refer to Section 33 11 13 – Public Water Transmission Systems.

3. When bottom of trench is rocky, over-excavate and fill as specified in Section 31 23 23 – Backfill.

B. Excavate trench to minimum width as indicated on Drawings.

1. Increase trench width as required to meet required clearances between pipe and trench wall, to avoid voids in the haunch areas of the pipe and to meet embedment compaction requirements or minimum soil cement slurry layer thickness. Increased trench width, if needed to meet these requirements, shall be provided at no additional cost to the Owner.

3.3 TRENCHING

A. Excavate subsoil required for utilities.

B. Remove to 6 inches of topsoil and stockpile separately. The stockpiled soil shall be free of organic material. This topsoil shall be spread on top of the reclaimed area after backfilling, prior to re-seeding.

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C. Remove lumped subsoil, boulders, and rock to bottom of trench. Contractor is advised that the cost of any rock removal that may require special equipment or procedures will be considered incidental to the cost of trenching for waterline installation. No additional payment will be made for rock excavation.

D. Allowable open trench: Trenches may be opened in advance of pipe placement and backfill operations under the following conditions:

1. Do not open more than ½ mile of trench at one time. Do not leave any section of trench open for more than 24 hours.
2. Do not leave any trench open at the end of the workday within 100 feet of any road, driveway parking lot or other trafficked area, whether said road or driveway is shown on the Drawings or not.
3. Do not block vehicular traffic or impede access to homes or businesses.
4. Temporary fences shall be required for all trenches left open when the Contractor is not working on-site. Temporary fencing methods and materials shall be subject to approval by the Bureau of Land Management and the Engineer. All required temporary fencing shall be provided at no additional cost to the Owner.
5. Protect open trench to protect the public, livestock, wildlife and the environment.
   a. Comply with all stipulations set forth by the Bureau of Land Management, Sandoval County, BIA Department of Transportation, the Navajo Nation, and other land-controlling agencies and owners of existing utility lines. These stipulations are provided Appendices C, D, and E.
   b. Provide animal escape ramps and cross-overs in accordance with the BLM pipeline ROW stipulations provided in Appendix C.
6. Contractor is solely responsible for safety of all open trenches and bears sole liability for any incidents or accidents arising from open trenches.
7. The Owner may further restrict the amount of open trench as needed due to safety, land use or environmental considerations.

E. Remove water or materials that interfere with Work. Remove groundwater by pumping to keep excavations dry.

F. Provide uniform and continuous bearing and support for bedding material and pipe.

G. Do not interfere with 45 degree bearing splay of foundations. Any excavation in this area shall be backfilled and compacted using the same materials and methods as structural fill for new buildings. Refer to Section 31 23 23.

H. Slope or shore trench as needed to meet safety requirements. When sidewalls cannot be sloped, provide sheeting and shoring to protect excavation as specified in this section.

I. When subsurface materials at bottom of trench are loose or soft, excavate to greater depth as directed by Engineer until suitable material is encountered. Backfill and compact to reach specified or directed line and grade. Refer to specifications for overexcavation backfill, as set forth in Section 31 23 23.

J. Cut out soft areas of subgrade not capable of compaction in place. Backfill and compact to specified or directed line and grade. Refer to specifications for overexcavation backfill, as set forth in Section 31 23 23.

K. Trim excavation. Hand trim for bell and spigot pipe joints. Remove loose matter.

L. Correct over excavated areas with compacted backfill as specified for authorized excavation or replace with fill concrete as directed by Engineer.

M. Remove excess subsoil not intended for reuse from site.

N. Do not excavate in the rain or snow without approval from the Engineer.

O. Do not excavate in frozen materials without approval from the Engineer.

P. Blasting is not allowed.

3.4 ADDITIONAL EXCAVATION

A. Perform additional excavation in trench bottom for pipe foundations as show on drawings and other additional excavations beyond specified lines as directed by the Engineer.

3.5 OVEREXCAVATION

A. When foundation material is over-excavated beyond specified or directed lines, fill the over-excavation with embedment or bedding material and compact in accordance with Section 31 23 23 - Backfill.

B. If foundation material is over-excavated by being disturbed or loosened during excavation, compact material in place or remove and replace with embedment or bedding material as determined by the Engineer and compact in accordance with Section 31 23 23 - Backfill.

3.6 SHEETING AND SHORING

A. Sheet, shore, and brace excavations to prevent danger to persons, structures and adjacent properties and to prevent caving, erosion, and loss of surrounding subsoil.

B. Support trenches more than 5 feet deep excavated through unstable, loose, or soft material. Provide sheeting, shoring, bracing, or other protection to maintain stability of excavation.

C. Design sheeting and shoring to be removed at completion of excavation work. If the Engineer orders the sheeting to be left in place for the protection of the work, a payment will be allowed only for the actual cost of the timber left in place.

D. Repair damage caused by failure of the sheeting, shoring, or bracing and for settlement of filled excavations or adjacent soil.

E. Repair damage to new and existing Work from settlement, water or earth pressure or other causes resulting from inadequate sheeting, shoring, or bracing.

3.7 BACKFILLING OF TRENCHES

A. See Section 31 23 23 – Backfill for general backfill requirements, as well as trench backfill, bedding and embedment requirements around pipelines.

3.8 DISPOSAL OF EXCAVATED MATERIALS

A. Excess excavated material or excavated material not suitable for backfill may be disposed of on-site, provided that:

1. The finished grade substantially conforms with the drawings, or any deviation therefrom is approved by the Engineer
   a. Blend with natural terrain
   b. Minimum slope: 2%
   c. Maximum slope: 4:1, unless otherwise noted on Drawings
2. All excess excavated material spread on the right-of-way is compacted to the same specifications as final backfill, as set forth in Section 31 23 23 - Backfill and the Drawings, and
3. All on-site disposal of material is approved by the Engineer.

B. Do not dispose of waste material by dumping from tops of slopes.

C. Do not dispose of excess material within 15 feet of any wash, drainage or waterway.

D. Re-seed waste material areas in accordance with Section 32 92 19 - Seeding.

3.9 TOLERANCES

A. Section 01 00 00 - Quality Requirements: Tolerances.

B. Top Surface of Backfilling Under Paved Areas: Plus or minus 1 inch from required elevations.

3.10 FIELD QUALITY CONTROL

A. Section 01 00 00 - Execution Requirements: Testing, adjusting, and balancing.

B. Determine compaction characteristics of materials in accordance with ASTM D698.

C. Classify soils in accordance with ASTM D2487.

D. Field moisture content measured as specified in Section 31 23 23 - Backfill.

E. Unit weight of in-place compacted material shall be measured as specified in Section 31 23 23 - Backfill.

F. Perform in place compaction tests as specified in Section 31 23 23 - Backfill.

G. When tests indicate Work does not meet specified requirements, remove Work, replace, compact, and retest at no additional cost to the Owner.

3.11 PROTECTION OF FINISHED WORK

A. Section 01 00 00 - Execution Requirements: Protecting installed construction.

B. Reshape and re-compact fills subjected to vehicular traffic during construction.

END OF SECTION

SECTION 31 23 23

BACKFILL

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Backfilling building perimeter to subgrade elevations.
2. Backfilling site structures to subgrade elevations.
3. Fill under slabs-on-grade.
4. Fill under paving.
5. Fill for over-excavation.
6. Pipe bedding material.

B. Related Sections:

1. Section 02 21 32 - Surveying
2. Section 03 30 00 - Cast-in-Place Concrete: Concrete materials.
3. Section 31 22 13 - Rough Grading: Site filling.
4. Section 31 23 17 - Trenching: Backfilling of utility trenches.
5. Section 31 23 25 - Soil Cement Slurry.
6. Section 33 11 13 - Public Water Transmission Systems.

1.2 REFERENCES

A. Sub-surface Data:

1. Report prepared by X8e Vinyard, entitled: "Geotechnical Investigation Navajo Gallup Water Supply Project (NGWSP) JAN 24.1 Sandoval County, New Mexico", Project No.: 14-1-087, dated December 30, 2014. Refer to Exhibit A of the Contract Documents.
2. "Soil and Rock Potholing Data", as prepared by Souder, Miller & Associates. Refer to Exhibit B of the Contract Documents.
3. Soil Chemical Analysis, as prepared by Hall Environmental Analysis Laboratory, dated January 7, 2015. Refer to Exhibit C of the Contract Documents.
4. Note that in the event of any discrepancy or difference in requirements between the geotechnical report referenced above and the Technical Specifications, the more stringent requirement shall apply.
5. Refer to Section 01 00 00 regarding Contractor's ability to rely on sub-surface data provided by Owner.

B. Native material may be borrowed from within the designated right-of-way and hauled within the project area if needed, provided that

a. All borrow areas receive prior approval from the Engineer. Finished grades shall conform to the finished grades shown in the plans, or any deviations therefrom must receive prior approval by the Engineer.

b. Borrow areas do not encroach beyond the designated project right-of-way. Borrow areas shall not encroach on any protected culturally sensitive area.

c. All borrow areas are sloped and dressed to minimize erosion.

d. Adequate stormwater pollution prevention measures are installed and maintained during construction. Such controls must be approved by the Engineer.

e. All borrow areas are re-seeded upon completion of the project, in accordance with Technical Specification 32 92 19, and post-construction stormwater controls are installed with approval from the Engineer.

C. All costs incurred in removing, hauling or processing native material and reclaiming borrow sites shall be considered incidental and shall be borne by the Contractor at no additional expense to the Owner.

D. The Owner makes no guarantee that native materials meeting the fill and backfill material specifications contained herein are available within the project area.

2.2 IMPORTED FILL MATERIAL

A. If imported materials are required to meet the quantity requirements of the project, it will be provided at no additional expense to the Owner.

B. No dedicated borrow area for fill material has been pre-determined for this project. Material may be borrowed from within the designated ROW, provided all conditions set forth in the specifications are met

2.3 TYPES OF ACCEPTABLE FILL MATERIAL

A. Structural Fill: Structural fill for use as sub-foundation material under buildings and other structures shall be provided in accordance with the Geotechnical Report provided in Exhibit A of the Contract Documents.

B. Fill for Appurtenances: Fill under and around in-line valves and structures at the same elevation as the pipe shall comply with specifications for the corresponding type of fill under or around the pipe. Fill under and around appurtenances such as valves, vaults and other structures above the top of the pipe shall comply with specifications for initial backfill material.

C. Pipe Bedding and Embedment Material: The following types of material are acceptable for use as pipe bedding and embedment material:

1. Crushed Rock: Not more that 25% passing 3/8-inch sieve and not more than 12% fines. Maximum particle size shall not exceed ½ inch for pipe bedding and ¾ inch for embedment.

5. For single anode installations, connect individual anodes to structure through calibrated shunts.

6. For multiple anode installations, a cable between the test station and an anode junction box may be used to connect the anode to the structure.

   a. Connect individual anodes to structures through individual calibrated shunts within junction boxes for current measurement.

   b. Install individual variable resistors in series with these calibrated shunts.

   c. Install junction boxes adjacent to and below test stations where required

7. Install flush-to-grade test stations flush to finished grade with 24"x24"x6" reinforced concrete collars, etched with "CP test station".

8. Mount anode terminal boxes to inside wall of structures.

J. Electrically isolate all cathodically protected structures from rebar or other non-protected and extraneous metal.

3.13 PIPELINE RIGHT-OF-WAY GRADING

A. Establish finished grade to provide a minimum of four (4) foot of cover over the pipe. Measure depth of cover from final surface grade (not including dirt mound) to top of pipe barrel.

1. At certain locations such as wash crossings, road crossings, utility line crossings or to prevent high points, the Drawings indicate greater than 4 ft minimum cover. At such locations, Contractor shall maintain the site-specific minimum cover.

B. Mound soil over top of pipe in accordance with Drawings, except at wash crossings, road crossings, or where prohibited by landowner.

C. Do not place fill material or raise the finished grade above existing grade in the flow lines of washes or surface water drainages, regardless of size.

D. Finished grade along pipeline right-of-way and temporary construction easement shall have a maximum longitudinal slope of 4:1 and maximum side slope of 4:1, unless otherwise noted on Drawings.

E. The pipeline right-of-way shall be leveled from side-to-side to slow down surface run-off from causing erosion rills perpendicular to the pipeline, as well as to make the ROW accessible to the Owner for future maintenance.

1. The entire right-of-way shall be re-seeded and reclaimed after construction. Do not build any new roads. Refer to Section 32 92 19 – Seeding for re-seeding requirements.

2. The right-of-way shall not be open to the general public and shall have minimal impact on the environment. Upon completion of construction, the right-of-way shall be reclaimed to visually blend in with the surrounding environment and minimize its visual impact.

F. All construction activities, including clearing and grading, must remain within the designated right-of-way and temporary construction easement. Do not encroach on adjacent properties or culturally sensitive areas.

G. Final acceptance of ROW grading and restoration on Bureau of Land Management (BLM) lands shall be subject to approval by BLM.

3.14 TAPPING EXISTING WATER DISTRIBUTION FACILITIES

A. Obtain permission to tap from the Navajo Tribal Utility Authority (NTUA). A blank Permission to Tap application form is provided in Appendix F. Contractor shall not connect to existing system without written permission from NTUA and the Engineer to proceed with connection to the existing system.

B. Coordinate with NTUA's designated representative regarding schedule, means and methods, maximum allowable shut-off time, water usage rates (both gpm and gpd) and other parameters stipulated by NTUA.

C. Contractor is advised that a Water Use Permit from Navajo Nation Water Code Administration is required for use of the NTUA water. Contact Wayne Williams at (928) 729 – 4132 or wwilliamsjr@navajo-nsn.gov for more information.

D. Perform all work in conformance with the tapping permit and all written and verbal instructions from NTUA personnel, including notification and coordination with NTUA, maximum water usage rates, time and duration of shut-offs, and disinfection requirements.

E. Minimize shut-off time during connections to existing facilities. Contractor shall have all tools and materials for actual field conditions as well as foreseeable problems on hand in order to minimize shut-off time.

F. Floor penetrations on existing tanks:

1. Shall be performed dry. Contractor shall drain tank prior to tapping.
2. Grind and dress the welds.
3. Remove all existing paint damaged during the cutting and welding process by blasting to bare metal (same surface preparation standard as specified for new tank coatings).
4. Recoat the damaged areas to match original coating. No bare metal shall be left in contact with water.
5. Contractor shall compact disturbed sub-foundation and fill underneath and within 5 feet of the tank to 95% standard proctor and shall perform necessary testing to ensure adequate compaction.
6. Tanks shall be disinfected and bacti tested after tapping prior to putting tanks back in service.
7. Contractor shall take necessary measures to prevent interruption of service to existing NTUA customers during tapping, including provision of temporary tanks as needed.

G. Taps on existing NTUA pipelines shall be by cut-in tees, with NTUA's approval. Wet taps shall not be permitted.

H. Prevent contamination of existing facilities with trench water, mud, debris, chemicals or other substances.

I. All new materials shall be thoroughly cleaned and disinfected with a strong (200 ppm) chlorine solution prior to connecting to existing NTUA facilities.

3.15 INITIAL FILLING OF PIPELINE

A. "Initial filling" refers to first introduction of water and evacuation of air in the pipeline.

B. Initial filling of pipeline shall not exceed maximum instantaneous flow rate (in gpm) or maximum daily fill rate (in gpd) set forth by NTUA and the Engineer in the field.

C. Unless otherwise directed by the Engineer, the maximum allowable instantaneous flow rate shall be 250 gpm. Note that actual allowable maximum fill rate based on availability of water from NTUA's existing facilities may be significantly less than this amount. Contractor shall schedule sufficient time for filling and flushing to account for actual water availability from NTUA.

3.16 DISINFECTION OF POTABLE WATER PIPING SYSTEM

A. Flush and disinfect system in accordance with Section 33 13 00.

3.17 FIELD QUALITY CONTROL

A. Section 01 00 00 - Execution Requirements: Field inspecting, testing, adjusting, and balancing.

B. The Contractor shall be required to hydrostatic pressure test all water mains, appurtenances and plumbing trains.

1. Perform testing in accordance with applicable standards:

a. PVC pipe: Simultaneous hydrostatic pressure and leakage test. The system shall be pressure tested in accordance with AWWA C605 and M23, with the exceptions noted below:

1) Test pressure: In accordance with test pressure summary table provided as Appendix to Contract Documents.

2) In no case shall the test pressure exceed the manufacturers' recommended maximum safe test pressure for the pipe, fittings or appurtenances.

3) Test duration: 2 hours minimum.

a) Engineer may require longer duration test (up to 24 hours) if there is any doubt as to integrity of a particular section of pipe or appurtenances.

b. Ductile iron pipe: AWWA C600

c. Steel pipe: AWWA C200

2. Hydrostatic pressure testing of main line shall be performed in sections between each pair of adjacent isolation valves. Do not skip any isolation valves in delineating test sections, without express written permission by Engineer.

3. No observable leakage is allowed. Measurable leakage must be within the maximum allowable limits set forth by applicable AWWA and ASTM standards.

G. Painting and Coating:

1. All painting and coating shall be completed at the factory. Field painting and coating will not be accepted. The tank interior shall be painted with an NSF 61 epoxy paint with a uniform layer thickness of no less than 6 mils. The tank exterior shall be painted with anti-corrosion polyurethane and shall have a uniform layer with a minimum thickness of 10 mils.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 00 00 - Administrative Requirements: Verification of existing conditions before starting work.

3.2 INSTALLATION - SURGE TANKS

A. Contractor shall coordinate with surge tank supplier and make measurements of actual surge tank dimensions and pipe connection locations prior to constructing foundation or installing yard pipe risers. Contractor is wholly responsible to align foundations, piping and any other connections with surge tanks in the field.

B. The tank shall be installed in accordance with the manufacturer's recommended procedures.

C. Proco joint compression shall be within manufacturer's recommended tolerances.

1. Do not allow bolts to make contact with rubber joint.

2. Mounting bolt heads shall be towards the center of the expansion joint with threaded end facing the ends to prevent contact between bolt and joint during pressurization.

3. Field verify laying length and control bolt lengths before foundation construction.

D. Pre-charge of tanks shall be performed by an authorized factory representative or employee of the manufacturer.

E. Contractor shall isolate surge tank from main line until main line flushing is completed, in order, to keep debris out of surge tank. This shall be accomplished by installing a blind flange on the riser pipe, which will be removed after the main line is flushed.

3.3 DISINFECTION OF POTABLE WATER PIPING SYSTEM (BY CONTRACTOR)

A. Flush and disinfect system in accordance with Section 33 13 00.

3.4 START-UP SERVICES

A. Provide at least one full 8-hour day of service from manufacturer's representative to approve the tank installation and advise the Contractor during startup, testing, and final adjustment of each tank. In addition to this day, one additional full 8-hour day shall be provided in a separate trip to instruct the Owner's personnel in the operation and maintenance of the tank system.

SECTION 33 12 15

WATER SURGE CONTROL TANKS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Furnishing of all equipment, materials, and labor to provide, install and test horizontal bladder-type surge tanks for potable water surge control as shown on the Drawings and specified in these Contract Documents.

B. Related Sections:

1. Section 26 27 34 – Surge Tank Building Instrumentation and Control Requirements
2. Section 33 11 13 - Public Water Transmission Systems.
3. Section 33 12 16 - Water Utility Valves.
4. Section 33 13 00 - Disinfection of Water Utility Transmission Systems.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Surge Tanks:

1. Basis of Measurement: By the unit.
2. Basis of Payment: Includes connection to main line, surge tank, supports, anchor bolts, structure, electrical connections and appurtenances, rubber expansion joints, fittings and accessories.

1.3 REFERENCES

A. American Society of Mechanical Engineers (ASME):

1. ASME B16.1 - Cast Iron Pipe Flanges and Flanged Fittings.

B. American Society for Testing and Materials International (ASTM):

1. ASTM A36/A36M - Standard Specification for Carbon Structural Steel.
2. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
3. ASTM A307 - Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.
4. ASTM D1557 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (6,000 ft-lbf/ft3 (2,700 kN-m/m3)).

C. American Water Works Association (AWWA):

1. AWWA C104 - ANSI Standard for Cement Mortar Lining for Ductile-Iron Pipe and Fittings for Water.

SECTION 33 12 16

WATER UTILITY VALVES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Gate Valves.
2. Ball Valves.
3. Butterfly Valves.
4. Orifice Plates.
5. Rate of Flow Control Valves
6. Air Valves.
7. Dismantling Joints
8. Flush Valve Assemblies.
9. Valve boxes.
10. Meter cans.
11. Pipe Supports
12. Valve vaults.
13. Accessories.
14. Corrosion Protection.

B. Related Sections:

1. Section 03 30 00 - Cast-in-Place Concrete.
2. Section 26 27 34 – Surge Tank Building Instrumentation and Control Requirements
3. Section 31 22 13 - Rough Grading.
4. Section 31 23 23 - Backfill.
5. Section 33 11 13 - Public Water Transmission Systems.
6. Section 33 13 00 - Disinfection of Water Utility Transmission Systems.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Vacuum Breaker and Air Valve Assemblies:

1. Basis of Measurement: Each.
2. Basis of Payment: Includes excavation, vacuum breaker / air valve assembly, concrete vault with ladder, cover and hatch, fittings, accessories and backfill.

B. Manufacturer's Certificates: Submit Statement of Compliance, supporting data, from material suppliers attesting that valves and accessories provided meet or exceed AWWA Standards and specification requirements.

C. Submit proofs on all signs, placards, and tags prior to fabrication.

1.5 CLOSEOUT SUBMITTALS

A. Project Record Documents: Record actual locations of valves.

B. Provide Operation and Maintenance Data for each type of valve installed.

1.6 QUALITY ASSURANCE

A. Perform work in accordance with applicable New Mexico Standards and the National Fire Protection Act (NFPA).

B. Valves: Mark valve body with manufacturer's name and pressure rating.

1.7 DELIVERY, STORAGE AND HANDLING

A. Prepare valves and accessories for shipment according to AWWA Standards and seal valve ends to prevent entry of foreign matter into product body.

B. Deliver and store valves in shipping containers with labeling in place.

C. Store products in areas protected from weather, moisture, or possible damage; do not store products directly on ground; handle products to prevent damage to interior and exterior surfaces.

D. Coated valves and appurtenances shall be shipped on bunks and secured with nylon belt tie down straps or padded banding over braces, and shall be stored on padded skids or other suitable means to prevent damage to coatings.

E. Coated valves shall be handled with wide belt slings, padded forks or other means to prevent damage to coatings. Chains, cables or other equipment likely to damage coatings or valves shall not be used.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Conduct operations not to interfere with, interrupt, damage, destroy, or endanger integrity of surface or subsurface structures or utilities, and landscape in immediate or adjacent areas.

1.9 MAINTENANCE MATERIALS

A. Furnish two (2) tee wrenches to Owner (required length) for each valve type.

PART 2 PRODUCTS

2.1 GENERAL

A. All valves shall be American made, unless otherwise specified.

B. All non-stainless steel and iron valves and appurtenances shall be fusion bonded epoxy coated, interior and exterior, conforming to AWWA C550 and NSF 61.

3.4 BACKFILLING FOR STRUCTURES, SITE WORK AND APPURTENANCES

A. Refer to the Geotechnical Report in Exhibit A regarding any issues not specifically addressed in these Technical Specifications. In the event of any discrepancies or differences in requirements between the Geotechnical Report and the Technical Specifications, the more stringent requirement shall apply.

B. Backfill areas to lines and grades as indicated on the Drawings or as directed by the Engineer.

1. For demolition work, backfill to existing grade or finished grade as indicated on Drawings, or as directed by the Engineer.

C. Systematically backfill to allow maximum time for natural settlement.

D. Do not backfill over porous, wet or spongy subgrade surfaces. Do not place backfill if either the material or the surface on which it is to be placed is frozen.

E. Each layer shall be thoroughly mixed as necessary to promote uniformity of material in each layer.

F. Place material in continuous, uniform layers such that all spaces around rocks and clods are filled. Thickness of such layers shall be as follows:

1. Subsoil Fill: Maximum 8 inches compacted depth.
2. Structural Fill: Maximum 6 inches compacted depth.
3. Granular Fill: Maximum 6 inches compacted depth.

G. Employ placement method that does not disturb or damage other work.

H. Slope grade away from building minimum 4%, unless otherwise noted on the Drawings.

I. Make gradual grade changes. Blend slope into level areas.

J. Shape and drain embankments and excavations, maintain ditches and drains to provide drainage at all times. Protect graded areas against action of elements prior to acceptance of work, and reestablish grade where settlement or erosion occurs.

K. Bench hillside slopes or fills to key the embankment. Remove and re-compact a minimum of 12 inches normal to the slope of the hillside or fill as the embankment or fill is brought up in layers.

L. Spread stockpiled topsoil on areas to be reclaimed prior to re-seeding.

M. Remove surplus backfill materials from site in accordance with Technical Specification 31 22 13 – Rough Grading.

N. Leave fill material stockpile areas free of excess fill materials.

3.5 BACKFILLING OF TRENCHES

A. Place material in pipe trenches to lines and grades indicated on Drawings or as directed by Engineer.

B. Do not place material when either the material or the surface upon which it is to be placed upon are frozen.

C. When using select material for pipe bedding, place bedding material below bottom of pipe before pipe is laid. Grade bedding material parallel to bottom of pipe.

D. When using select material for pipe embedment:

1. Exercise care not to damage pipe or appurtenances when placing embedment material.

2. Ensure material is placed to equal height on both sides of pipe to avoid unequal loading and possible lateral displacement of the pipe. Elevation difference of embedment between each side of pipe shall not exceed 6 inches.

3. Place material in uniform layers.

4. Work material into pipe haunches to prevent voids and achieve specified compaction under the haunches.

E. When using soil cement slurry: See Technical Specification 31 23 25 – Soil Cement Slurry.

F. If pipe laying operations are interrupted for more than 24 hours, cover pipe laid in the trench with backfill.

G. When the bottom of the trench is rocky, the trench shall be overexcavated and backfilled by 4 inches prior to placing the bedding layer, as directed by the Engineer. Backfill of this overexcavation shall comply with the requirements for overexcavation backfill provided in these Technical Specifications.

H. When using crushed rock or gravel for embedment on stretches longer than 300 feet, install trench plugs composed on silty, non-plastic material at 300 ft intervals to prevent piping of trench water through the embedment.

3.6 COMPACTION

A. Do not place and compact soil under the following conditions:

1. Ambient air temperature below freezing

2. Rain that creates puddles in clayey or silty materials

3. Ice or snow pockets visible in material being placed.

B. Surface Preparation:

1. Prepare surface so that first compacted lift will be placed on firm, stable base. Compact surface to specified percent compaction, if necessary.

2. For water-retaining compacted fill, scarify and moisten surface to provide satisfactory bonding surface before placing first layer of material to be compacted.

3. Do not place material to be compacted on frozen surface.

C. Compact material in trenches in layers having approximately the same top elevation on both sides of the pipeline to avoid unequal loading and displacement of the pipe.

D. Placement:

1. Place soil to be compacted in horizontal layers.

3.3 PLACING

A. Do not place slurry during rain or on frozen ground.

B. Do not mix or place slurry when ambient temperature is below 40 degrees F. When ambient temperature is 35 degrees F or above, slurry may be placed when ambient temperature is rising with approval from Resident Project Representative.

C. Place slurry to lines, grade, and dimensions shown on drawings.

1. Initially, place slurry from one side of pipe. Where necessary, rod or vibrate slurry so that slurry flows under pipe and appears on other side.

2. Add slurry to both sides of pipe and rod or vibrate until slurry completely fills space between pipe and trench.

3. Ensure that soil cement slurry flows freely from one side of the pipe to the other.

4. Do not disturb trench or allow foreign material to become entrained in the slurry.

D. Do not allow the pipe to float or move.

1. The Engineer may limit the length of pipe that can be laid or embedded with soil cement slurry in advance of backfilling operations to prevent flotation, or may require the Contractor to place the soil cement slurry in layers to prevent flotation or movement.

2. Restrain pipe to prevent flotation or movement during and after placement of slurry.

3. Pipe that has floated or moved after surveying shall be re-surveyed at the direction of the Engineer to ensure compliance with specified lines and grades. Contractor shall correct lines and grades, and pipe shall be re-surveyed after such correction, as needed. All re-surveying shall be done at Contractors' sole expense.

4. Do not disturb pipe trench or allow foreign material to become mixed with slurry.

E. Do not place backfill material over slurry until slurry has reached initial set.

3.4 FIELD QUALITY ASSURANCE

A. The Contractor shall supply material samples to Resident Project Representative upon request for independent testing of compressive strength in accordance with ASTM D4832 or USBR Concrete Manual and spread in accordance with ASTM D6103.

3.5 PROTECTION

A. If backfill will not be placed over slurry within 8 hours after initial set, place 6-inch minimum cover of moist backfill over slurry. Maintain moisture in 6-inch soil cover until additional backfill is placed.

B. If ambient temperature is 50 degrees F or less, place 12-inch minimum additional cover of loose backfill over 6-inch moist backfill cover before end of workday. Do not allow soil cement slurry to freeze.

END OF SECTION

SECTION 31 23 25

SOIL CEMENT SLURRY

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Soil cement slurry for:

a. Utility bedding.

b. Utility backfill.

B. Related Sections:

1. Section 31 23 17 - Trenching: Soil and aggregate backfill for utility trenches.

2. Section 31 23 23 - Backfill: Soil and aggregate backfill for structures.

3. Section 33 05 23.13 - Horizontal Directional Drilling.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Soil Cement Slurry:

1. Measurement: Volume measured in place to lines, grades, and dimensions shown on drawings or established by the Engineer.

2. Payment: Shall be considered incidental to the price of the items embedded in the slurry. No separate payment shall be made.

1.3 REFERENCES

A. ASTM International:

1. ASTM C33 - Standard Specification for Concrete Aggregates.

2. ASTM C40 - Organic Impurities in Fine Aggregates for Concrete.

3. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete.

4. ASTM C114 - Chemical Analysis of Hydraulic Cement.

5. ASTM C143/C143M - Slump of Hydraulic Cement Concrete.

6. ASTM C150 - Standard Specification for Portland Cement.

7. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.

8. ASTM C403/C403M - Standard Test Method for Time of Setting of Concrete Mixtures by Penetration Resistance.

9. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete.

10. ASTM C595 - Blended Hydraulic Cements.

SECTION 31 35 27

CABLE CONCRETE

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Cable concrete mats.

B. Related Sections:

1. Section 31 22 13 - Rough Grading.
2. Section 03 30 00 Cast-In-Place Concrete.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Cable concrete mats:

1. Basis of Measurement: By square yard of cable concrete mat for horizontal surface only. Wastage will not be paid for. Area of turn-downs are not included in quantities on Drawings and Bid Form and shall be considered incidental to the Contractor's price.
2. Basis of Payment: Includes cable concrete mat, geotextile, preparation of surface, compaction, placing of cable concrete mats, cable clamps, clips, anchors, lifting bar rental, mobilization and delivery.

B. Bid items for cable concrete mats or other specific erosion control features that appear on the Bid Form apply only to features designed and directed by the Engineer. They do not include preparation of the Storm Water Pollution Prevention Plan (SWPPP) or implementation of any Best Management Practices (BMPs) stipulated therein. Separate bid items are provided for preparation and implementation of the SWPPP. Contractor is wholly responsible to prepare and implement the SWPPP to the satisfaction of relevant governmental authorities for the prices given under the SWPPP bid items.

1.3 SUBMITTALS

A. Section 01 00 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Cable concrete materials.

1.4 QUALITY ASSURANCE

A. General:

1. Tests on concrete will be performed in accordance with all requirements of applicable ASTM standards for such tests, including but not limited to obtaining samples, temperature, slump, air entrainment, making and curing specimens, breaking concrete cylinders, and other as may be applicable.

3. Stainless steel Type 304 shall be used.

PART 3 EXECUTION

3.1 INSTALLATION

A. Placement shall be in accordance with Manufacturer's recommendations.

B. Do not place cable concrete mats over spongy subgrade surfaces.

C. Surface erosion control locations, dimensions, and quantities shown on Drawings are approximations only, and are subject to change based on finished grade. Final quantities, dimensions, and locations of cable concrete mats to be determined in field by Engineer after installation of pipeline and related facilities.

D. Prepared areas shall be graded to a smooth plane finish. Any roots, debris and stones must be removed and regarded. The mats shall be laid in such a manner to produce a smooth plane surface.

E. The gaps between each cable concrete mat shall not be greater than 1".

F. For at-grade installations, where approved by Engineer, the upstream and downstream edges of the mat system shall be keyed into the ground at a 45°angle for a length of 2 block rows on both the upstream and downstream edges, or as shown on Drawings.

G. For buried installations at wash crossings, the upstream edge shall be turned down vertically for 2 block rows, and the downstream edge shall be turned down vertically for 1 block row, or as shown on Drawings.

3.2 FIELD QUALITY CONTROL

A. Cracks exceeding 0.25 inches (0.635 cm) in width and/or 1.0 inch (2.54 cm) in depth, shall be deemed grounds for rejection.

B. Chipping resulting in a weight loss exceeding 10% of the average weight of the blocks shall be deemed grounds for rejection.

END OF SECTION

SECTION 31 37 00

RIPRAP AND ROCK LINING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Riprap placed loose.
2. Wire Caged Riprap.

B. Related Sections:

1. Section 31 22 13 - Rough Grading.
2. Section 31 23 23 - Backfill.
3. Section 31 23 17 - Trenching.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Check dams and riprap placed loose:

1. Basis of Measurement: By cubic yard of riprap volume, riprap only.
2. Basis of Payment: Includes preparation of surface, compaction, placing of riprap material.

B. Wire caged rip rap:

1. Riprap:
   a. Basis of Measurement: By cubic yard of riprap volume, riprap only.
   b. Basis of Payment: Includes preparation of surface, compaction, placing of riprap material.
2. Wire mesh, geotextile, tie wire, angle iron, and other appurtenances:
   a. Basis of Measurement: By square yard of riprap area encaged in completed installation. Wastage will not be paid for.
      1) Measurement is based on actual coverage area. Where the Drawings require wire mesh both above and below the riprap blanket, both layers are included the pay item, but the coverage area is not doubled for purposes of measurement.
   b. Basis of Payment: Includes cutting and placement of wire mesh material both above and below the riprap, geotextile fabric, tie wires, and angle irons.

C. Bid items for riprap, rock check dams or other specific erosion control features that appear on the Bid Form apply only to features designed and directed by the Engineer. They do not include preparation of the Storm Water Pollution Prevention Plan (SWPPP) or implementation of any Best Management Practices (BMPs) stipulated therein.

2) Uncaged riprap and rock check dams:

a) 6" minimum rock dimension, measured in the smallest dimension.

b. Solid and nonfriable.

C. Wire mesh:

1. Non-raveling, uniform, hexagonal double-twisted galvanized wire mesh, with a diameter of at least 0.087", with 2½" x 3¼" mesh openings.

2. Shall comply with New Mexico Department of Transportation standards, Section 602.2.2.2

D. Selvedges:

1. Selvedge wire with a diameter of at least 0.150-inch.

2. Shall comply with New Mexico Department of Transportation standards, Section 602.2.2.2.3

E. Stakes:

1. 4"x4"x3/8" angle iron, per New Mexico Department of Transportation standard, Section 602.

2. Lengths per Drawings.

F. Tie Wire:

1. Soft tempered Class 3 zinc coated 0.120-inch diameter tie wire.

G. Geotextile Fabric:

1. Provide non-woven geotextile (filter fabric) Class 1, as per New Mexico Department of Transportation standards, Section 604.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 00 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Do not place riprap over frozen or spongy subgrade surfaces.

3.2 PLACEMENT

A. Riprap locations, dimensions, and quantities shown on Drawings are approximations only, and are subject to change based on finished grade. Final quantities, dimensions, and locations of riprap to be determined in field by Engineer after installation of pipeline and related facilities.

B. Filter fabric:

1. Place Class 1 non-woven geotextile (filter fabric) between the riprap and the supporting soil.

SECTION 32 92 19

SEEDING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Preparation of subsoil.
2. Placing topsoil.
3. Seeding, Hydroseeding, Seed Drilling.
4. Seed Protection, Mulching
5. Maintenance.

B. Related Sections:

1. Section 31 22 13 - Rough Grading: Rough grading of site.
2. Section 31 23 17 - Trenching: Rough grading over cut.
3. Section 31 23 23 - Backfill

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Grassed Areas:

1. Basis of Measurement: By linear foot of centerline within the disturbed area of pipeline right of way and temporary use area. Lump sum for each site within tank and pump station sites.
2. Basis of Payment: Includes preparation of subsoil, topsoil, placing topsoil, seeding, watering and maintenance to specified time limit.

1.3 REFERENCES

A. Federal Specifications:

1. OF-241 - Fertilizers, Mixed, Commercial.
2. Farmington Field Office Bare Soil Reclamation Procedures, USBLM, January 2013.

B. ASTM International:

1. ASTM C602 - Standard Specification for Agricultural Liming Materials.

1.4 DEFINITIONS

A. Weeds: Vegetative species other than specified species to be established in given area.

B. NNAD: Navajo Nation Department of Agriculture

C. BLM: Bureau of Land Management, Farmington Field Office

1.5 SUBMITTALS

A. Section 01 00 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit data for seed mix, fertilizer, and other accessories.

1.6 QUALITY ASSURANCE

A. Provide seed mixture in containers showing percentage of seed mix, germination percentage, inert matter percentage, weed percentage, year of production, net weight, date of packaging, and location of packaging.

B. Perform Work in accordance with Navajo Nation Department of Agriculture and Bureau of Land Management standards.

C. Seed mixtures must be certified. There shall be no primary or secondary noxious weeds in the seed mixtures.

D. Temporary Best Management Practices (BMPs) must be installed along areas where sediment is being transported out of the construction area. Fiber rolls (mulch socks) rip rap blankets, rip rap check dams, soil cement, soil berms, surface roughening, or other appropriate BMPs shall be used in these areas. Such BMPs shall be included in the Storm Water Pollution Prevention Plan (SWPPP) provided and implemented by the Contractor.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Product storage and handling requirements shall be as specified in applicable sections of these Specifications and in accordance with recommendations of the supplier.

B. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable.

C. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

1.8 COORDINATION

A. Section 01 00 00 - Administrative Requirements: Requirements for coordination.

B. Contractor is advised that there are four (4) seed mixtures included in the appendices: Navajo Nation Department of Agriculture (NNAD) seed mix (3 mixes) and Bureau of Land Management (BLM) seed mix (1 mix). Contractor shall use NNAD mix on tribal lands and BLM mix on BLM lands. Selection of specific mixture will depend on existing vegetation and soil type at each location. Contractor shall coordinate with Engineer prior to purchasing seed to determine exactly where to use each seed mixture.

C. Contractor shall coordinate seeding dates to coincide with the dates stipulated in the NNAD and BLM re-vegetation requirements and stipulations.

1. Contractor shall indicate exact proposed re-seeding dates in project schedule, and shall notify the Engineer and BLM as early as possible of any deviations from this proposed seeding schedule.

D. BLM Concurrence: Contractor shall schedule follow up and final review by BLM for all seeding on BLM lands. Contractor shall abide by all stipulations and requirements by BLM for final inspection. At time of final inspection, Contractor shall coordinate Photo

Point Monitoring at monitoring locations of BLM's choosing as described in Farmington Field Office Bare Soil Reclamation Procedures, USBLM, January 2013.

1.9 MAINTENANCE SERVICE

A. Section 01 00 00 - Execution Requirements: Requirements for maintenance service.

B. The cover will be maintained by occasional mowing, spot spraying, reseeding weak areas, or by controlled burns. Maintain seeded areas for three months from Date of Substantial Completion. Maintenance shall include weekly watering.

C. After the first full season of growth (not the first year) the cover should be mowed or grazed to control annual weeds to encourage good growth. Timing of mowing should avoid nesting times of birds (indicated in Environmental Requirements, Appendix C).

PART 2 PRODUCTS

2.1 SEED MIXTURE

A. Furnish materials in accordance with Navajo Nation Department of Agriculture and Bureau of Land Management standards. Refer to seed mixtures provided in Appendix C.

B. Engineer, in consultation with BLM and NNAD, shall determine which seed mixture applies at each location within the project. Contractor is responsible to coordinate with Engineer to determine proper seed mix prior to purchasing seed.

C. In developing seed mixtures, the percentage of each included species should first be determined. This percentage, which should total 100, is then multiplied by the recommended seeding rate for the concerned species. This will give the required pounds PLS for that species in the mix.

2.2 SOIL MATERIALS

A. Topsoil: Excavated from site and free of weeds.

2.3 ACCESSORIES

A. Water: Clean, fresh and free of substances or matter capable of inhibiting vigorous growth of grass.

B. Erosion Fabric: Jute matting, open weave.

C. Herbicide: If required, Owner and Engineer's approval must be obtained prior to use.

D. Stakes: Softwood lumber, chisel pointed.

E. String: Inorganic fiber.

F. Mulch: Where allowed, shall be in accordance with BLM specifications and the SWPPP provided by the Contractor.

1. Hydromulch shall not be permitted on any lands.
2. Mulch of any kind shall not be used on Tribal lands.

PART 3 EXECUTION

3.1 GENERAL

A. Prepare and restore site per applicable NNAD and BLM Revegetation Plan, included in Appendix C to the Contract Documents.

1. Final acceptance of ROW seeding and restoration on BLM lands shall be at the discretion of the BLM.

B. Seed and reclaim all disturbed areas, including temporary construction easements and any areas disturbed by construction traffic.

C. Temporary fence gates along the pipeline alignment must be kept closed to manage the livestock in the pipeline area.

3.2 EXAMINATION

A. Verify prepared soil base is ready to receive the Work of this section.

3.3 PREPARATION OF SUBSOIL

A. Prepare sub-soil to eliminate uneven areas and low spots. Maintain lines, levels, profiles and contours. Make changes in grade gradual. Blend slopes into level areas. The heel of a boot should not sink in more than ½ to 1 inch.

B. Remove foreign materials, weeds and undesirable plants and their roots. Remove contaminated sub-soil.

C. Topsoil removed from the right-of-way must not be mixed with sagebrush debris which may impede seed germination during the revegetation process.

D. In areas needing reseeding, the top layer of soil shall be softened by ripping and disking prior to seeding to create the soil structure necessary to allow for seed germination.

E. Scarify subsoil to depth of 6 inches where topsoil is to be placed. Repeat cultivation in areas where equipment, used for hauling and spreading topsoil, has compacted sub-soil.

3.4 PLACING TOPSOIL

A. Spread topsoil to minimum depth of 6 inches over area to be seeded. Rake until smooth.

B. Place topsoil during dry weather and on dry unfrozen subgrade.

C. Remove vegetable matter and foreign non-organic material from topsoil while spreading.

D. Grade topsoil to eliminate rough, low or soft areas, and to ensure positive drainage.

3.5 SEEDING

A. Use seed mixture indicated by Engineer, based on land ownership and native vegetation.

B. Apply seed at rates specified by BLM and NNAD for their respective seed mixtures. Use seed drill followed by drag packer over area to incorporate seed approximately ½ inch deep.

C. Planting Season: See Article 1.8. of this Section.

D. Do not sow immediately following rain, when ground is too dry, or when winds are over 12 mph.

E. Seed placement rows on steep slopes should not be placed parallel to the down slope, but at angles to the down slope to prevent the formation of gullies and rills.

F. A seed drill followed by a drag packer shall be required unless specific exceptions are authorized in writing by the Engineer.

G. Some hand seeding may be needed along steep slopes where equipment is difficult to use.

H. Apply water with a fine spray immediately after each area has been seeded. Saturate to 4 inches of soil.

3.6 HYDROSEEDING

A. Hydroseeding shall only be allowed where it is physically unfeasible to seed drill.

B. Hydroseeding shall not be performed without prior written authorization by the Engineer.

C. Apply fertilizer and seeded slurry with hydraulic seeder at an approved rate evenly in one pass.

D. After application, apply water with fine spray immediately after each area has been hydroseeded. Saturate to 4 inches of soil and maintain moisture levels two to four inches.

E. If hydroseeding is used, the specified rates of seed application shall be doubled.

3.7 SEED PROTECTION

A. Cover seeded slopes where grade is 3:1 or greater with erosion fabric. Roll fabric onto slopes without stretching or pulling.

1. All slopes around the perimeters of tank and pump station sites shall be covered with erosion fabric, regardless of grade.

B. Lay fabric smoothly on surface, bury top end of each section in 6 inch deep excavated topsoil trench. Overlap edges and ends of adjacent rolls minimum 12 inches. Backfill trench and rake smooth, level with adjacent soil.

C. Secure outside edges and overlaps at 36 inch intervals with stakes.

D. Lightly dress slopes with topsoil to ensure close contact between fabric and soil.

E. At sides of ditches, lay fabric laps in direction of water flow. Lap ends and edges minimum 6 inches.

F. Protection of seeded areas from traffic: Contractor shall take measures as required by the Owner, Engineer, and/or land controlling agencies to prevent traffic on re-seeded areas. Such measures may include warning signs, fence post barricades, earthen berms, and/or other measures at intersections of seeded ROW and existing roadways and driveways, and at other locations as directed by Engineer. Earthen berms shall extend the full width of the disturbed area, with dimensions as directed in field by Engineer.

G. All seed protection measures, including traffic prevention, shall be subject to approval of BLM and other land-controlling agencies.

3.8 MULCHING

A. Do not apply mulch on Tribal lands.

B. Apply mulch on BLM lands only to the extend extent allowed by BLM and recommended in the Storm Water Pollution Prevention Plan (SWPPP) provided by the Contractor.

C. Any mulching shall be anchored in place by crimping or other method approved by Engineer.

3.9 MAINTENANCE

A. Immediately reseed areas showing bare spots.

B. Repair washouts or gullies.

C. Protect seeded areas with warning signs during maintenance period.

3.10 SCHEDULE

A. All utility routes, disturbed areas, vault areas, and non-traveled areas in road rights-of-way to be reseeded when Work is completed in affected areas.

END OF SECTION

SECTION 33 05 23.13

HORIZONTAL DIRECTIONAL DRILLING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Excavation for approach trenches and pits.
2. Horizontal directional drilling.
3. Pipe.

B. Related Sections:

1. Section 03 30 00 - Cast-in-Place Concrete: Concrete materials.
2. Section 03 60 00 - Grout.
3. Section 31 23 17 - Trenching.
4. Section 31 23 23 - Backfill.
5. Section 33 11 13- Public Water Transmission Systems.
6. Section 33 13 00 - Disinfection of Water Utility Distribution.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Horizontal Directional Drilling:

1. Basis of Measurement: By linear foot.
2. Basis of Payment: Includes excavation, drilling, carrier pipe, spacers, end seals, transition couplings, accessories, tests, and backfill.

1.3 REFERENCES

A. American Association of State Highway and Transportation Officials:

1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:

1. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).
2. ASTM D1557 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (6,000 ft-lbf/ft3 (2,700 kN-m/m3)).
3. ASTM D1784 - Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds.
4. ASTM D2152 - Test Method for Degree of Fusion of Extruded Poly(Vinyl Chloride) (PVC) Pipe and Molded Fittings by Acetone Immersion

5. ASTM D2774 – Standard Practice for Underground Installation of Thermoplastic Pressure Piping
6. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
7. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).
8. ASTM D3139 - Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals.
9. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
10. ASTM F1962 - Standard Guide for Use of Maxi-Horizontal Directional Drilling for Placement of Polyethylene Pipe or Conduit under Obstacles, Including River Crossings.

C. American Water Works Association (AWWA):

1. AWWA C900 - Polyvinyl Chloride (PVC) Pressure Pipe, and Fabricated Fittings, 4 In. through 12 In. (100 mm through 300 mm), for Water Distribution.
2. AWWA M23 – PVC Pipe – Design and Installation

D. NSF International Standard / American National Standard (ANSI)

1. NSF/ANSI 61 – Drinking Water System Components – Health Effects

E. Underground Solutions

1. OB-8-273 – Recommended Cutting Procedure for Fusible PVC Pipe
2. OB-8-274 – Recommended Cold Weather Fusion Procedures for Fusible PVC Pipe
3. OB-8-275 – Recommended Intermediate Fusion Procedures for Fusible PVC Pipe
4. Operational Quick Cards
5. Operational Procedural Documents

F. National Utility Contractors Association:

1. NUCA - HDD Installation Guidelines.

1.4 DESIGN REQUIREMENTS

A. Design Criteria:

1. Drilling Steering System: Remote with continuous electronic monitoring of boring depth and location.
2. Directional Change Capability: 90 degree with 231-foot radius curve, or minimum bending radius of the carrier pipe.
3. Ratio of Reaming Diameter to Pipe Outside Diameter:
   a. Nominal Pipe Diameter of 6 Inches and Smaller: 1.5 maximum.

b. Nominal pipe diameter larger than 6 Inches: 1.5 maximum, submit recommended ratio and reaming procedures for review.

1.5 SUBMITTALS

A. Section 01 00 00 - Submittal Procedures: Requirements for submittals.

B. Shop Drawings:

1. Submit technical data for equipment, method of installation, proposed horizontal and vertical alignment and beginning and end points (if different than those shown on the plans), and proposed sequence of construction, including project schedule.

2. Include information pertaining to pits, dewatering, method of spoils removal, equipment size and capacity, equipment capabilities including installing pipe on radius, type of drill bit, drilling fluid, method of monitoring line and grade and detection of surface movement, name plate data for drilling equipment and mobile spoils removal unit, design requirements per Section 1.4 of this technical specification.

C. Installer Qualifications: Submit history of previous work completed of equivalent nature and scope. Include qualification and experience of key personnel and references for work completed.

D. Manufacturer's technical data showing complete information on material composition, physical properties and dimensions of the new pipe and fittings. Manufacturer's recommendations for transport, handling, and storage of pipe and fittings shall be included.

E. Submit necessary occupancy permit for installations along or under public throughways and lands, and railroad right of way, if not already obtained by the Engineer.

F. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

G. Contingency plans for the following potential conditions:

1. Unforeseen subsurface conditions.

2. Damage to other existing utilities.

3. Soil heaving or settlement.

1.6 CLOSEOUT SUBMITTALS

A. Section 01 00 00 - Execution Requirements: Requirements for submittals.

B. Project Record Documents: Record actual locations of casing or tunnel liner, carrier pipe, and invert elevations.

C. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

D. Record actual depth of pipe at 25 feet intervals.

E. Record actual horizontal location of installed pipe.

F. Show depth and location of abandoned bores.

G. Record depth and location of drill bits and drill stems not removed from bore.

1.7 QUALITY ASSURANCE

A. Perform work in accordance with the following:

1. Applicable New Mexico state standards
2. NUCA HDD Installation Guidelines.
3. ASTM F1962.

1.8 QUALIFICATIONS

A. Installer: Company specializing in performing work of this section with minimum 3 years documented experience.

B. The Contractor must be certified by the HDD system manufacturer as a fully trained user of the HDD system. Operation of the HDD system shall be performed by trained personnel. Such training shall be conducted by a qualified representative of the HDD system manufacturer.

C. Fusible PVC pipe jointing shall be performed by personnel trained in the use of butt-fusion equipment. Personnel directly involved with installing the new pipe shall receive training in the proper methods for joining the pipe. Such training shall be conducted by a qualified representative of the fusion equipment manufacturer. Installation of other materials shall be performed by personnel qualified by the specific product manufacturer.

D. HDD contractor shall have at least 5 years experience and have installed at least 5,000 LF within the state of New Mexico.

E. HDD contractor must have experience installing fusible PVC pipe of similar diameter to that of the proposed project.

1.9 PRE-INSTALLATION MEETINGS

A. Section 01 00 00 - Administrative Requirements: Pre-installation meeting.

B. Convene minimum one week prior to commencing work of this section.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Section 01 00 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. The Contractor shall transport, handle, and store pipe and fittings as recommended by the manufacturer.

C. New pipe and fittings that are damaged before or during installation shall be repaired or replaced, as recommended by the manufacturer or required by the Engineer. The costs of such repair or replacement shall be borne by the Contractor and be accomplished prior to proceeding with the project.

D. The Contractor shall deliver, store and handle other materials as required to prevent damage. Materials that are damaged or lost shall be repaired or replaced by the Contractor at no additional expense to the Owner.

E. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.

F. Protect piping system pieces from entry of foreign materials and water by temporary covers, completing sections of work, and isolating parts of completed system.

G. Accept products on site in manufacturer's original containers or configuration. Inspect for damage.

H. Store field joint materials indoors in dry area in original shipping containers. Maintain storage temperature of 60 to 85 degrees F.

I. Support pipes with nylon slings during handling.

1.11 ENVIRONMENTAL REQUIREMENTS

A. Section 01 00 00 - Product Requirements: Environmental conditions affecting products on site.

B. Conduct operations so as not to interfere with, interrupt, damage, destroy, or endanger integrity of surface or subsurface structures or utilities, and landscape in immediate or adjacent areas.

C. The Contractor shall comply with all other Federal, State, and local environmental requirements including, but not limited to, storm water runoff, construction dewatering, disposal of drilling fluid, and hazardous waste management and disposal.

1.12 COORDINATION

A. Section 01 00 00 - Administrative Requirements: Requirements for coordination.

B. Coordinate work with the New Mexico Department of Transportation (NMDOT), local Municipal Public Works Department (if applicable), and utilities within construction area.

PART 2 PRODUCTS

2.1 DRILLING FLUID

A. Drilling Fluid: Liquid bentonite clay slurry; totally inert with no environmental risk.

2.2 CARRIER PIPE

A. Furnish materials in accordance with New Mexico state standards.

B. Casing Pipe shall be as shown on drawings.

2.3 FUSIBLE POLYVINYLCHLORIDE PIPE

A. Fusible polyvinylchloride (FPVC) plastic material for pipe shall conform to AWWA C900 and ASTM D1784 cell classification 12454. Pipe sizes shall conform to AWWA C900 for CIOD pipe or ASTM D2241 for IPS pipe. Pressure class/rating and dimension ratio shall be as recommended by the pipe manufacturer for HDD water main applications.

B. Refer to Specification 33 11 13.

2.4 FILL MATERIALS

A. Excavated and reused soil with no rocks over 6 inches in diameter, frozen earth or foreign matter.

2.5 WATER SOURCE

A. Water: Potable, obtained from utility source.

2.6 UNDERGROUND PIPE MARKERS

A. Tracer Wire: Magnetic detectable conductor insulated with high density polyethylene (HDPE) or UF- XHHW in accordance with physical and electrical properties per ASTM D-1248.

1. Tracer wire shall be rated for "Direct Burial", 30 volts, and be appropriate for installation in Horizontal Directional Drill (HDD) applications,

2. Tracer wire shall be constructed of copper clad hard drawn extra high strength (EHS) tracer wire with a steel core or engineer approved equal, and

3. Tracer wire must be appropriately sized and installed to be compatible with the pullback rating of the equipment being used.

B. Splice Connectors: Model LV 9500 Blazing Snap-locking waterproof connectors pre-filled with silicone or engineer approved equal.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 00 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify connection to existing piping system size, location, and invert elevations are in accordance with Drawings.

3.2 PREPARATION

A. Call Local Utility Line Information service at not less than three working days before performing Work.

1. Request underground utilities to be located and marked within and surrounding construction areas.

B. Locate, identify, and protect utilities indicated to remain from damage.

C. Identify required lines, levels, contours, and datum locations.

D. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

3.3 DEWATERING

A. Intercept and divert surface drainage, precipitation, and groundwater away from excavation through use of dikes, curb walls, ditches, pipes, sumps or other means.

B. Develop and maintain substantially dry subgrade during drilling and pipe installation.

C. Comply with New Mexico state standards and requirements for dewatering to any watercourse, prevention of stream degradation, and erosion and sediment control.

3.4 EXISTING WORK

A. Maintain access to existing community facilities and homes as well as other remaining active installations requiring access. Modify installation as necessary to maintain access.

3.5 EXCAVATION

A. Excavate approach trenches and pits in accordance with shop drawings and as site conditions require. Minimize number of access pits.

B. Provide sump areas to contain drilling fluids.

C. Install excavation supports as specified in Section 31 23 17.

D. Restore areas after completion of drilling and carrier pipe installation.

3.6 DRILLING

A. Drill pilot bore with vertical and horizontal alignment as indicated on Drawings.

B. Guide drill remotely from ground surface to maintain alignment by monitoring signals transmitted from drill bit.

1. Monitor depth, pitch, and position.

2. Adjust drill head orientation to maintain correct alignment.

C. Inject drilling fluid into bore to stabilize hole, remove cuttings, and lubricate drill bit and pipe.

D. Continuously monitor drilling fluid pumping rate, pressure, viscosity, and density while drilling pilot bore, back reaming, and installing pipe to ensure adequate removal of soil cuttings and stabilization of bore.

1. Provide relief holes when required to relieve excess pressure.

2. Minimize heaving during pullback.

E. Calibrate and verify electronic monitor accuracy during first 50 feet of bore in presence of Engineer before proceeding with other drilling. Excavate minimum of four test pits spaced along first 50 feet bore to verify required accuracy. When required accuracy is not met, adjust equipment or provide new equipment capable of meeting required accuracy.

F. After completing pilot bore, remove drill bit.

G. Minimum Reamer Size: 16-inch

H. HDD Machine shall be at least 50,000 pound machine.

3.7 DRILLING OBSTRUCTIONS

A. When obstructions are encountered during drilling, notify Engineer immediately. Do not proceed around obstruction without Engineer's approval.

B. For conditions requiring more than 12 inches deviation in horizontal or vertical alignment, notify Engineer immediately. Do not proceed around obstruction without Engineer's approval.

C. Maintain adjusted bore alignment within easement or right-of-way.

3.8 PIPE INSTALLATION

A. After completing pilot bore, remove drill bit. Install reamer and pipe pulling head.

1. Select reamer with minimum bore diameter required for pipe installation.

B. Attach pipe to pipe pulling head. Pull reamer and pipe to entry pit along pilot bore.

C. Inject drilling fluid through reamer to stabilize bore and lubricate pipe.

D. Install piping with horizontal and vertical alignment as shown on Drawings.

E. Protect and support pipe being pulled into bore so pipe moves freely and is not damaged during installation.

F. Do not exceed pipe manufacturer's recommended maximum pullback forces.

G. Do not exceed pipe manufacturer's recommended minimum bending radius.

H. Install trace wire continuous with each bore. Splice trace wire only at intermediate bore pits. Tape or insulate trace wire to prevent corrosion and maintain integrity of pipe detection.

1. Terminate trace wire for each pipe run at structures along pipe system.

2. Provide extra length of trace wire at each structure, so trace wire can be pulled 3 feet out top of structure for connection to detection equipment.

3. Test trace wire for continuity for each bore before acceptance.

I. Provide sufficient length of carrier pipe to extend past termination point to allow connection to other pipe sections.

J. Allow minimum of 24 hours for stabilization after installing pipe before making connections to pipe.

K. Mark location and depth of bore with spray paint on paved surfaces, and wooden stakes on non-paved surfaces at 25-foot intervals.

3.9 FPVC FUSION PROCESS

A. Refer to Section 33 11 13.

3.10 SLURRY REMOVAL AND DISPOSAL

A. Contain excess drilling fluids at entry and exit points until recycled or removed from site. Provide recovery system to remove drilling spoils from access pits.

B. Remove, transport and legally dispose of drilling spoils.

1. Do not discharge drilling spoils in sanitary sewers, storm sewers, or other drainage systems.

2. When drilling in suspected contaminated soil, test drilling fluid for contamination before disposal.

C. When drilling fluid leaks to surface, immediately contain leak and barricade area from vehicular and pedestrian travel before resuming drilling operations.

D. Complete cleanup of drilling fluid at end of each workday.

3.11 DISINFECTION AND FLUSHING

A. Disinfection and flushing shall be conducted in accordance with Section 33 13 00.

3.12 PRESSURE AND LEAKAGE TESTING

A. Pressure and leakage testing shall be conducted in accordance with Section 33 11 13 as applicable.

3.13 BACKFILL

A. Install backfill as specified in Section 31 23 17 and 31 23 23.

B. Backfill approach trenches and pits with subsoil fill to contours and elevations of surrounding existing grade.

C. Compact subsoil fill as specified in Section 31 23 23 to minimum 95 percent of maximum density.

3.14 INSTALLATION TOLERANCES

A. Section 01 00 00 - Quality Requirements: Tolerances.

B. Maximum Variation From Horizontal Position: 12 inches.

C. Maximum Variation From Vertical Elevation: 12 inches.

D. Minimum Horizontal and Vertical Clearance from Other Utilities: 12 inches.

E. When pipe installation deviates beyond specified tolerances, abandon bore, remove installed pipe, re-bore, and reinstall pipe in correct alignment.

F. Fill abandoned bores greater than 3 inches in diameter with grout or flowable fill material.

3.15 FIELD QUALITY CONTROL

A. Section 01 00 00 - Execution Requirements: Testing, adjusting, and balancing.

B. Compaction Testing: As specified in Section 31 23 23.

C. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.

3.16 MANUFACTURER'S FIELD SERVICES

A. Section 01 00 00 - Quality Requirements: Requirements for manufacturer's field services.

B. Furnish field technical assistance during following periods of casing installation:

1. Unloading of casing materials and components.

2. Prior to commencing excavation and during excavation as requested.

C. Certify that equipment for drilling has been properly set-up and is ready for drilling.

3.17 CLEAN-UP

A. Upon completion of drilling and pipe installation, remove drilling spoils, debris, and unacceptable material from approach trenches and pits. Clean up excess slurry from ground.

B. Restore approach trenches and pits to original condition.

C. Remove temporary facilities for drilling operations in accordance with Section 01 00 00.

END OF SECTION

must submit 2 copies of digital photograph files in DVD format as part of the submittal process.

B. Construction staking:

1. Refer to Section 02 21 13 – Surveying.

C. Restricted Areas and Culturally Sensitive Areas:

1. Contractor shall notify Engineer prior to work within 100 feet of any restricted area as designated on the Drawings; refer to Section 01 00 00.

2. The Owner's Surveyor will erect barricades at the limits of any truncated temporary construction easements. The Owner's Archaeologist will flag culturally sensitive sites as designated on the Drawings.

3. Contractor shall maintain all flags, stakes and barricades in place until the end of construction. Contractor shall notify Engineer in the event of damage or removal of said markers. Re-marking due to negligence by Contractor shall be subject to charge-backs to the Contractor.

4. No work shall be performed within 100 feet of any restricted area or truncated TCE unless barricades and/or flags are up.

5. No work shall be performed within 100 feet of any restricted area designated on the Drawings as requiring archaeological monitoring unless the Owner's archaeologist is physically present at the site.

3.3 TRENCHING

A. In accordance with Section 31 23 17.

3.4 BEDDING

A. In accordance with Section 31 23 23.

3.5 INSTALLATION – PIPE

A. Install bell-and-spigot PVC pipe in accordance with AWWA C605, AWWA M23 and pipe manufacturer's instructions, whichever is most stringent.

1. Use only lubricants supplied by the pipe manufacturer and apply to both bell and spigot ends of the joint, in accordance with manufacturer's recommendations.

2. Clean the gasket, bell, groove and spigot immediately prior to connecting pipe joints.

3. Do not over-insert pipe joints. Any over-inserted pipe joints shall be removed and the pipe bell and gasket inspected for damage. Any damaged bells or gaskets shall be discarded and replaced.

4. Cut pipe ends square, ream pipe and tube ends to full pipe diameter, remove burrs. Use only equipment specifically designed for pipe cutting. The use of chisels or hand saws will not be permitted. Grind edges smooth with beveled end for push-on connections.

B. Install fusible PVC pipe in accordance with AWWA C605, AWWA M23 and pipe supplier's instructions, whichever is most stringent.

SECTION 33 11 13

PUBLIC WATER TRANSMISSION SYSTEMS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Pipe and fittings for public line including potable water line.
2. Tapping Sleeves and Valves.
3. Corrosion Protection and Monitoring Systems.
4. Underground and Aboveground Pipe Markers.
5. Bedding and Cover Materials.
6. Source Quality Control and Assurance.

B. Related Sections:

1. Section 02 21 13 - Surveying.
2. Section 03 30 00 - Cast-in-Place Concrete: Thrust restraints.
3. Section 31 23 17 - Trenching: Execution requirements for trenching.
4. Section 31 23 23 - Backfill: Requirements for backfill to be placed.
5. Section 32 92 19 - Seeding.
6. Section 33 12 15 - Water Surge Control Tanks.
7. Section 33 12 16 - Water Utility Valves.
8. Section 33 13 00 - Disinfection of Water Utility Transmission Systems.

1.2 DEFINITIONS

A. Throughout the Drawings and Specifications, the terms "jointed PVC pipe" and "bell-and-spigot PVC pipe" shall be used interchangeably.

1.3 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Pipe and Fittings:

1. Basis of Measurement: By the linear foot.
2. Basis of Payment: Includes hand trimming, excavation, trenching, piping and fittings, all valves and appurtenances not listed separately on the Bid Form, bedding, backfill, compaction, tracer wire, detectable warning tape, above ground pipe marker posts, concrete thrust restraints (where applicable), mechanical joint restraints, connection to public utility water source (if not separately listed on Bid Form). Special excavation methods for trenching in rock or hard soils, rock removal and disposal, and/or imported bedding material, if required to meet the project specifications, shall be considered incidental to the cost of the pipe

5. For single anode installations, connect individual anodes to structure through calibrated shunts.

6. For multiple anode installations, a cable between the test station and an anode junction box may be used to connect the anode to the structure.

   a. Connect individual anodes to structures through individual calibrated shunts within junction boxes for current measurement.

   b. Install individual variable resistors in series with these calibrated shunts.

   c. Install junction boxes adjacent to and below test stations where required

7. Install flush-to-grade test stations flush to finished grade with 24"x24"x6" reinforced concrete collars, etched with "CP test station".

8. Mount anode terminal boxes to inside wall of structures.

J. Electrically isolate all cathodically protected structures from rebar or other non-protected and extraneous metal.

3.13 PIPELINE RIGHT-OF-WAY GRADING

A. Establish finished grade to provide a minimum of four (4) foot of cover over the pipe. Measure depth of cover from final surface grade (not including dirt mound) to top of pipe barrel.

   1. At certain locations such as wash crossings, road crossings, utility line crossings or to prevent high points, the Drawings indicate greater than 4 ft minimum cover. At such locations, Contractor shall maintain the site-specific minimum cover.

B. Mound soil over top of pipe in accordance with Drawings, except at wash crossings, road crossings, or where prohibited by landowner.

C. Do not place fill material or raise the finished grade above existing grade in the flow lines of washes or surface water drainages, regardless of size.

D. Finished grade along pipeline right-of-way and temporary construction easement shall have a maximum longitudinal slope of 4:1 and maximum side slope of 4:1, unless otherwise noted on Drawings.

E. The pipeline right-of-way shall be leveled from side-to-side to slow down surface run-off from causing erosion rills perpendicular to the pipeline, as well as to make the ROW accessible to the Owner for future maintenance.

   1. The entire right-of-way shall be re-seeded and reclaimed after construction. Do not build any new roads. Refer to Section 32 92 19 – Seeding for re-seeding requirements.

   2. The right-of-way shall not be open to the general public and shall have minimal impact on the environment. Upon completion of construction, the right-of-way shall be reclaimed to visually blend in with the surrounding environment and minimize its visual impact.

F. All construction activities, including clearing and grading, must remain within the designated right-of-way and temporary construction easement. Do not encroach on adjacent properties or culturally sensitive areas.

SECTION 33 13 00

DISINFECTION OF WATER UTILITY TRANSMISSION SYSTEMS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes disinfection of potable water transmission system; and testing and reporting results.

B. Related Sections:

1. Section 33 11 13 - Public Water Transmission Systems: Product and Execution requirements for installation, testing, of site domestic water transmission system piping.
2. Section 33 12 16 - Water Utility Valves.

1.2 MEASUREMENT AND BASIS OF PAYMENT

A. Basis of Measurement: By the linear foot for pipeline and wash crossings. Incidental to work for all other facilities (incl. surge tank, site piping and other facilities).

B. Basis of Payment: Payment for pipeline disinfection will be made based on linear footage, upon successfully passing bacteriological testing. Disinfection of other facilities (including surge tank and site piping) shall be incidental to their respective bid items.

1. This includes all costs incidental to disinfection and testing, including chlorination, flushing, water for flushing, de-chlorination, sampling, sample transport, laboratory testing fees, and any other costs incidental to flushing, disinfection, and bacteriological testing activities.
2. Bacteriological testing costs shall not be allowed under the Testing Allowance.

1.3 REFERENCES

A. American Water Works Association (AWWA):

1. AWWA B300 - Hypochlorites.
2. AWWA B301 - Liquid Chlorine.
3. AWWA B302 - Ammonium Sulfate.
4. AWWA B303 - Sodium Chlorite.
5. AWWA C600 - Installation of Ductile-Iron Water Mains and Their Appurtenances.
6. AWWA C651 - Disinfecting Water Mains.

B. New Mexico Administrative Code (NMAC) - Title 20, Chapter 7, Part 10:

1. Section 201: Application for Public Water System Project Approval.
2. Section 400: General Operating Requirements.

1.4 SUBMITTALS

A. Section 01 00 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit procedures, proposed chemicals, and treatment levels for review.

C. Test Reports: Indicate results comparative to specified requirements.

D. Certificate: Certify cleanliness of water transmission system meets or exceeds specified requirements.

1.5 CLOSEOUT SUBMITTALS

A. Section 01 00 00 - Execution Requirements: Requirements for submittals.

B. Disinfection Report:

1. Type and form of disinfectant used.
2. Date and time of disinfectant injection start and time of completion.
3. Test locations.
4. Name of person collecting samples.
5. Initial and 24 hour disinfectant residuals in treated water in ppm for each outlet tested.
6. Date and time of flushing start and completion.
7. Disinfectant residual after flushing in ppm for each outlet tested.

C. Bacteriological Report:

1. Date issued, project name, and testing laboratory name, address, and telephone number.
2. Time and date of water sample collection.
3. Name of person collecting samples.
4. Test locations.
5. Initial and 24 hour disinfectant residuals in ppm for each outlet tested.
6. Coliform bacteria test results for each outlet tested.
7. Certify water conforms, or fails to conform, to bacterial standards of authority having jurisdiction.

D. Water Quality Certificate: Certify water conforms to quality standards of authority having jurisdiction, suitable for human consumption.

1.6 QUALITY ASSURANCE

A. Perform Work in accordance with AWWA C651.

1.7 QUALIFICATIONS

A. Testing Firm: Company specializing in testing potable water systems, certified by State of New Mexico.

B. Submit bacteriologist's signature and authority associated with testing.

PART 2 PRODUCTS

2.1 DISINFECTION CHEMICALS

A. Chemicals: AWWA B300, Hypochlorite, AWWA B301, Liquid Chlorine, AWWA B302, Ammonium Sulfate, and AWWA B303, Sodium Chlorite.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 00 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify piping system has been cleaned, inspected, and pressure tested.

C. Perform scheduling and disinfecting activity with start-up, water pressure testing, adjusting and balancing, demonstration procedures, including coordination with related systems.

3.2 INSTALLATION

A. Coordinate with NTUA and the Engineer prior to filling, flushing or disinfecting the pipeline. Refer to Section 01 00 00 – Basic Requirements for coordination requirements.

B. Prior to disinfection, thoroughly flush the system with potable, disinfected water. Flushing may be accomplished either by gravity or by pumping, provided the pump is not damaged due to insufficient head. Any damage to the pump during flushing shall be the responsibility of the Contractor and shall be repaired or replaced at no additional expense to the Owner. A minimum flow velocity of 3 feet per second (fps) is required.

C. Provide and attach required equipment to perform the Work of this section.

D. Introduce treatment into piping system and perform disinfection in accordance with AWWA C651. A minimum chlorine concentration of 50 ppm shall be measurable throughout all parts of the system.

1. Measure chlorine concentration at all sampling ports provided on the Drawings, including air valve vaults and building plumbing.

E. Maintain disinfectant in system for 24 hours, or 48 hours if the temperature is less than 41 degrees Fahrenheit.

F. Flush, circulate, and clean using domestic water.

1. Contractor shall coordinate with NTUA and Engineer prior to using domestic water, to avoid interruption of service to existing customers. Contract shall not exceed maximum allowable instantaneous flow (gpm) or daily flow (gpd), as specified in the field by NTUA and Engineer.

2. Neutralize residual chlorine to levels normally associated with potable water prior to discharging water to the environment.

G. Replace permanent system devices removed for disinfection.

3.3 FIELD QUALITY CONTROL

A. Section 01 00 00 - Execution Requirements: Field inspecting, testing, adjusting, and balancing.

B. Disinfection, Flushing, and Sampling:

1. Disinfect and test pipeline installation in accordance with AWWA C651.

2. Upon completion of retention period required for disinfection, flush pipeline until chlorine concentration in water leaving pipeline is no higher than that of the water used for flushing or 0.4 ppm, whichever is greater.

3. After final flushing and before pipeline is connected to existing system, or placed in service, employ an approved independent testing laboratory, approved by the Engineer, to sample, test and certify water quality suitable for human consumption, in accordance with AWWA C651.

a. At least one set of bacteriological samples shall be collected from every 1,200 LF of new waterline, plus one set at each end of the line, unless otherwise approved by NTUA and the Engineer.

b. The number and locations of specific sampling sites shall be submitted by the Contractor and must be approved by the Engineer prior to sampling.

c. Bacteriological tests are typically only valid for 30 days. Two consecutive passing test results at every sample location must therefore be obtained within 30 days of Final Completion and Transfer of completed project to NTUA. Note that NTUA will not accept project transfer until all punch list items have been completed and the project has been inspected by NTUA personnel. NTUA typically requires 21 days notice prior to final inspection and Transfer. Contractor is solely responsible for coordination with NTUA. If punch list inspection, Final Completion, and NTUA Transfer cannot be completed within 30 days of all bacteriological tests, regardless of the reason for delay, Contractor shall be responsible for re-testing at Contractor's expense.

4. Contractor shall not connect to existing system until all testing and disinfection is complete and shall obtain written permission from the Engineer to proceed with connection to the existing system.

C. Re-Disinfection:

1. In the event the performed water quality testing fails, the Contractor will disinfect the affected portions of the system again, and the approved testing laboratory shall sample, test and certify water quality as described in these specifications. Re-disinfection shall be performed at no additional cost to the Owner.

END OF SECTION

SECTION 33 42 13

PIPE CULVERTS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Corrugated steel pipe culvert.
2. Joints and accessories.
3. Bedding.
4. Slope protection at pipe end.

B. Related Sections

1. Section 31 23 17 - Trenching: Backfilling over piping up to sub-grade elevation.
2. Section 31 23 23 - Backfill: Backfill material.
3. Section 31 37 00 - Riprap and Rock Lining.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Pipe Culvert:

1. Basis of Measurement: By linear foot invert length of pipe. End sections shall be considered incidental.
2. Basis of Payment: Includes hand trimming, excavating; removing soft subsoil, bedding fill, compacting; pipe, fittings and accessories assembled; repair of damaged coating.

1.3 REFERENCES

A. American Association of State Highway and Transportation Officials:

1. AASHTO T99 - Standard Specification for the Moisture-Density Relations of Soils Using a 2.5 kg (5.5 lb) Rammer and a 305 mm (12 in.) Drop.
2. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:

1. ASTM A929/A929M - Standard Specification for Steel Sheet, Metallic-Coated by the Hot-Dip Process for Corrugated Steel Pipe.
2. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).
3. ASTM D1557 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (6,000 ft-lbf/ft3 (2,700 kN-m/m3)).

4. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
5. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.4 SUBMITTALS

A. Section 01 00 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit data on pipe, end sections, fittings and accessories.

1.5 CLOSEOUT SUBMITTALS

A. Section 01 00 00 - Execution Requirements: Requirements for submittals.

B. Project Record Documents:

1. Accurately record actual locations of pipe runs, connections, and invert elevations.
2. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

PART 2 PRODUCTS

2.1 STEEL CULVERT PIPE

A. Corrugated Steel Pipe: ASTM A929/A929M, galvanized:

1. Wall thickness: 14 gage minimum.
2. Helical lock seam.
3. Coated inside and out with 0.050 inch thick bituminous coating.
4. Shape: Circular with nominal diameter as shown in design drawings.

B. Coupling Bands: Galvanized steel, 0.052 inches thick x 10 inches wide; connected with two neoprene "O" ring gaskets and two galvanized steel bolts.

C. End Sections as specified in design drawings.

2.2 BEDDING AND COVER MATERIALS

A. Bedding: Fill Type A., B, C or D, as specified in Section 31 23 23.

2.3 ACCESSORIES

A. Erosion protection at Pipe Ends: Riprap as specified in Section 31 37 00. Rock to minimal size of 6 inch.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 00 00 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify excavation base is ready to receive work and excavations, dimensions, and elevations are as indicated on Drawings.

3.2 PREPARATION

A. Remove large stones or other hard matter which could damage piping or impede consistent backfilling or compaction.

3.3 EXCAVATION AND BEDDING

A. Excavate culvert trench to 12 inches below pipe invert, in accordance with Section 31 23 17 for work of this Section. Hand trim excavation for accurate placement of pipe to elevations indicated.

B. Place bedding material at trench bottom, level fill materials in one continuous layer not exceeding 6 inches compacted depth, compact to 95 percent.

C. Maintain optimum moisture content of bedding material to attain required compaction density.

D. Place filter fabric over compacted bedding.

3.4 INSTALLATION - PIPE

A. Lift or roll pipe into position. Do not drop or drag pipe over prepared bedding.

B. Shore pipe to required position; retain in place until after compaction of adjacent fills. Ensure pipe remains in correct position and to required slope.

C. Repair surface damage to pipe protective coating with two coats of compatible bituminous paint coating.

D. Install cover at sides and over top of pipe. Install top cover to minimum compacted thickness of 12 inches.

E. Maintain optimum moisture content of bedding material to attain required compaction density.

F. Place filter fabric over compacted cover.

G. Install culvert end sections.

H. Refer to Section 31 23 17 for backfilling and compacting requirements. Do not displace or damage pipe when compacting.

3.5 PIPE ENDS

A. Place fill at pipe ends, embankment slopes, and any adjacent construction, as indicated on Drawings.

3.6 ERECTION TOLERANCES

A. Section 01 00 00 - Quality Requirements: Tolerances.

B. Lay pipe to alignment and slope gradients noted on Drawings; with maximum variation from indicated slope of 1/8 inch in 10 feet.

C. Maximum Variation from Intended Elevation of Culvert Invert: 1/2 inch.

D. Maximum Offset of Pipe from Indicated Alignment: 1 inch.

E. Maximum Variation in Profile of Structure from Intended Position: 1 percent.

3.7 FIELD QUALITY CONTROL

A. Section 01 00 00 - Execution Requirements: Testing, adjusting, and balancing.

B. Request inspection prior to and immediately after placing aggregate cover over pipe.

C. Compaction Testing: In accordance with ASTM D1557.

D. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.

E. Frequency of Tests: Every 25 feet.

3.8 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01 00 00 - Execution Requirements: Protecting installed construction.

B. Protect pipe and bedding from damage or displacement until backfilling operation is in progress.

END OF SECTION

Appendix D – Special Contract Requirements

Appendix E – Inspection Forms

Inspector:_____

Signature:_____

Date:_____

Inspection for Temporary Structural Controls

NNMPipeline Construction Project - NGWSP JAN REACH 24.1

Sheet No.	Location Station	Location Station	Item Phase	ROW L/R	No.	Quantity	Unit	In Place (Y/N)	Condition	Sediment Depth	Washed Out Overtopped	Date Installed	Date Removed	Field Adjustments

Inspector:_____

Signature:_____

Date:_____

Inspection Record for Stabilization Measures

NNMPipeline Construction Project - NGWSP JAN REACH 24.1

Sheet No.	Location Station	Station	Type of Stabilization	Item Phase	ROW L/R	No.	Size	Unit	Date last disturbed	Stabilized (Y/N)	Condition	Date Installed	Field Adjustments

Stabilization Required:

Appendix E – inspection Form

Appendix E – inspection Form

Appendix F – SWPPP Amendment Log

SWPPP Amendment Log

	Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and Title]

Appendix G – Subcontractor's Certification/Agreement

SUBCONTRACTOR CERTIFICATION
STORMWATER POLLUTION PREVENTION PLAN

Project Number: _____

Project Title: _____

Operator(s): _____

As a subcontractor, you are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that you perform on-site. Any person or group who violates any condition of the SWPPP may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the SWPPP. A copy of the SWPPP is available for your review at the NECA field office.

Each subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement:

I certify under the penalty of law that I have read and understand the terms and conditions of the SWPPP for the above designated project and agree to follow the practices described in the SWPPP.

This certification is hereby signed in reference to the above named project:

Company: _____

Address: _____

Telephone Number: _____

Type of construction service to be provided: _____

_____

_____

Signature: _____

Title: _____

Appendix G –Subcontractor Certifications/Agreements

SUBCONTRACTOR CERTIFICATION
STORMWATER POLLUTION PREVENTION PLAN

Project Number: _____

Project Title: _____

Operator(s): _____

As a subcontractor, you are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that you perform on-site. Any person or group who violates any condition of the SWPPP may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the SWPPP. A copy of the SWPPP is available for your review at the office trailer.

Each subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement:

I certify under the penalty of law that I have read and understand the terms and conditions of the SWPPP for the above designated project and agree to follow the practices described in the SWPPP.

This certification is hereby signed in reference to the above named project:

Company: _____

Address: _____

Telephone Number: _____

Type of construction service to be provided: _____

_____

_____

Signature: _____

Title: _____

Appendix H – Training Log

Stormwater Pollution Prevention Training Log

Project Name:

Project Location:

Instructor's Name(s):

Instructor's Title(s):

Course Location: _____ Date: _____

Course Length (hours): _____

Stormwater Training Topic: *(check as appropriate)*

- ❑ **Sediment and Erosion Controls**
- ❑ **Emergency Procedures**
- ❑ **Stabilization Controls**
- ❑ **Inspections/Corrective Actions**
- ❑ **Pollution Prevention Measures**

Specific Training Objective: _____

_____

Attendee Roster: *(attach additional pages as necessary)*

No.	Name of Attendee	Company
1		
2		
3		
4		
5		
6		
7		
8		

Appendix H – SWPPP Training Log

Stormwater Pollution Prevention Training Log

Project Name:

Project Location:

Instructor's Name(s):

Instructor's Title(s):

Course Location: _____ Date: _____

Course Length (hours): _____

Stormwater Training Topic: *(check as appropriate)*

- ❑ **Sediment and Erosion Controls**
- ❑ **Emergency Procedures**
- ❑ **Stabilization Controls**
- ❑ **Inspections/Corrective Actions**
- ❑ **Pollution Prevention Measures**

Specific Training Objective:_____

_____

Attendee Roster: *(attach additional pages as necessary)*

No.	Name of Attendee	Company
1		
2		
3		
4		
5		
6		
7		
8		

Appendix I – Delegation of Authority

Delegation of Authority

I, _____ (name), hereby designate the person or specifically described position below to be a **duly authorized representative for the purpose of overseeing compliance with environmental requirements**, including the Construction General Permit, at the _____ construction site. The designee is authorized to sign any reports, stormwater pollution prevention plans and all other documents required by the permit.

_____ (name of person or position)
_____ (company)
_____ (address)
_____ (city, state, zip)
_____ (phone)

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in Appendix I of EPA's Construction General Permit (CGP), and that the designee above meets the definition of a "duly authorized representative" as set forth in Appendix I.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: _____

Company: _____

Title: _____

Signature: _____

Date: _____

Appendix I – Delegation of Authority Form

Delegation of Authority

I, _____ (name), hereby designate the person or specifically described position below to be a duly authorized representative for the purpose of overseeing compliance with environmental requirements, including the Construction General Permit, at the _____ construction site. The designee is authorized to sign any reports, stormwater pollution prevention plans and all other documents required by the permit.

_____ (name of person or position)
_____ (company)
_____ (address)
_____ (city, state, zip)
_____ (phone)

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in Appendix I of EPA's Construction General Permit (CGP), and that the designee above meets the definition of a "duly authorized representative" as set forth in Appendix I.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: _____

Company: _____

Title: _____

Signature: _____

Date: _____

Appendix J – Endangered Species Documentation

RECLAMATION

Managing Water in the West

Final Environmental Assessment

Reaches 24.1, 24.1 JAN, and 25 of the
Navajo–Gallup Water Supply Project

U.S. Department of the Interior
Bureau of Reclamation
Four Corners Construction Office
2200 Bloomfield Highway
Farmington, NM 87401
Phone: (505) 324-5001

February 2014

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

The Bureau of Indian Affairs mission is to enhance quality of life, to promote economic opportunity, and to carry out the responsibility to protect and improve the trust assets of American Indians, Indian tribes, and Alaskan Natives.

LIST OF ACRONYMS

ACEC	Areas of Critical Environmental Concern
APE	Area of Potential Effect
BA	Biological Assessment
BGEPA	Bald and Golden Eagle Protection Act
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BMP	Best Management Practices
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CWA	Clean Water Act
DOT	Department of Transportation
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMI	Ecosystem Management, Inc.
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEIS	Final Environmental Impact Statement
FFO	Farmington Field Office
FLPMA	Federal Land Policy and Management Act
GHG	Greenhouse gases
HAP	Hazardous air pollutants
HUC	Hydrologic Unit Code
JAN	Jicarilla Apache Nation
JMEC	Jemez Mountains Electric Cooperative, Inc.
MBTA	Migratory Bird Treaty Act
MOU	Memorandum of Understanding
NAAQS	National Ambient Air Quality Standards
NATA	National Scale Air Toxics Assessments
NEPA	National Environmental Policy Act
NGWSP	Navajo–Gallup Water Supply Project
NHPD	Navajo Nation Historic Preservation Department
NM	New Mexico
NMAAQS	New Mexico Ambient Air Quality Standards
NNDFW	Navajo Nation Department of Fish and Wildlife

NPDES	National Pollution Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NTUA	Navajo Tribal Utility Authority
OM	Organic Matter
OSHA	Occupational Safety and Health Administration
PLS	Pure Live Seed
RMP	Resource Management Plan
RPFO	Rio Puerco Field Office
ROD	Record of Decision
ROW	Right-of-way
SAR	Sodium Absorption Ratio
SDA	Specially Designated Areas
SHPO	State Historic Preservation Office (New Mexico)
SMA	Souder, Miller and Associates
SMS	Special Management Species
SWPPP	Stormwater Pollution Prevention Plan
TCE	Temporary construction easement
TCP	Traditional Cultural Properties
THPO	Tribal Historic Preservation Officer (Navajo Nation)
USACE	U.S. Army Corps of Engineers
USBR	U.S. Bureau of Reclamation
USDA	U.S. Department of Agriculture
USDI	U.S. Department of the Interior
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
VRI	Visual Resources Inventory
VRM	Visual Resource Management

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1. PURPOSE AND NEED FOR ACTION

1.1. Background

The Navajo-Gallup Water Supply Project (NGWSP) is a planned regional water-supply system that would distribute San Juan River surface waters to the eastern section of the Navajo Nation, the city of Gallup, New Mexico, and the southwestern part of the Jicarilla Apache Nation (JAN). The Bureau of Reclamation (Reclamation) has developed the NGWSP to provide long-term municipal and industrial water to the Navajo Nation, the Jicarilla Apache Nation, and the city of Gallup, New Mexico. The NGWSP responds to the current underserved and ever increasing demand for water in these communities and addresses health and safety issues related to water quality. The existing groundwater supplies currently utilized by these communities are dwindling, are of poor quality, and have limited capacity (Reclamation 2009). More than 40 percent of Navajo households rely on water hauling to meet daily water needs (Reclamation 2009). The city of Gallup's groundwater levels have dropped approximately 200 feet over the past 10 years, and the supply is not expected to meet current water demands within the decade (Reclamation 2009). The Jicarilla Apache people are currently not able to live and work on the reservation outside of the town of Dulce, New Mexico, due to a lack of water supply (Reclamation 2009).

Reaches 24.1, 24.1 JAN, and 25 are three segments of the NGWSP project totaling approximately 13.8 miles that would include water lines, distribution and regulation tanks, a pump station, treatment facilities, surge buildings, and power lines. These reaches would transport potable water from the existing Counselor Central Tank southward to existing waterlines in the Counselor Chapter, Navajo Nation, and eastward to the boundary of the Jicarilla Apache Nation.

The proposed Reaches 24.1, 24.1 JAN, and 25 waterline alignment is located in Sandoval County, New Mexico, as shown in Figure 1. The alignment would cross lands administered by the Navajo Nation, Jicarilla Apache Nation, Bureau of Indian Affairs (BIA), and Bureau of Land Management (BLM; Figure 2). The general legal description of the proposed NGWSP Reaches 24.1, 24.1 JAN, and 25 includes:

Reaches 24.1 and 24.1 JAN

Portions of Sections 1, 4, 5, 6, 9, 10, 11, and 12 of Township 22 North, Range 6 West

Reach 25

Portions of Sections 10, 14, 15, 23, 25, 26 and 36 of Township 22 North, Range 6 West

Portions of Sections 6, 7 and 8 of Township 21 North, Range 5 West

Portions of Section 31 of Township 22 North, Range 5 West

Reclamation prepared a Planning Report and Final Environmental Impact Statement for the greater NGWSP (FEIS-NGWSP; Reclamation 2009), and the Record of Decision (ROD) for that document signed by the Secretary of the Interior (Secretary) on October 1, 2009. Authorization to complete the NGWSP was included in the Omnibus Land Management Act of 2009, Title X, Part II (P.L. 11-11, March 30, 2009). The design, construction, operation and maintenance of the NGWSP as authorized by P.L. 111-11 are described in the preferred alternative in the FEIS-NGWSP. The FEIS-NGWSP is available for review at Reclamation's Western Colorado Area Office, Durango, Colorado, or on the World Wide Web at http://www.usbr.gov/uc/envdocs/eis/navgallup/FEIS/index.html. The site-specific analysis contained herein tiers to and incorporates by reference the information and analysis in the Reclamation FEIS-NGWSP.

This site-specific analysis also tiers into and incorporates by reference the information and analysis contained in the BLM Farmington Proposed Resource Management Plan/Final Environmental Impact Statement (FFO-FEIS) approved as per the September 29, 2003, ROD as the Farmington Resource Management Plan (FFO-RMP) and updated in December 2003, pursuant to 40 Code of Federal

Regulations (CFR) 1508.28 and 1502.21 (USDI/BLM 2003). The document is available for review at the BLM Farmington Field Office (FFO), Farmington, New Mexico on the World Wide Web at http://www.blm.gov/nm/st/en/fo/Farmington_Field_Office/farmington_rmp.html. This environmental assessment (EA) addresses the site-specific resources and effects of the Proposed Action that were not specifically covered within the FFO-FEIS, as required by the National Environmental Policy Act of 1969 (NEPA), as amended (Public Law 91-90, 42 United States Code [USC] 4321 et. seq.).

1.2. Purpose and Need for Action

The purpose of the Proposed Action is to provide the proponent with access to BLM-managed lands, Navajo Nation Tribal Trust lands managed by the BIA Navajo Region, and Jicarilla Apache Nation lands managed by BIA Jicarilla Agency for a right-of-way (ROW) for Reaches 24.1, 24.1 JAN, and 25 of the Navajo Gallup Water Supply Project. As authorized by Title V of the Federal Land Policy and Management Act (FLPMA) of October 21, 1976 (43 USC 1761 et seq.) as amended, BLM will issue ROW grants for pipelines (other than oil and gas pipelines) and other facilities and systems which are in the public interest. It is the policy of the BLM to authorize all ROW applications at the discretion of the authorized office in the most efficient and economical manner possible while protecting the natural environment and providing for public safety (43 CFR 2800 and 2880). In addition, the BIA is to authorize all ROW applications that are within a reservation for the purpose of constructing, operating, or maintaining water conduits (40 CFR 169). Bureau of Reclamation is the lead project sponsor with BLM and BIA as cooperating agencies. The Navajo Nation and Reclamation have entered a Financial Assistance Agreement, whereby Reclamation is providing funding for the Navajo Nation to construct Reaches 24.1, 24.1 JAN, and 25 of the NGWSP.

An approved ROW grant issued by BLM would authorize the Navajo Tribal Utility Authority (NTUA) to construct Reaches 24.1, 24.1 JAN, and 25, segments of the NGWSP. An approved ROW grant from BLM would further progress towards a suitable, long-term water supply for a number of underserviced communities in northwestern New Mexico.

An approved ROW grant issued by the BIA would authorize NTUA to construct Reaches 24.1, 24.1 JAN, and 25 segments on Navajo and Jicarilla Apache tribal trust lands. An approved ROW grant from the BIA would further progress towards a suitable, long-term water supply for members of the Navajo and Jicarilla Apache Nations. The proposed project would also facilitate self-governance and sovereignty goals of the Navajo and Jicarilla Apache Nations.

1.3. Conformance with Applicable Land Use Plan(s)

The Proposed Action is in conformance with the September 2003 Farmington Resource Management Plan with Record of Decision, as updated in December 2003 (BLM, 2003). The proposal is recognized as an appropriate use of public lands in the FFO planning area Resource Management Plan. The proposed action is in conformance with the Farmington RMP. Specifically the Proposed Action is in conformance with the objective of the FFO lands program to grant ROWs to qualified businesses and government entities for use of public lands (BLM 2003, pages 2-5 and 2-6). The Proposed Action also is in conformance with the November 1986 Rio Puerco Resource Management Plan and ROD (BLM 1986). The BLM has prepared a revised Draft Resource Management Plan (RMP) and Environmental Impact Statement (EIS) to analyze and update BLM's management of public lands managed by the Rio Puerco Field Office. The Proposed Action is in conformance with each of the action alternatives that are being analyzed and could become the revised RMP. Special Designated Areas (SDAs) and Areas of Critical Environmental Concern (ACECs) for the Proposed Action area were identified in each RMP/EIS under authority of the FLPMA allowing for multiple use of lands administered by the BLM. The pipelines and other improvements associated with Reaches 24.1, 24.1 JAN, and 25 are not located within any SDAs or ACECs.

The Proposed Action is in compliance with the Land Use Plan for the Counselor Chapter (ARC 2002). The proposal is recognized as an appropriate use of lands as construction of the NGWSP pipeline segment to provide water to the Counselor community is a proposed land use action (ARC 2002).

1.4. Relationship to Statutes, Regulations or Other Plans

The Navajo Nation would comply with all applicable federal, tribal, and State of New Mexico laws and regulations. Non-point source pollution is an identified problem in the planning area that is directly associated with soil stability and water quality. Mandated by the Clean Water Act (CWA), efforts to reduce non-point source pollution through implementation of erosion control and management practices are an important part of BLM's management activities. Construction activities disturbing land may require permit coverage through implementation of erosion control and management practices are an important part of BLM's management activities. Construction activities disturbing land may require permit coverage through a National Pollution Discharge Elimination System (NPDES) storm-water discharge permit. Upon determination, a U.S. Army Corps of Engineers Section CWA 404 permit for discharge of dredge and fill materials in Waters of the U.S. may also be required. Applicants are required to obtain all the necessary permits and approvals prior to any disturbance activities.

Consultation with the U.S. Fish and Wildlife Service (USFWS) as required by Section 7 of the Endangered Species Act was conducted as part of the Farmington PRMP/FEIS (Consultation No. 2-22-01-1-389) to address cumulative effects of the RMP implementation. The consultation was summarized in Appendix M of the RMP/EIS. Formal consultation with the USFWS was also conducted as part of the NGWSP PR/FEIS (Consultation No. 2-22-01-F-532). The consultation is summarized in Appendix C of the PR/FEIS. Review of current USFWS federally listed species and onsite evaluation of habitat for the Proposed Action indicates no need for additional Section 7 consultation (Ecosystem Management, Inc. 2013).

The Navajo Tribal Utility Authority has filed a ROW application with the Farmington Field Office of the Bureau of Land Management (BLM FFO) for proposed construction of Reaches 24.1, 24.1 JAN, and 25 of the NGWSP. NTUA will apply for a ROW application with the BIA for proposed construction of Reaches 24.1, 24.1 JAN, and 25 on Tribal Trust lands. Jemez Mountains Electric Cooperative, Inc. (JMEC) will file a ROW application for the power lines with both BLM and BIA traversing BLM and Tribal Trust lands, respectively. BLM and BIA regulate ROW development so as to minimize environmental effects to public lands as required by numerous federal laws, including:

- The Endangered Species Act of 1973 (P.L. 94-325),
- The Migratory Bird Treaty Act of 1918 (MBTA), as amended (16 U.S.C. 703-712),
- The Bald Eagle and Golden Eagle Protection Act of 1940 (BGEPA), as amended (16 U.S.C. 668-668d)
- The Federal Water Pollution Control Act of 1948 (Clean Water Act), as amended (33 U.S.C. Chapter 26),
- The Clean Water Act of 1963, as amended (P.L. 88-206),
- The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (42 U.S.C. Chapter 103),
- The Antiquities Act of 1906, as amended (P.L. 52-209),
- The National Historic Preservation Act of 1966, as amended (P.L. 89-665),
- The Archaeological and Historic Preservation Act of 1974 (P.L. 86-253),
- The Archaeological Resources Protection Act of 1979, as amended (P.L. 96-95),
- The American Indian Religious Freedom Act of 1978, as amended (42 U.S.C. 1996), and
- The Native American Graves Protection and Repatriation Act of 1900 (P.L. 101-601).

The MBTA prohibits the taking, killing, or possessing of migratory birds. Executive Order (EO) 13186 was signed on January 10, 2001, directing executive departments and agencies of the federal government to take certain actions to further implement the MBTA including developing and implementing a Memorandum of Understanding (MOU) with the USFWS that would promote the conservation of migratory bird populations. A MOU was developed and entered into by the BLM and USFWS on April 12, 2010, to accomplish EO 13186 and to ensure the successful implementation of BLM and USFWS migratory bird conservation responsibilities. The MOU to *Promote the Conservation of Migratory Birds* presents collaborative methods to promote the conservation of migratory bird populations by identifying and implementing strategies which avoid or minimize adverse impacts to migratory birds. The BLM and USFWS have agreed that implementation of the MOU will be in harmony with existing agency missions, and the MOU does not supersede any legal requirements or existing species conservation processes and procedures such as ESA recovery plans. Reclamation does not have an MOU in place with the USFWS for management of migratory birds; a MBTA Directives and Management document is in draft form only. Reclamation analyzes and documents effects to migratory birds during the NEPA process and avoids or mitigates those effects to the maximum extent feasible.

The MOU to *Promote the Conservation of Migratory Birds* entered into by the BLM and the USFWS was not completed during the development of the revised FFO RMP. Consultation on the Biological Assessment (BA) with the USFWS for the RMP was completed on October 2002, the EIS was completed in March 2003, and the ROD for the RMP was signed in September of 2003. There are no management constraints or mitigation measures pertaining to the MBTA listed within the RMP, BA, EIS, or ROD. Revision and/or adoption of some elements of the MOU into the RMP may be required. Currently, effects to migratory birds are addressed and mitigated at the project level as outlined in the Migratory Bird Treaty Act BLM/FFO Interim Management Policy (Instruction Memorandum No. NM-F00-2010-001, USDI/BLM 2010).

Until further guidance related to the MOU is issued, the BLM will continue to analyze impacts to migratory birds in NEPA documents, list the MBTA as a law the owner of any BLM permit must comply with, and utilize the best management practices and mitigation measures that minimize impacts to migratory birds as outlined in Instruction Memorandum No. NM-F00-2010-001.

The BIA works with the Navajo Nation Department of Fish and Wildlife through a Public Law 93-638 contract to regulate ROW development on the Navajo Nation to minimize environmental effects to the biological resources on the Navajo Nation as required by Navajo Nation laws and procedures including:

- Navajo Endangered Species Act
- Resource Land Clearance Policies and Procedures
- Bald and Golden Eagle Protection Act

As the lead agency for the entire NGWSP, Reclamation has developed a Programmatic Agreement for compliance with the National Historic Preservation Act between the project participants. Reclamation, BLM, the Navajo Nation Tribal Historic Preservation Officer (THPO), the BIA, the New Mexico State Historic Preservation Office (SHPO), and the Advisory Council on Historic Preservation (ACHP) are signatories to the Programmatic Agreement. Consulting parties to the Programmatic Agreement include the governments and historic preservation officials of American Indian tribes and pueblos, local municipalities, state, and federal agencies with section 106 responsibilities to consider the potential effect of the project on historic or cultural properties. Proposed Action compliance with Section 106 responsibilities of the National Historic Preservation Act will be adhered to by the following Programmatic Agreement for the entire NGWSP.

Additionally, the ROW Grant Holder, or their designated agents, shall:

- Comply with all applicable federal, State of New Mexico, Navajo Nation, and local laws and regulations.

- Obtain the necessary permits for the construction of Reaches 24, 24.1 JAN and 25 including water rights appropriations, water discharge permits, and relevant air quality permits.
- Certify that a Surface Use Agreement has been reached with private landowners where required.
- Obtain permission to survey and written consent from the Navajo Nation prior to BIA approval.

This EA considers the requirements of these and other laws and regulations, as applicable. The Proposed Action, including environmentally protective mitigation measures, complies with the laws and regulations indicated above. ROW grant holders are required to obtain all necessary permits and approvals prior to any disturbance activities.

1.5. Scoping, Public Involvement, and Issues

Reclamation conducted extensive public involvement, scoping, and formal comment opportunity in the preparation of the EIS for the Navajo–Gallup Water Supply Project. Chapter 7 of the PR/FEIS describes five public scoping meetings held specifically for the project and its consultation with state and federal agencies, tribal governments, local governments, and interested organizations. Volume 3 of the EIS provides all comments and responses on the draft EIS. In brief, the EIS identifies social issues surrounding the need for a stable water supply, the uses of the water, and water rights. In addition, previous scoping identified protection of special status species and cultural resources as issues for the project. Consultation with the Navajo Nation and BLM supported the conclusions from previous scoping and identified no new information not previously considered in the PR/FEIS.

Since 2006, Souder Miller and Associates has facilitated meetings with chapter officials, Navajo Nation Council delegates, Jicarilla Apache Nation officials, other government officials, and residents of ten area chapters, including Counselor, Ojo Encino, Pueblo Pintado, and Torreon Chapters, which would be provided water by the proposed waterline alignment. The meetings are typically held every 2–3 months, and rotate between the different chapter houses. To date, approximately 31 such meetings have been held. These meetings are typically scheduled 1–2 months in advance and are publicized at each of the chapters' public chapter meetings and bulletin boards. All major problems and decisions regarding project planning, design, ROW acquisition, and construction are discussed in these public forums.

1.5.1. Issues Dismissed from the Analysis

The following issue was considered, but dismissed from analysis because the Proposed Action and No Action alternatives do not affect the issue for the reasons stated below, and therefore is not discussed further in the EA.

Visual Resources—The impacts to visual resources management would be negligible because all BLM-administered lands that would be crossed by proposed Reaches 24, 24.1 JAN, and 25 are located within Visual Resource Management (VRM) Class IV. The objective of this class is to provide for management activities that require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. Management activities may dominate the view and may be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements of line, form, color, texture. The visual resource impacts from vegetation removal, installing associated structures (water tanks, chlorination stations, security fences, power lines) are consistent with the VRM Class IV objective. To reduce color contrast of the new facilities, the proponent would paint the facilities on BLM-administered lands a color that is pre-approved by BLM and that blends with the adjacent vegetation. Tanks will be painted juniper green. The pre-fabricated pump station will be constructed with light stone, which is close to BLM's Carlsbad Canyon. Surge tank building will be constructed of pre-tinted split-faced block, Driftwood (yellow-brown Sandstone) color, with 757 Buckwheat mortar between the blocks, which are close as possible to the Carlsbad Canyon on BLM's standard environmental colors chart.

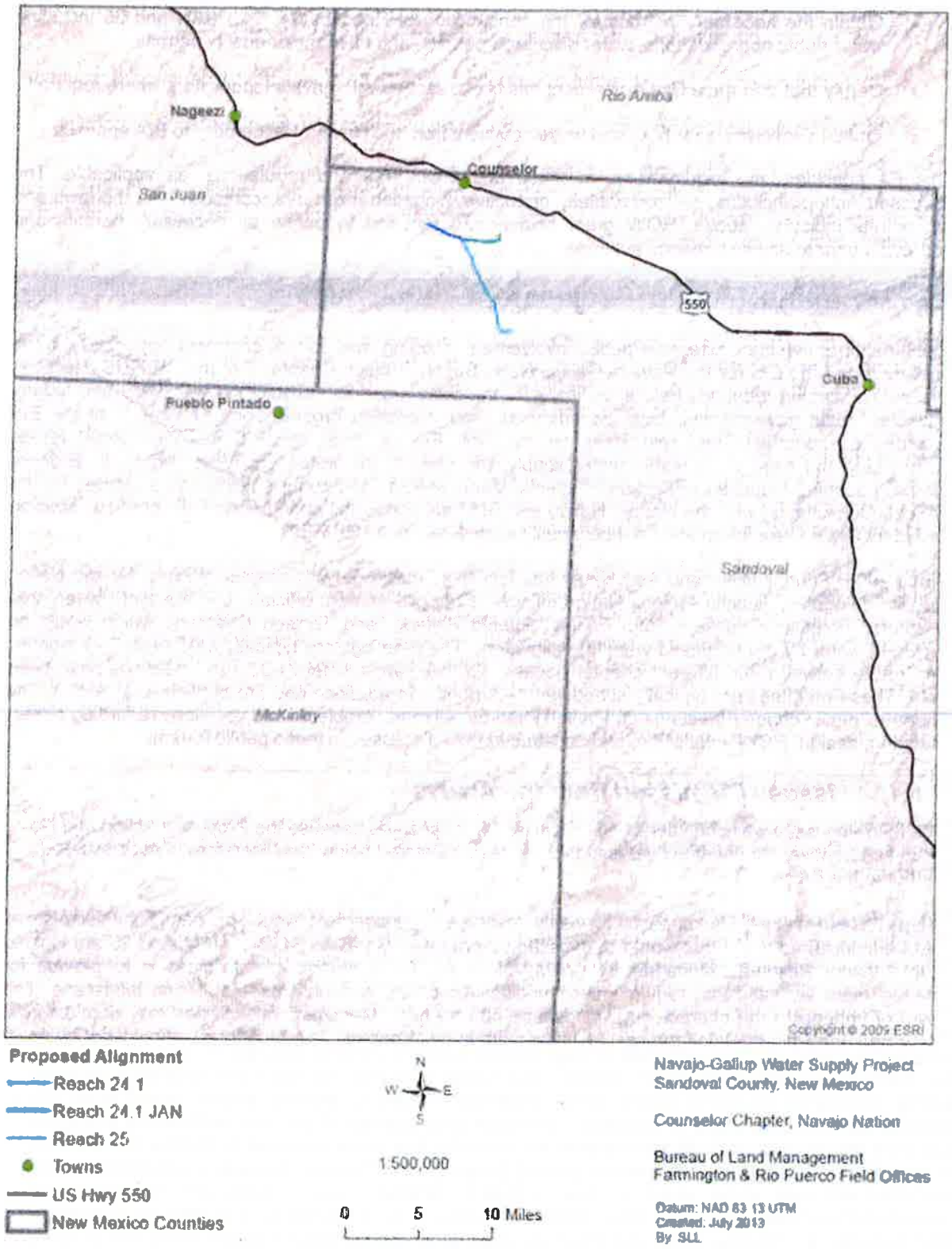

Figure 1. Vicinity map showing the proposed project location in Sandoval County.

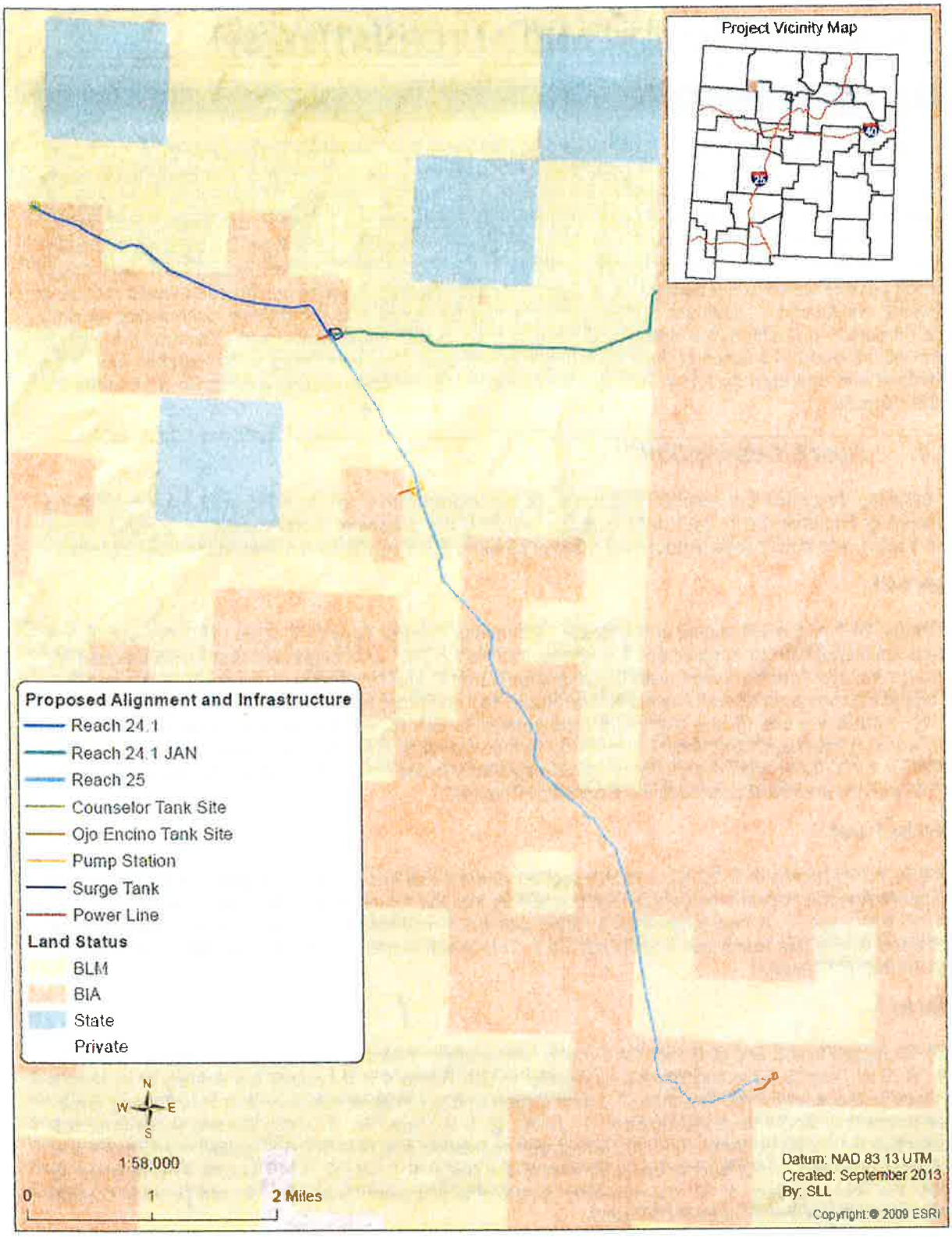

Figure 2. Locations of proposed alignment and associated infrastructure.

2. PROPOSED ACTION AND ALTERNATIVE(S)

2.1. Proposed Action

Reclamation proposes to fund and authorize the construction and operation of Reaches 24.1, 24.1 JAN, and 25 of the Navajo–Gallup Water Supply Project. Construction would consist of disturbing lands along the proposed pipeline of approximately 13.8 miles in length and is anticipated to occur from 2013 to 2016. The approval would provide for the construction of three reaches of the NGWSP, designated as Reaches 24.1, 24.1 JAN, and 25. Reaches 24.1 and 25 would transport potable water from the existing Counselor Central Tank southward to existing water pipelines in the Counselor Chapter. Reach 24.1 JAN would transport potable water to the border of the Jicarilla Apache Nation. Pipeline construction would require a temporary construction easement (TCE) totaling about 98 acres and permanent right-of-way totaling about 66 acres. In addition, the associated pump station, power lines, tanks, and chlorination buildings would require about 13 acres of new permanent easements. The completed water pipeline would be maintained and operated by NTUA with the Bureau of Reclamation providing assistance as needed for the first 10 years.

2.1.1. Reach Description

The following describes the reaches and the work associated with each. See Figure 2 for a map of the alignment of Reaches 24.1, 24.1 JAN, and 25 including the proposed water pipelines, storage tanks, pump station, and power lines. About 13.8 miles of pipeline ROW would be required in the three reaches.

Reach 24.1

The Reach 24.1 alignment begins at the existing Counselor Central Tank in T. 22 N., R. 6 W., sec. 6 and extends southeastward to a tee where it would tie into Reach 24.1 JAN alignment that would be used for the future Jicarilla Apache Nation waterline alignment (JAN Cutter Intertie) in T. 22 N., R. 6 W., sec. 10. The alignment runs parallel with Navajo Nation Route 461 and crosses BIA Route 46 at T. 22 N., R. 6 W., sec. 10. After the crossing, the alignment runs parallel to BIA Route 474 to the turnout location. This reach would contain approximately 2.8 miles of 14-inch polyvinyl chloride (PVC) pipe. In addition to the pipeline, a 1,000,000-gallon distribution water storage tank would be constructed at the beginning of the reach to provide improved service to the Counselor Chapter.

Reach 24.1 JAN

Reach 24.1 JAN begins in T. 22 N., R. 6 W., sec. 10 where it ties into Reach 24.1 and heads eastward to the Jicarilla Apache Nation boundary where it would tie into the future JAN Cutter Intertie alignment in T. 22 N., R. 6 W., sec. 1. A new surge tank building with a 0.1-mile-long single-phase power line would be constructed where this reach ties into Reach 24.1. This reach would include approximately 3.1 miles of 12- to 16-inch PVC pipe.

Reach 25

Reach 25 begins at the end of Reach 24.1 and heads southeastward to the Ojo Encino North Tank in T. 21 N., R. 5 W., sec. 8. This alignment runs parallel to BIA Route 474 for nearly the entirety of its length and veers to the east for the last mile. A pump station and surge tank site, with a 0.15-mile-long three-phase power line would be constructed in T. 22 N., R. 6 W., sec. 14. The Ojo Encino North tank site includes two new storage tanks (one 100,000 gallon regulation and one 300,000 gallon distribution) and one new chlorination facility built at the south end of the line in T. 21 N., R. 5 W., sec. 8. This tank would require the construction of a 0.2-mile-long single-phase power line. The reach would contain approximately 8 miles of 14-inch PVC pipe.

2.1.2. Right-of-Way Requirements

For safe and efficient pipeline construction, a permanent ROW easement and TCE would be obtained from various public, tribal and non-tribal entities along the length of the pipeline (Table 1). The ROW and TCE for this project together would total 100 feet in width along the entirety of the pipeline. This easement allows space for spoilage, fill material, stockpiling pipe, and a safe work area for heavy equipment during construction. During construction, the contractor would meet Occupational Safety and Health Administration (OSHA) requirements, subpart, 29CFR 1926.650-652 for trench safety.

The permanent ROW is a 40-foot-wide tract centered on the centerline of the pipe. The permanent ROW for the pipeline requires less width since the work for operations, maintenance, and replacements (OM&R) on the pipeline is typically confined to short linear sections of excavation. These operations do not require the level of efficiency for utilization of equipment as is desired during initial construction and worker safety can be assured through alternative excavation and shoring methods.

The remaining 60-foot TCE is comprised of two 30-foot-wide tracts, one adjacent to each side of the ROW. This TCE allows for heavy equipment and workers to perform the job safely and efficiently. The TCE generally requires space on one or both sides of the excavation to accommodate construction vehicle access, materials storage, spoil piles from trenching, and staging and heavy construction equipment (e.g., excavators, cranes, dumps) access. In some cases, the TCE would be narrowed on one or both sides of the ROW, resulting in a reduced work area. The TCE is usually narrowed to avoid disturbance of nearby cultural or environmental sites or to avoid encroachment or other interference with adjacent ROWs, roads, or other facilities not part of the Proposed Action. The TCE would expire at final completion of the project when project ownership is transferred over to the NTUA.

The TCE and ROW for the pipeline and infrastructure would total approximately 176 acres and, after construction activities are completed, the permanent ROW would be about 78 acres.

The associated NWGSP facilities (pump station, tank, and surge tank sites) would require a permanent easement for each site. However, the fenced area, driveways, and drains generally occupy a smaller area within this easement. The easement area outside each facility's fence would be graded for slope, drainage, and access depending on the terrain. The larger easement area allows enough area to safely maneuver the necessary heavy equipment and provide for the storage and staging of construction materials. It also allows for more flexibility when the need arises to expand facilities, for instance, allowing construction of additional storage tanks currently deferred under the present project scope. The total area required for permanent easements to accommodate the facilities totals 12.2 acres.

Table 1.ROW Surface Ownership Summary

Surface Ownership	TCE (acres)	ROW (acres)	Total (acres)
BLM	50.3	39.1	89.4
Navajo Tribal Trust Lands	47.9	38.8	86.7
Jicarilla Apache Land	0.24	0.16	0.40

2.1.3. Pipeline Construction

The pipeline ROW and TCE would be cleared of vegetation and topsoil as well as removal of some large boulders. The topsoil would be stockpiled separate and covered from general excavation material and would then be utilized during reseeding. The major portion of the excavation would be done using bulldozers, scrapers and track hoes, and possibly trenchers. A ripper would more than likely be used to break up sandstone, siltstone, and shale. Blasting will not be allowed.

The pipeline trench would reach a maximum depth of 20 feet in some areas but would typically average around 6 feet in depth. The bottom width of the trench would be approximately three to four feet. The trench width for the pipeline may vary considerably depending on the depth of excavation, the type of bedding and embedment requirements for the various types of pipe, and the required side slopes of the trench excavation. In some locations, the contractor may lower side slopes resulting in a much wider trench at the top in order to meet OSHA trench safety requirements. The contractor would provide trench safety as required by OSHA either through the use of trench boxes or benching and/or reduction of the side slope. OSHA trench safety requirements prevent slope failures and endangering laborers during excavation and pipe installation operations and are dependent upon the types of native material encountered during excavation. Additional width is also required on one side of the excavation to accommodate the excavation material pile. However, all work related to construction would be conducted from within the combined 100-foot-wide ROW and TCE.

2.1.4. Construction of Storage Tank and Chlorination Sites

Two different storage tank and chlorination sites are included within the scope of the project. These sites are located at the beginning of Reach 24.1 in Counselor and at the end of Reach 25 at Ojo Encino North.

The size of the permanent easement that will be acquired for each depends on:

- Presence and size of existing storage and chlorination facilities.
- Number and volume of proposed water tanks.
- Amount of site grading (cut and fill) needed to assure proper tank elevation, site drainage, and site access.
- Presence or absence of nearby cultural or environmental resources restricting site boundaries.

The permanent easement area is defined for each tank to allow for safe and efficient construction activities without causing unacceptable impacts to surrounding environmental or cultural resources. These activities include, but are not limited to, grading, sub-foundation earthwork, improvement or construction of driveways for access, placement of prefabricated chlorination buildings, fabrication of steel water storage tanks, placement and trenching of site piping, and storage of materials and equipment. Power to the site during construction could be provided through generators. The construction activities would be confined to the easement at all times during construction.

Tank sites without power would require the construction of single-phase power lines for which separate ROW and TCE would be acquired. All project power lines would be constructed and maintained by JMEC. Power lines on BLM managed land would have a 30-foot permanent ROW and ten feet of TCE; power lines on Navajo trust land would have a 20-foot ROW and an additional 20 feet of TCE. Permanent ROWs would be centered on the proposed power line alignment. The TCEs would be placed on each side of the permanent ROW. The TCE would expire after construction of each power line is complete. All power line construction activities would be confined within the ROW and TCE at all times during construction.

The **Counselor Tank Site** is located at the beginning of Reach 24.1. Existing site facilities include a chlorination building and two 100,000-gallon water storage tanks. Proposed new construction includes fabrication and placement of two 1,000,000-gallon distribution tanks adjacent to the existing site facilities. Construction of one of the 1,000,000-gallon distribution tanks would be deferred, although room has been made for it within the proposed site plan. Surface water runoff as well as existing and proposed drain lines from the tanks and chlorination building would all discharge to an existing ditch adjacent to the dirt road in front of the site. Periodic discharges of chlorinated or non-chlorinated water from the tanks and chlorination buildings may occur when disinfecting, flushing, filling, or emptying the tanks and associated piping. This site already has electricity, so no additional power lines would need to be constructed. The total existing disturbed area is estimated at 0.78 acre. The new facilities would require an additional 2.9

acres of proposed permanent easement. Of this easement, the total proposed new disturbed area is estimated at 1.2 acres.

The **Ojo Encino North Tank Site** is located at the south end of Reach 25. Existing site facilities include a 100,000-gallon steel distribution tank within a 0.1-acre fenced area. Proposed new construction includes fabrication and placement of two steel water storage tanks, a regulation tank with a volume of 100,000-gallons and a distribution tank with a volume of 300,000 gallons. Additionally, a new chlorination building would be constructed on the Ojo Encino North Tank site. The existing tank has a drain line that discharges on the north side of the site. Drain lines from new tanks and chlorination buildings would discharge at the same location. Periodic discharges of chlorinated or non-chlorinated water from the tanks and chlorination buildings may occur when disinfecting, flushing, filling, or emptying the tanks and associated piping.

The total existing disturbed area is estimated at 0.1 acre. The new facilities would require an additional one acre of proposed permanent easement. Of this easement, the total proposed new disturbed area is estimated at 0.9 acre. To provide electricity to the chlorination building, a new single-phase power line is proposed for construction. The estimated length of this line is about 0.2 mile, requiring a total easement area of one acre. A number of culturally sensitive areas are found in the vicinity of the Ojo Encino North Tank site. All construction activities related to the tank site and associated pipelines and power lines would take place outside of these sensitive areas to avoid impact or disturbance of cultural resources.

2.1.5. Pump Station Construction

The proposed Pump Station site is located along Reach 25. There are no existing facilities on the site. Proposed new facilities include a prefabricated pump house, a concrete block surge tank building, site piping, and perimeter fence. The permanent ROW of the pump station site is large enough to allow construction activities to proceed safely and efficiently. These activities include, but are not limited to, grading, sub-foundation earthwork, construction of driveways for access, placement of prefabricated buildings, placement and trenching of site piping, and storage of materials and equipment. Power to the site during construction could be provided through generators. The site would require 2.7 acres of proposed permanent easement. Additionally, approximately 2.2 acres of permanent easement would be acquired along the existing BIA Route 474 to allow for proper construction of site drainage. The construction activities would be confined to the ROW at all times during construction.

Site runoff and drain lines from buildings would be directed via culverts to discharge to an existing wash on the south side of the frontage road. Discharges of chlorinated or non-chlorinated water from the pump house, surge tanks, and site piping may occur periodically from testing, disinfecting, flushing, filling or emptying surge tanks or pipeline and pump house piping.

To provide electricity to the pump station site, a new three-phase power line is proposed for construction for which separate ROW and TCE would be acquired. All project power lines would be constructed and maintained by JMEC. Power lines on BLM managed land would have a 30-foot permanent ROW and ten feet of TCE; power lines on Navajo trust land would have a 20-foot ROW and an additional 20 feet of TCE. Permanent ROWs would be centered on the proposed power line alignment. The TCEs would be placed on each side of the permanent ROW. The TCE would expire after construction of each power line is complete. The estimated length of the power line is slightly more than 0.1 mile, requiring a total easement area of +1+. All power line construction activities would be confined within the ROW and TCE at all times during construction.

2.1.6. Surge Tank Site Construction

The proposed Reach 24.1 JAN surge tank site is located at the end of Reach 24.1. There are no existing facilities on the site. Proposed new facilities include a concrete block surge tank building, site piping, and perimeter fence. The permanent ROW of the surge tank site is large enough to allow construction activities to proceed safely and efficiently. These activities include, but are not limited to, grading, sub-foundation earthwork, construction of driveways for access, placement of prefabricated buildings, placement and trenching of site piping, and storage of materials and equipment. Power to the site during

construction could be provided through generators. The site would require 0.28 acres of proposed permanent easement. The construction activities would be confined to the ROW at all times during construction.

Discharges of chlorinated or non-chlorinated water from the surge tanks, and site piping may occur periodically from testing, disinfecting, flushing, filling or emptying surge tanks and underground piping.

To provide electricity to the surge tank site, a new single-phase power line is proposed for construction for which separate ROW and TCE would be acquired. All project power lines would be constructed and maintained by JMEC. The power line is located on Navajo trust land and would have a 20-foot (6.1-m) ROW and an additional 20 feet of TCE. The permanent ROW would be centered on the proposed power line alignment. The TCEs would be placed on each side of the permanent ROW. The TCE would expire after construction of each power line is complete. The estimated length of the power line is 0.11 miles, requiring a total easement area of 0.27 acre. All power line construction activities would be confined within the ROW and TCE at all times during construction.

2.1.7. Design Features, Stipulations, and Requirements

The FFO RMP, Rio Puerco RMP, the Planning Report and EIS for the Navajo–Gallup Water Supply, and BIA include features designed to limit impacts to resources from management actions and externally proposed projects. The following design features, stipulations, and requirements are those from these planning documents that apply to this proposal.

Visual Resource Management

- Above-ground structures are required to be painted in one of five colors designated to blend with the natural color of the landscape (USDI/BLM 2003b, pages 2–20).
- Permit holders are required to coordinate with the Authorized Officer on the design and color of power poles and transmission lines to achieve minimal practicable visual impacts. USDI/BLM 2003b, pages 2–20).

Soils and Water

- Disturbed areas would be reseeded following specifications using designated seed mixtures within one year of final construction (USDI/BLM 2003b, pages 2–21; see Appendix A Re-vegetation Plan).
- No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of six inches deep, the soil shall be deemed too wet to work (USDI/BLM 2003b, pages 2–21).
- Any roads used exclusively for construction purposes shall be adequately closed to all vehicular travel and rehabilitated after completion of construction (USDI/BLM 2003b, pages 2–21).
- Disturbed areas would be reclaimed as described in the Re-vegetation Plan (included as Appendix A) prepared in accordance with the Farmington Field Office Bare Soil Reclamation Procedures published January 2013 and available on the World Wide Web at http://www.blm.gov/nm/st/en/fo/Farmington_Field_Office/ffo_planning/surface_use_plan_of.html
- Navajo Nation would use accepted erosion control measures during construction, supplement grass seeding with native shrub seed in upland areas where shrub cover is diminished due to pipeline disturbance, monitor planting to ensure establishment, and control noxious weeds in disturbed areas (Reclamation 2009, pages VI–4).

Air Quality

- All air pollutant emissions from future federally conducted or approved activities under the Farmington RMP shall comply with all applicable local, state, tribal, and federal air-quality laws, statutes, regulations, standards, and implementation plans (BLM FFO RMP, page 2–22).

- Navajo Nation would require that construction contractors implement measures to control fugitive dust during construction (Reclamation 2009, page VI–7).

Invasive Weed Management

- For all actions on public lands that involve surface disturbance or rehabilitation, reasonable steps would be required to prevent the introduction or spread of noxious weeds, including requirements for using weed seed-free hay, mulch, and straw (USDI/BLM 2003b, pages 2–22).

- It would be the operator's responsibility to monitor, control, and eradicate all invasive, non-native plant species within the proposed project area throughout the life of the proposed project (USDI/BLM 2003b, pages 2–25). The operator would contact the BLM-FFO regarding acceptable weed-control methods. If the operator does not hold a current Pesticide Use Permit, a Pesticide Use Permit would be submitted prior to pesticide application. Only pesticides authorized for use on BLM lands would be used. The use of pesticides would comply with federal and state laws. Pesticides would be used only in accordance with their registered use and limitations. The operator would contact the BLM-FFO prior to using these chemicals.

Trees

- Where tree cutting is required, usable trees shall be removed and left on the roadside for local residents to collect and use as firewood. Smaller woody plants not suitable for use as firewood shall be chipped and spread on the ROW during the re-vegetation process.

Wildlife/Special Status Species

- Species-specific surveys, avoidance measures, and mitigation, according to BLM FFO requirements, would be implemented if potential habitat for BLM Special Management Species Brack's cactus (*Sclerocactus cloverae* ssp. *brackii*) and/or Aztec gilia (*Aliciella formosa*) occur in the project area.

- Unless otherwise agreed to by the Authorized Officer in writing, power lines shall be constructed in accordance to standards outlined in "Suggested Practices for Raptor Protection on Power lines" (Olendorff et al. 1981, USDI/BLM 2003b, pages 2–26).

- Navajo Nation would ensure that construction contractors limit ground disturbance to the smallest feasible areas and that they implement Best Management Practices (BMPs) along with the planning or re-seeding of disturbed areas using native plant species to assist in the re-establishment of native vegetation (Reclamation 2009, pages VI–4).

- Navajo Nation would incorporate raptor perch guards or raptor safe configurations on all new transmission structures (Reclamation 2009, pages VI–4). Transmission lines that pose a high collision risk could be marked with spiral vibration dampers or bird flight diverters.

- Navajo Nation would trench and bury pipeline concurrently to minimize trapping of small wildlife. Reclamation would construct escape ramps for trenches left open overnight (Reclamation 2009, pages VI–4).

- Minimize the amount of open trench ahead of pipe laying and backfilling. No More than ½ mile of trench or the amount of trench that can be worked in a day will be open at any given time. Backfilling operations would be performed within a reasonable amount of time of the lowering operation to ensure the trench is not left open for more than 24 hours. Trenches left open overnight will be fenced with a temporary fence or other methods approved by the Authorized

Officer. The ends of the trench will be sloped (3:1) to allow animals to escape.

- Escape ramps/crossovers will be constructed every 1,320 feet. In areas where active grazing is taking place or in Wildlife Specially Designated Areas (SDA's) escape ramps/crossovers will be placed every 500 feet. The ends of the open trench will be sloped each night with a 3:1 slope.

- Established livestock and wildlife trails will be left in place as a cross over. Escape ramps/crossovers will be constructed with a minimum 3:1 slope at each end of the crossover. Crossovers will be a minimum of ten feet wide and not fenced.

- The end of the pipe will be plugged to prevent animals from crawling in.

- Before the trench is closed, inspect the trench for any animal that may be in the trench. Any trapped wildlife or livestock will be promptly removed and released at least 150 yards from the trench.

- Conduct surveys of the proposed construction areas for ferruginous hawk (*Buteo regalis*) and bald eagle (*Haliaeetus leucocephalus*) one year in advance of construction for pipeline routes and construction sites that are not adjacent to highways, well-traveled roads, or areas of regular human activities. If active nests are found as a result of the surveys, appropriate protective measures could be developed to avoid or minimize nest disturbance (Reclamation 2009, pages V–88).

- Construction could be managed to avoid intentional disturbance of dens for kit fox, as construction activities may discourage or disrupt denning activities (Reclamation 2009, pages V–88).

- No construction activities would be permitted from May 15 to July 31 for BLM FFO without a migratory bird nest survey. These surveys would be conducted by a BLM/FFO approved biologist using a survey protocol provided by a BLM/FFO biologist. If any active nests are located within the proposed project area on BLM land, project activities would not be permitted until written approval by a BLM/FFO biologist. The BLM/FFO would monitor any active nests located from a nest survey. On Navajo Nation lands no construction activities would be allowed from March 1–August 15 for Navajo Nation Department of Fish and Wildlife (NNDFW) without first performing migratory bird nest surveys. NNDFW stipulates no disturbance within 165 feet of active nests during incubation to fledging (as determined by direct field observation or qualified literature source specific for nesting dates in the Southwestern U.S.; BLM MOU WO-230-2010-04, Navajo Natural Heritage Program 2008, page 125).

- Should active nests be observed, the contractor has determined that project activities cannot be avoided until after the birds have fledged (left the nest), and if no practicable or reasonable avoidance alternatives are identified then the contractor must contact the USFWS's Migratory Bird Permit Office in Albuquerque, NM at (505) 248-7882. The contractor may proceed with work on the affected project activities following receipt the approved permit from the USFWS. (BLM MOU WO-230-2010-04)

Riparian Areas

- When riparian vegetation cannot be avoided during the permitted project, the permittee is responsible to reestablish any riparian vegetation lost during construction. Cottonwoods would be replaced on a 10-to-1 ratio and willows would be replaced on a 3-to-1 ratio. Sediment barrier fences would be constructed to BLM specifications in designated riparian area active channels that may be destabilized due to construction activities or as off-site mitigation to protect the integrity of designated riparian areas (USDI/BLM 2003b, pages 2–33).

Rangeland

- Prior to crossing, using, or paralleling any improvement on public land, the operator shall contact the owner of the improvement to obtain mitigating measures to prevent damage to the improvements (USDI/BLM 2003b, pages 2–36).

- All cut fences are to be tied to H-braces prior to cutting. The opening would be protected as necessary during construction to prevent the escape of livestock (USDI/BLM 2003b, pages 2–36).

- When construction activity in connection with a ROW breaks or destroys a natural barrier used for livestock control, gaps thus opened shall be fenced to prevent drift of livestock (USDI/BLM 2003b, pages 2–36).

- The permit holder is responsible to contact the grazing lessee(s) prior to crossing any fence on public land or any fence between public and private land, and to offer the lessee(s) an opportunity to be present when the fence is cut to ensure the fence is adequately braced and secured (USDI/BLM 2003b, pages 2–36).

- Cattle guards may be required when new roads cross existing fence lines (USDI/BLM 2003b pages 2–36).

- Navajo Nation would ensure that construction contractors fenced revegetated areas to prevent grazing activities until disturbed areas became reestablished, and Reclamation would work with the Navajo Nation to provide temporary relocation assistance to affected livestock owners along the pipeline corridor (Reclamation 2009, pages VI–6).

Cultural Resources

- All BLM/Navajo Nation cultural resources stipulations will be followed. These stipulations may include, but are not limited to temporary or permanent fencing or other physical barriers, monitoring of earth disturbing construction, project area reduction and/or specific construction avoidance zones, and employee education. All employees, contractors, and sub-contractors of the project will be informed by the project proponent that cultural sites are to be avoided by all personnel, personal vehicles, and company equipment, and that it is illegal to collect, damage, or disturb cultural resources, and that such activities are punishable by criminal and or administrative penalties under the provisions of the Archaeological Resources Protection Act (16 U.S.C. 470aa-mm).

- If, in its operations, an operator/holder discovers any previously unidentified historic or prehistoric cultural resources, then work in the vicinity of the discovery would be suspended and the discovery promptly reported to the appropriate agency—BLM Field Office Manager or Navajo Nation Historic Preservation Department (NHPD). The BLM or NHPD would then specify what action is to be taken in accordance with Section VIII of the cultural resources Programmatic Agreement.

Paleontology

- If in the conduct of any surface-disturbing operations, paleontological material is observed, the lessee or operator shall cease any operations that would result in the destruction of such objects and immediately contact the BLM or BIA if on Tribal trust lands. Further investigation would dictate site-specific stipulations for avoidance or salvage of any significant paleontological resources (USDI/BLM 2003b, pages 2–39).

Hazardous Materials

- Navajo Nation would contact pipeline and gas well companies prior to construction activities to identify and avoid existing hazards. Pipeline alignments would be adjusted, as needed, to avoid impacts to pipelines and wells (Reclamation 2009, pages VI–6).

2.2. No Action

The BLM NEPA Handbook (H-1 90-1) states that for EAs on externally initiated Proposed Actions, the No Action Alternative generally means that the proposed activity would not take place. This option is provided in 43 CFR 3162.3-1 (h) (2). This alternative would deny the approval of the proposed application, and the current land and resource uses would continue to occur in the proposed project area. No design features would be required. The No Action Alternative provides a baseline reference, enabling decision makers(s) to compare the magnitude of environmental effects of the Proposed Action.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section describes the affected environment and environmental consequences within the project area as they relate to the implementation of the Proposed Action as described in section 2.

The No Action Alternative reflects the current situation within the project area and will serve as the baseline for comparing the environmental impacts of the analyzed alternatives. Under the No Action Alternative, the proposed pipelines and other improvements would not be constructed. There would be no new effects from additional surface disturbances and activities to the resources. The No Action Alternative would result in the continuation of the current land and resource uses in the project area. This alternative will not be evaluated further in Chapter 3.

3.1. Methods

This chapter characterizes the resources and uses that have the potential to be affected by the proposed action (section 3.1), followed by a comparative analysis of the direct, indirect and cumulative impacts of the alternatives (section 3.2). Direct effects are caused by the action and occur at the same time and place. Indirect effects are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Cumulative impacts result from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions.

3.1.1. Related Past, Present and Reasonably Foreseeable Actions

As defined by NEPA regulations (40 CFR 1508.7), "Cumulative impacts result from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions."

Human caused and natural events have had varying levels of impacts on the resources and values affected by the proposed water pipeline alignment and associated infrastructure. Past and present actions include livestock grazing, oil and gas exploration and development, and infrastructural development such as roads. Reasonably foreseeable actions include an invasive plant management plan that has been proposed on Navajo Nation lands in several New Mexico counties, including Sandoval, McKinley, and San Juan and the future water pipeline reaches to be developed for the Navajo–Gallup Water Supply Project. Although these actions probably may not account for all of the impacts that have or are likely to occur in the NGWSP project area, GIS analysis, agency records, and professional judgment suggest that they have contributed to the vast majority of cumulative impacts that have occurred in the assessment area.

3.2. Air Resources

3.2.1. Affected Environment

The Proposed Action is located in Sandoval County, New Mexico. Additional general information on air quality in the area can be found in Chapter 3 of the Farmington RMP/EIS (USDI/BLM 2003a). In addition, new information about greenhouse gases (GHGs), and their effects on national and global climate

conditions has emerged since this document was prepared. Ongoing scientific research has identified the potential impacts of GHG emissions such as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), water vapor, and several trace gases on global climate. Through complex interactions on a global scale, GHG emissions may cause a net warming effect of the atmosphere, primarily by decreasing the amount of heat energy radiated by the earth back into space. Although GHG levels have varied for millennia (along with corresponding variations in climatic conditions), industrialization and burning of fossil carbon sources have caused GHG concentrations to increase measurably, and may contribute to overall climatic changes, typically referred to as global warming.

Much of the information referenced in this section is incorporated from the Air Resources Technical Report for BLM Oil and Gas Development in New Mexico, Kansas, Oklahoma, and Texas (herein referred to as Air Quality Technical Report; USDI/BLM 2013b). This document summarizes the technical information related to air resources and climate change associated with oil and gas development and the methodology and assumptions used for analysis.

The Environmental Protection Agency (EPA) has the primary responsibility for regulating air quality, including six nationally regulated ambient air pollutants (criteria pollutants). These criteria pollutants include carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} & $PM_{2.5}$), sulfur dioxide (SO_2), and lead (Pb). EPA has established National Ambient Air Quality Standards (NAAQS) for criteria air pollutants. The NAAQS are protective of human health and the environment. EPA has approved New Mexico's State Implementation Plan and the state enforces state and federal air-quality regulations on all public and private lands within the state, except for tribal lands and within Bernalillo County. Air quality is determined by atmospheric pollutants and chemistry, dispersion meteorology and terrain, and also includes applications of noise, smoke management, and visibility. Air quality in the area near the Proposed Action area is generally fair and the Proposed Action is not located in any of the areas designated by the EPA as "non-attainment areas" for any listed pollutants regulated by the Clean Air Act (http://www.epa.gov/oaqps001/greenbk/). Climate is the composite of generally prevailing weather conditions of a particular region throughout the year, averaged over a series of years. EPA has proposed or completed actions recently to implement Clean Air Act requirements for greenhouse gas emissions. Climate has the potential to influence renewable and non-renewable resource management.

Air Quality

Criteria Air Pollutants

The Air Quality Technical Report describes the types of data used for description of the existing conditions of criteria pollutants, how the criteria pollutants are related to the activities involved in oil and gas development, and provides a table of current national and state standards (USDI/BLM 2013b). The EPA Green Book web page reports that all counties in the analysis area, San Juan, McKinley, Rio Arriba, and Sandoval Counties in New Mexico, and La Plata County, Colorado, are in attainment of all NAAQS as defined by the Clean Air Act. The area also does not violate any New Mexico Ambient Air Quality Standards (NMAAQS). The current criteria pollutant "design concentrations" in the analysis area are described below. Design Concentrations are the concentrations of air pollution at a specific monitoring site that can be compared to the NAAQS. Table 2 shows monitored design values for ozone in recent years for each of the three San Juan County ozone-monitoring stations.

Table 2. Reported ozone values for San Juan County ozone monitoring stations.

State Air Monitoring Station	8-hour Ozone Design Value (ppm[1])				NAAQS[2]
	2007–2009	2008–2010	2009–2011	2010–2012	2008
Substation	0.067	0.063	0.063	0.067	0.075
Bloomfield	0.061	0.060	0.061	0.067	0.075
Navajo Lake	0.069	0.066	0.068	0.071	0.075

Source: United State EPA Agency Air Quality System Preliminary Design Value Report 2013

(1) parts per million

(2) NAAQS—National Ambient Air Quality Standards

Table 3 summarizes monitored design values for other criteria pollutants in San Juan County.

Table 3. Criteria pollutant design value concentrations monitored in San Juan County.

Pollutant	Design Value	Averaging Time	NAAQS	NMAAQS
NO_2	13 ppb	Annual	53 ppb	50 ppb
NO_2	39 ppb	1-hour	100 ppb[1]	0.10 ppm (24-hour)
PM_{10}	Data incomplete	24-hour	150 µg/m^3[2]	150 µg/m^3[2,3]
$PM_{2.5}$	4.5µg/m^3	Annual	12 µg/m^3[2,4]	60 µg/m^3[2,3]
$PM_{2.5}$	14µg/m^3	24-hour	35 µg/m^3[1,2]	
SO_2	0.001ppm	Annual	None	0.02 ppm
SO_2	20ppb	1-hour	75 ppb[5]	None
SO_2	0.008 ppm	24-hour	None	0.10ppm

Source: EPA 2012

[1] 98th percentile averaged over 3 years

[2] Not to be exceeded more than once per year on average over 3 years

[3] The NMAAQS is a standard for total suspended particulate matter

[4] Annual mean, averaged over 3 years

[5] 99th percentile of 1-hour daily maximum concentrations, averaged over 3 years

In 2005, the EPA estimated that there was less than 0.01 ton per square mile of lead emitted in the analysis area, which is less than two tons total (USDI/BLM 2013b). There is no monitoring conducted for lead and carbon monoxide in northwestern New Mexico; however, concentrations of these pollutants are expected to be low in rural areas and are therefore not monitored.

Hazardous Air Pollutants

The Air Quality Technical Report discusses the relevance of hazardous air pollutants (HAPs) to oil and gas development and the particular HAPs that are regulated in relation to these activities (USDI/BLM 2013b). EPA has identified 187 toxic air pollutants as HAPs. In March 2011, the EPA published the fourth in a series of National Scale Air Toxics Assessments (NATA) that quantifies HAP emissions for 2005 by U.S. counties. The purpose of the NATA is to identify areas where HAP emissions result in high health risks. Computer models are used to develop estimates of risk of cancer or other health impacts. NATA presents risk hazard indexes for cancer, neurological, and respiratory problems for each county and census tract. Because techniques have changed over the years, each NATA is not comparable to those previously issued. EPA also cautions that because data availability varies from state to state, the results are not necessarily comparable from one geographic area to another. The 2005 NATA analysis estimated tract level total cancer risk for the analysis area as 25 to 50 per one million, and the estimated tract level total respiratory hazard index was zero to one. The EPA estimates the average national cancer risk for 2005 was 50 per one million, meaning one person out of every 20,000 had an increased likelihood of contracting cancer from breathing air toxics from outdoor sources if exposed to 2005 emission levels over their lifetime. A respiratory hazard index below one indicates that exposures in the area do not exceed reference levels that would have adverse effects for human health.

Climate

The analysis area is located in a semiarid climate regime typified by dry windy conditions and limited rainfall. Summer maximum temperatures are generally in the range of 80 or 90 degrees Fahrenheit (°F), and winter minimum temperatures are generally in the teens to 20s. Temperatures occasionally reach above 100°F in June and July and have dipped below zero in December and January. Precipitation is divided between summer thunderstorms associated with the southwest monsoon and winter snowfall as Pacific weather systems drop south into New Mexico. Table 4 shows climate normals for the 30-year period from 1981 to 2010 for the Farmington, New Mexico, area.

Table 4. Climate normals for the Farmington area from 1981–2010.

Month	Average Temperature (°F [1])	Average Maximum Temperature (°F)	Average Minimum Temperature (°F)	Average Precipitation (inches)
January	30.5	40.8	20.3	0.53
February	35.8	46.8	24.8	0.59
March	43.2	56.1	30.3	0.78
April	50.4	64.7	36.2	0.65
May	60.4	74.8	46.1	0.54
June	69.8	85.1	54.5	0.21
July	75.4	89.6	61.2	0.90
August	73.2	86.5	59.8	1.26
September	65.4	79.1	51.7	1.04
October	53.3	66.4	40.1	0.91
November	40.5	52.2	28.8	0.68

Month	Average Temperature (°F [1])	Average Maximum Temperature (°F)	Average Minimum Temperature (°F)	Average Precipitation (inches)
December	31.0	41.2	20.7	0.50

Source: USDI/BLM 2013b; data collected at New Mexico State Agricultural Science Center Farmington

[1] degrees Fahrenheit

3.2.2. *Impacts from the Proposed Action*

Direct and Indirect Impacts

Air Quality and Climate

Exhaust emissions and dust produced during construction activities would affect local air quality. This effect would be temporary and limited primarily to the area where activities would occur. Exhaust emissions and dust would be further diluted as they mix with the atmosphere in the larger area surrounding the project. Impacts to air quality attributable to the Proposed Action would be temporary and minor. Project activities that would produce emissions would continue for the three-year period from 2014–2017. Air pollution from the motorized excavation equipment and dust production would discontinue at the completion of the project. No impacts to climate change would be expected from the implementation of the Proposed Action. A relatively small amount of GHGs would be produced when considered on a global scale and would be spread over a three-year period. The very small increase in GHG emissions would not produce climate change impacts that differ from taking no action. This is because climate change is a global process that is impacted by the sum total of GHGs in the Earth's atmosphere. The incremental contribution to global GHGs from the Proposed Action cannot be translated into effects on climate change globally or locally. It is currently not feasible to predict with certainty the net impacts from the action alternatives on global or regional climate.

Cumulative Impacts

Reaches 24.1, 24.1 JAN, and 25 are part of the NGWSP in New Mexico and Arizona. As noted in the NGWSP EIS, the project lies within the Four Corners Interstate Air Quality Control Region. The EIS analysis of the entire NGWSP determined that effects on air quality would be localized and minor (USDI/BLM 2003a, pages v–124). Other factors that currently affect air quality in the area include dust from livestock herding activities, dust from potential recreational use, dust from use of roads for vehicular traffic, and emissions from oil and gas production. The Navajo Nation has proposed the development of a weed management plan (*Navajo Nation Integrated Weed Management Plan within Coconino, Navajo, and Apache Counties, Arizona; McKinley, San Juan, Sandoval, and Cibola Counties, NM; and San Juan County, UT*) that would occur in the project area. This planned weed-treatment project would be unlikely to affect air quality or climate change.

The FFO manages Federal hydrocarbon resources in San Juan, Sandoval, Rio Arriba, and McKinley Counties. There are approximately 23,522 wells in the San Juan Basin. About 16,435 of the wells in these counties are federal wells. Analysis of cumulative impacts for reasonable development scenarios and RFDS of oil and gas wells on public lands in the FFO was presented in the 2003 RMP. This included modeling of impacts on air quality. A more detailed discussion of cumulative effects can be found in the Air Resources Technical Report (USDI/BLM 2013b).

The primary activities that contribute to levels of air pollutant and GHG emissions in the Four Corners area are electricity generation stations, fossil-fuel industries, and vehicle travel. The Air Quality Technical Report includes a description of the varied sources of national and regional emissions that are incorporated here to represent the past, present, and reasonably foreseeable impacts to air resources (USDI/BLM 2013b). It includes a summary of emissions on the national and regional scale by industry

source. Sources that are considered to have notable contributions to air quality impacts and GHG emissions include electrical generating units, fossil-fuel production (nationally and regionally), and transportation.

The proposed project could result in a very small direct and indirect increase in several criteria pollutants, HAPs, and GHGs as a result the short-term construction activity. The very small increase in emissions from short-term construction activity would not be expected to result in exceeding the NAAQS for any criteria pollutants in the analysis area. With the increased water supply and distribution, less people would have to haul water, resulting in a decrease of emissions from vehicles.

The very small increase in GHG emissions that could result from implementing the proposed alternative would not produce climate change impacts that differ from the No Action Alternative. This is because climate change is a global process that is impacted by the sum total of GHGs in the Earth's atmosphere. The incremental contribution to global GHGs from the action alternatives cannot be translated into effects on climate change globally or in the area of this site-specific action. It is currently not feasible to predict with certainty the net impacts from the action alternatives on global or regional climate.

The Air Resources Technical Report (USDI/BLM 2013b) discusses the relationship of past, present, and future predicted emissions to climate change and the limitations in predicting local and regional impacts related to emissions. It is currently not feasible to know with certainty the net impacts from particular emissions associated with activities on public lands.

3.3. Soil Resources

3.3.1. *Affected Environment*

The United States Department of Agriculture Natural Resources Conservation Service (NRCS) has surveyed the soils in the Proposed Action area. The NRCS's Web Soil Survey website (http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm) provides complete soil information. Table 5 presents the soils mapped in the project area.

Table 5. Soil types in the analysis area, characteristics, and management concerns.

Map Unit/Symbol	Textures	Parental Materials	Drainage Class and Available Water Capacity
Orlie–Sparham association, 0-to-5-percent slopes 24	fine sandy loam, clay loam, clay, silty clay	eolian deposits over fan alluvium derived from sandstone and shale, stream alluvium derived from sandstone and shale	well drained high
Blancot–Councelor–Tsosie association, 0-to-5-percent slopes 270	fine sandy loam, sandy clay loam	eolian deposits over stream alluvium derived from sandstone and shale, fan alluvium derived from sandstone and shale	well drained moderate
Vessilla–Menefee–Orlie association, 0-to-30-percent slopes 422	sandy loam	eolian deposits over slope alluvium over residuum weathered from sandstone, colluvium over residuum weathered from shale, eolian material and alluvium derived from sandstone and shale	well drained very low to high

Source: U.S. Department of Agriculture Natural Resources Conservation Service 2008.

3.3.2. *Impacts from the Proposed Action*

Direct and Indirect Impacts

Approximately 176 acres of soil disturbance would occur to construct the waterlines and about thirteen acres would be disturbed to construct the pump station, tanks, power lines, and chlorination buildings. Soils that would be disturbed would be structurally mixed, displaced, and exposed to potential wind and water erosion. In some areas, these soils would also be compacted. Once disturbed, these soils could be subject to increased erosion, dependent upon storm events of water and/or wind. Disturbed areas, especially steeper slopes, would be susceptible to wind and water erosion until reseeding has been established (one to two growing seasons). The amount of soils that would be lost to erosion is unknown; however, it is assumed that it would be low based on the generally gentle slopes in the project area and implementation of the design features. Topsoil will be conserved for reclamation (see section 2.1.7). Actions would not occur during inclement weather, structures would be established to limit movement of soil off-site, and disturbed areas would be reclaimed as appropriate. Reestablishment of permanent, perennial vegetation as outlined in the Re-vegetation Plan (see Appendix A) would decrease long-term soil erosion effects. Pipeline is co-located alongside existing roads as much as possible. To the extent possible, the pipeline is located on the uphill side of the road to minimize erosion over the pipeline. The contractor will be required to backfill trenches to at least 90% standard Proctor density (95% at road and wash crossings), which will minimize erosion of the backfill due to surface runoff. Additional measures would be achieved through BMPs detailed in the Stormwater Pollution Prevention Plan (SWPPP).Effects would be short term until re-vegetation and stabilization actions are completed new vegetation becomes established.

Cumulative Impacts

Livestock grazing and limited oil and gas exploration and development occurs in the vicinity of the pipeline locations. FFO management actions within the project area would be limited. One future project to control invasive plants on the Navajo Nation has been proposed. Based on the limited nature of ongoing and reasonably foreseeable future actions, the temporary and short-lived effects due to Reaches 24.1, 24.1 JAN, and 25 would not contribute to cumulative effects on soil resources.

3.4. Water Resources

3.4.1. *Affected Environment*

The BLM's watershed program emphasizes conservation and preventing and avoiding degradation of water resources by establishing site-specific BMPs to protect water resources. BLM management practices comply with the Federal Water Pollution Control Act of 1972 and the Clean Water Act of 1977 to ensure in-stream water-quality standards. Further water resources management information can be found in the Farmington Field Office Resource Management Plan and Rio Puerco Field Office Resource Management Plan.

Under the Clean Water Act, the US Army Corps of Engineers (USACE) has jurisdiction over "waters of the U.S." These jurisdictional waters include those that have a "significant nexus" to traditional navigable waters. The BLM/FFO and USACE Durango Regulatory Division have determined that jurisdictional waters may include USGS watercourses (i.e., "blue line" on USGS 1:24,000 topographic maps). The proposed pipeline crosses seven USGS watercourses.

The local hydrology is dominated by tributaries to Venado Canyon and Cañado Alamos. The watersheds within the proposed project area are Headwaters Canada Alemita (Hydrologic Unit Code (HUC) 140801060105), Venado Canyon (HUC 140801030106), Canada Alamos (HUC 140801060103), and Canada Corrales (HUC 140801060102). The proposed project area is located in the Blanco Canyon and Chaco subbasins, upper San Juan basin, San Juan subregion, and upper Colorado region.

No National Wetland Inventory wetland geospatial data is available for the proposed project area. During the field surveys, no potential wetlands or perennial surface waters were observed in the proposed ROWs (EMI 2013). There are several small livestock ponds in the area.

3.4.2. Impacts from the Proposed Action

Direct and Indirect Impacts

The clearing of vegetation for ROWs, TCEs, tanks, power lines, the pump station, and trenching for the waterlines would create exposed soils. Soil movement, resulting from both wind and water action, could occur within the construction zones. The amount of soil movement and potential for sediment transport to stream courses would depend on wind and water events in relation to soil disturbance, the effectiveness of erosion control measures, and the timing and success of reclamation. About 176 acres would be disturbed within the pipeline ROW and TCE, and about thirteen acres in areas where construction of the pump station, tanks, chlorination buildings, and power lines would occur. This disturbance would be spread over the anticipated life of the project, which is planned for 2013 through 2016. In relation to the size of the four watersheds (approximately 98,000 acres) in which the improvements are located, the approximate 176 acres of disturbance represents a minor percentage (0.2%) of the total area. Due to the dispersed nature of the Proposed Action and the relatively small area of disturbance, the effects to water quality from construction activities on upland sites would be widely distributed and difficult to detect.

Although the majority of disturbance would occur on upland sites, the waterlines would cross seven "blue line" stream courses over their total length of about 13.8 miles. There would be the potential for construction-related disturbance to increase the amount of sediment that would be mobilized within the channel or enter the channel from directly adjacent areas. This would be a temporary effect that would be limited with the implementation of erosion control measures. Short- and long-term effects to surface water quality and quantity are anticipated to be low to negligible under the Proposed Action.

The implementation of the design features outlined for soil and water in section 2.1.7 would limit short-term and long-term effects to water quality. Reestablishment of permanent, perennial vegetation would decrease long-term soil-erosion effects and, consequently, effects to floodplains and surface and ground water resources. NPDES permit compliance would require the maintenance of a SWPPP and the design, implementation, and maintenance of BMPs, as needed, to protect water quality. Activities associated with the proposed project that would impact US jurisdictional waterways would be conducted under Nationwide Permit # 12 (Utility Line Activities) and # 13 (Bank Stabilization).

Cumulative Impacts

Livestock grazing and limited oil and gas exploration and development occurs in the vicinity of the pipeline locations. FFO management actions within the project area would be limited. One future project to control invasive plants has been proposed on Navajo Nation lands in several New Mexico counties, including McKinley, Sandoval, and San Juan. Based on the limited nature of ongoing and reasonably foreseeable future actions, the temporary and short-lived effects from Reaches 24.1, 24.1 JAN, and 25 would not contribute to cumulative effects on water resources.

3.5. Upland Vegetation

3.5.1. Affected Environment

Arizona/New Mexico Plateau

The description of the Arizona/New Mexico Plateau ecoregion is summarized from the EPA's level III ecoregions of the United Sates narration (http://www.epa.gov/wed/pages/ecoregions/level_iii.htm.). The Arizona/New Mexico Plateau occurs primarily in Arizona, Colorado, and New Mexico, with a small portion in Nevada. This ecoregion is approximately 45,870,500 acres, and the elevation ranges from 2,165 to 11,949 feet. The ecoregion's landscapes include low mountains, hills, mesas, foothills, irregular plains,

alkaline basins, some sand dunes, and wetlands. This ecoregion is a large transitional region between the semiarid grasslands to the east, the drier shrublands and woodlands to the north, and the lower, hotter, less vegetated areas to the west and south. Vegetation communities include shrublands with big sagebrush (*Artemisia tridentata*), rabbitbrush (*Ericameria* sp., *Chrysothamnus* sp., etc.), winterfat (*Krascheninnikovia lanata*), shadscale saltbush (*Atriplex confertilfolia*), and greasewood (*Sarcobatus vermiculatus*), and grasslands of blue grama (*Bouteloua gracilis*), western wheatgrass (*Pascopyrum smithii*), and needle-and-thread grass (*Hesperostipa comata*). Higher elevations may support piñon pine (*Pinus edulis*) and juniper (*Juniperus* sp.) forests. The ecoregion includes the urban areas of Santa Fe and Albuquerque, New Mexico. Important land uses include irrigated farming, recreation, rangeland, wildlife habitat, and some natural gas production.

Within Reaches 24.1, 24.1 JAN, and 25, the vegetation community is mapped as Great Basin conifer woodland (Brown 1994). The dominant vegetation consists of big sagebrush, piñon pine, one-seed juniper (*Juniperus monosperma*), snakeweed (*Gutierrezia sarothrae*), and blue grama. Sagebrush is thick and dominant throughout most of the area, and grass cover is little to none in most places (Figures 4 and 5). Patches of piñon–juniper occur around the northern portion of Reach 24.1, the central and southern portions of Reach 25, and the eastern edge of 24.1 JAN, are classified. Scattered ponderosa pine (*Pinus ponderosa*) occurs with piñon–juniper at the very southern end of Reach 25 and around the Ojo Encino North tank.

Figure 3. North end of Reach 24.1 facing east.

Figure 4. Reach 25 facing north.

3.5.2. Impacts from the Proposed Action

Direct and Indirect Impacts

Direct impacts on plant communities and habitats would be expected to occur along the ROWs and TCEs for pipelines, power lines, and the other improvements to be constructed. Vegetation would be cleared for all construction activities (see Figure 5 for an example). Plant communities and habitats affected by direct or indirect impacts from project activities could incur short- or long-term changes in species composition, abundance, and distribution. Some impacts would also continue after the project construction activities are complete. The plant communities that become established on any area disturbed during ROW construction would depend on the restoration practices that are implemented, including the species selected, the species present in adjacent habitats, the degree of disturbance to vegetation and substrates, and the vegetation management practices selected for implementation. The BLM FFO Reduced Palatability seed mix (for sagebrush and pinyon–juniper communities), selected from the Bare Soil Reclamation Procedures (BLM FFO 2013), would be used for reseeding the ROW (see Appendix A Re-vegetation Plan).

Removal of trees within or along woodland areas in small areas would potentially result in an indirect disturbance to woodland interior areas through changes in light and moisture conditions. Clearing for pipeline construction would remove existing vegetation. Re-vegetation would be done after the pipeline

construction is completed; grass species would dominate the revegetated areas. This would result in some conversion of shrub-dominated vegetation to grass along the linear ROWs. Some small woodland areas around the northern most portion of Reach 24.1 and the very southern end of Reach 25 and the Ojo Encino North tank would also be converted to grass.

In some areas, restoration may potentially include species that are not locally native or plant communities different from local native communities. Although the replanting of disturbed soils may successfully establish vegetation in some locations (i.e., with a biomass and species richness similar to those of local native communities), the resulting plant community may be quite different from native communities in terms of species composition and representation of particular vegetation types, such as shrubs. The community composition of replanted areas would likely be greatly influenced by the species that are initially seeded, and colonization by species from nearby native communities may be slow. The establishment of mature native plant communities may require decades, and some community types may never fully recover from disturbance. Successful reestablishment of some habitat types, such as some shrubland communities, may be difficult and may require considerably greater periods of time. Restoration of plant communities in areas with arid climates (e.g., averaging less than nine inches of annual precipitation) would be especially difficult (Monsen et al. 2004).

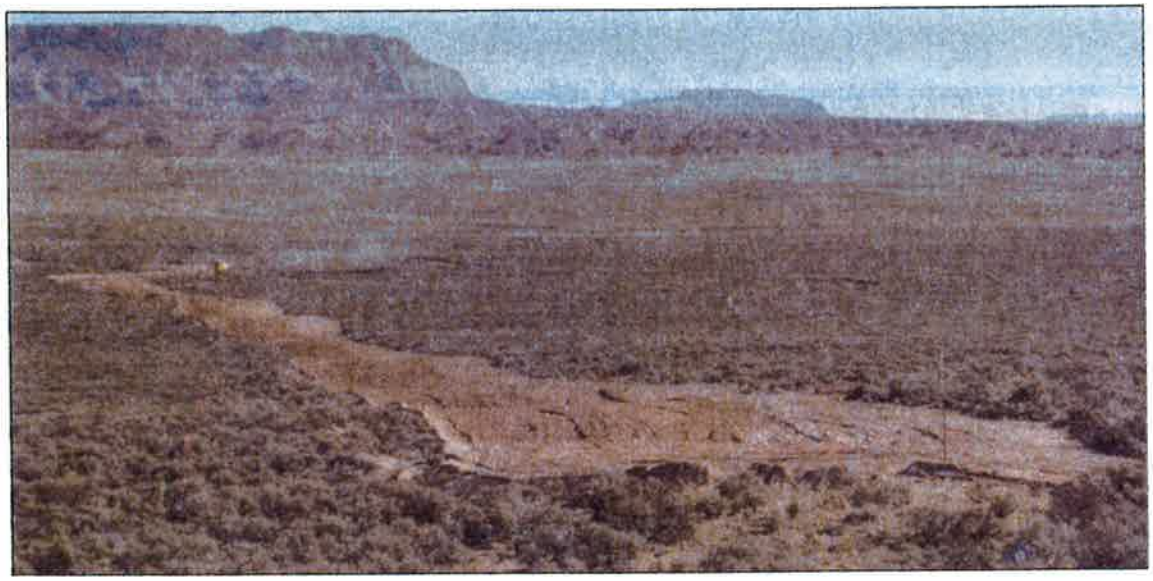

Figure 5. Example of clearing of pipeline right-of-way through shrub-dominated vegetation.

Indirect impacts on terrestrial habitats on or off the project site could result from land clearing and exposed soil, soil compaction, and changes in topography, surface drainage, and infiltration characteristics. Indirect impacts could include the degradation of habitat from construction activities occurring in adjacent areas.

In addition to habitat removal, the operation of heavy equipment on the project ROWs may result in injury or destruction of existing vegetation and biological (microbiological) soil crusts and the compaction and disturbance of soils (Barger et al. 2006). Soil aeration, infiltration rates, and moisture content could be impacted. Biological soil crusts occur in deserts and other sparsely vegetated arid habitats and are important for soil stability, nutrient cycling, and water infiltration; their disturbance may affect the development of plant communities (Fleischner 1994, Belnap et al. 2001, Gelbard and Belnap 2003). All these factors could affect the rate or success of vegetation reestablishment.

Habitats adjacent to the project may become fragmented or isolated as a result of construction. Biodiversity may subsequently be reduced in fragmented or isolated habitats. The fragmentation of large, undisturbed high-quality habitats by construction would be considered a greater impact than construction through previously disturbed or fragmented habitat.

The deposition of fugitive dust (including associated salts) generated during clearing and grading activities and/or during the construction and use of access roads, or deposition that results from wind erosion of exposed soils, could reduce photosynthesis and productivity (Thompson et al. 1984, Hirano et al. 1995), increase water loss (Eveling and Bataille 1984) in plants near project areas, and result in injury to leaves. Plant community composition could subsequently be altered, resulting in habitat degradation. In addition, pollinator species could be affected by fugitive dust, potentially reducing pollinator populations in the vicinity. Localized impacts on plant populations and communities could occur if seed production in some plant species is reduced.

Cumulative Impacts

Livestock grazing and limited oil and gas exploration and development occurs in the vicinity of the pipeline locations. FFO management actions within the project area would be limited. One future project to control invasive plants has been proposed on Navajo Nation lands in several New Mexico counties, including McKinley and San Juan. Based on the limited nature of ongoing and reasonably foreseeable future actions, the temporary and short-lived effects due to the project would not contribute to cumulative effects on vegetation.

3.6. Noxious Weeds and Invasive Species

3.6.1. *Affected Environment*

Specific plants have been designated as noxious weeds by New Mexico State law due to their potential to harm the state economy. The BLM weed management program emphasizes conservation of the native plant community by monitoring, controlling, and preventing noxious weeds and invasive species. Development of weed management programs is required by Executive Order 11312 Invasive Species 1999, the Federal Noxious Weed Act of 1974, the New Mexico Noxious Weed Management Act of 1978, and the Federal Plant Protection Act of 2000 (USDI/BLM 2003a). The FFO weed management plan dictates that for all actions on public lands that involve surface disturbance or rehabilitation, reasonable steps would be required to prevent the introduction or spread of noxious weeds, including requirements for using weed seed-free hay, mulch, and straw.

The New Mexico Class B noxious weed *Halogeton glomeratus* was found occasionally throughout the proposed project area, mostly along disturbed roadside areas. Class B noxious weed species are limited in range and, in areas with severe infestations management, should be designed to contain the noxious weed and prevent further spread (NMDA 2009).

3.6.2. *Impacts from the Proposed Action*

Direct and Indirect Impacts

Indirect effects of increased vehicle traffic in the area, especially traffic that comes from outside the local area, may result in establishment of invasive/noxious weeds. Invasive/noxious plants generally outcompete native species where bare ground is created. Some construction activities would occur near known locations of the invasive plant *Halogeton glomeratus*. This plant occurs primarily along existing roads throughout the project area. Given the small, discrete areas of proposed disturbance and implementing the design features (section 2.1.7), effects from invasive, nonnative species are expected to be low for both the short and long term for the action area.

Cumulative Impacts

Other management activities occurring in the area, such as grazing management and recreation, as well as the proposed construction of Reaches 24.1, 24.1 JAN, and 25 and the other improvements, present the potential for new invasive plant infestations. The BLM has active invasive-plant management programs, including providing for prevention and control in project-level decisions. In addition, the Navajo Nation has initiated analysis of its proposed noxious-weed management program, which includes areas

near this project. These activities, along with the measures included in this project to reduce the potential for the introduction and spread of invasive plants, would contribute to stabilization of invasive plant infestations.

3.7. Fish and Wildlife

3.7.1. Affected Environment

Migratory Birds

Executive Order 13186 dated January 17, 2001, calls for increased efforts to more fully implement the Migratory Bird Treaty Act of 1918. In keeping with this mandate, the BLM/FFO has issued an interim policy to minimize unintentional take as defined by the EO 13186 and to better optimize migratory bird efforts related to BLM/FFO activities (USDI/BLM 2010). In keeping with this policy, a list of priority birds of conservation concern that occur in similar ecoregions as the Proposed Action area was compiled through a review of existing bird conservation plans including:

- USFWS Birds of Conservation Concern (BCC)
- New Mexico Partners in Flight (NMPIF) New Mexico Bird Conservation Plan
- Comprehensive Wildlife Conservation Strategy for New Mexico (CWCS)
- Gray Vireo Recovery Plan
- The North American Waterbird Conservation Plan
- Recovery plans and conservation plans/strategies prepared for federally listed and candidate species.

The selected species have a known distribution in the FFO area and may be affected by various types of perturbations. These species and a brief assessment of their habitat are identified in Table 6.

Bird species observed in the project area include Turkey Vulture (*Cathartes aura*), Prairie Falcon (*Falco mexicanus*), American Kestrel (*Falco sparverius*), Mourning Dove, Black-chinned Hummingbird (*Archilochus alexandri*), Northern Flicker (*Colaptes auratus*), Ash-throated Flycatcher (*Myiarchus cinerascens*), Western Kingbird (*Tyrannus verticalis*), Plumbeus Vireo (*Vireo plumbeus*), Pinyon Jay (*Gymnorhinus cyanocephalus*), Western Scrub Jay (*Aphelocoma californica*), Common Raven (*Cornus corax*), Horned Lark (*Eremophila alpestris*), Violet-green Swallow (*Tachycineta thalassina*), Mountain Chickadee (*Poecile gambeli*), Bushtit (*Psaltriparus minimus*), Rock Wren (*Salpinctes obsoletus*), Bewick's Wren (*Thryomanes bewickii*), Mountain Bluebird, Townsend's Solitaire (*Myadestes townsendi*), Sage Thrasher, Chipping Sparrow (*Spizella passerina*), Sage Sparrow, Black-throated Sparrow, Brewer's Sparrow, Vesper Sparrow, Dark-eyed Junco (*Junco hyemalis*), and House Finch (*Carpodacus mexicanus*).

There are no large cliffs for nesting raptors near Reaches 24.1, 24.1 JAN, and 25, but some surrounding areas contain small cliffs and steep rocky outcrops.

Table 6. Migratory birds with potential to occur in the project area. Table continued on following page.

Species Name	Habitat Associations	Potential to Occur in the Project Area
Brewer's sparrow (*Spizella breweri*)	Closely associated with sagebrush, preferring dense stands broken up with grassy areas.	Sagebrush-dominated vegetation makes this bird likely to occur in project area.
Gray vireo	In northern NM, stands of piñon pine and juniper with a shrub component and mostly	This bird could occur in areas with piñon–juniper cover in the

Species Name	Habitat Associations	Potential to Occur in the Project Area
(*Vireo vicinior*)	bare ground; antelope bitterbrush, mountain mahogany, Utah serviceberry and big sagebrush often present. Broad, flat or gently sloped canyons, in areas with rock outcroppings, or near ridge-tops.	analysis area.
Loggerhead shrike (*Lanius ludovicianus*)	Open country interspersed with improved pastures, grasslands, and hayfields. Nests in sagebrush areas, desert scrub, and woodland edges.	Desert scrub in the analysis area could provide suitable habitat for the species, although significant grassy areas are lacking.
Mountain bluebird (*Sialia currucoides*)	Open piñon–juniper woodlands, mountain meadows, and sagebrush shrublands; requires larger trees and snags for cavity nesting.	Desert scrub in the analysis area could provide suitable habitat for the species; although nest habitat lacking.
Mourning dove (*Zenaida macroura*)	Open country, scattered trees, and woodland edges. Feeds on ground in grasslands and agricultural fields. Roost in woodlands in the winter. Nests in trees or on ground.	Desert scrub in the analysis area could provide suitable habitat for the species.
Sage sparrow (*Amphispiza belli*)	Large and contiguous areas of tall and dense sagebrush. Negatively associated with seral mosaics and patchy shrublands and abundance of greasewood.	Sagebrush-dominated vegetation makes this bird likely to occur in project area.
Sage thrasher (*Oreoscoptes montanus*)	Shrub-steppe dominated by big sagebrush.	Sagebrush-dominated vegetation makes this bird likely to occur in project area.
Swainson's hawk (*Buteo swainsoni*)	A mixture of grassland, cropland, and shrub vegetation; nests on utility poles and in isolated trees in rangeland. Nest densities higher in agricultural areas.	Desert scrub in the analysis area could provide suitable habitat for the species.
Vesper sparrow (*Pooecetes gramineus*)	Dry montane meadows, grasslands, prairie, and sagebrush steppe with grass component; nests on ground at base of grass clumps.	Desert scrub in the analysis area could provide suitable habitat for the species.

General Wildlife

Field surveys of the proposed project areas were made from July 2011 to April 2013 (see Appendix C). No prairie dog towns were observed in the project area. The variety in biotic communities and topography within the proposed alignments provides habitat to a variety wildlife species. Wildlife observed in the project area includes signs of small mammals, American badger (*Taxidea taxus*), and banner-tailed kangaroo rat (*Dipodomys spectabilis*). Wildlife diversity in the area is limited by the lack of diverse vegetation communities and pressure from human activity.

The project area is classified by the NNDFW as an Area 3 (low sensitivity wildlife resources) according to the Biological Resource Land Clearance Policies and Procedures (RCP). There are no wildlife-related BLM FFO SDAs in or near the project area.

3.7.2. *Impacts from the Proposed Action*

Direct and Indirect Impacts

Migratory Birds

The proposed project could affect up to about 176 acres, including areas cleared for water pipelines, storage tanks, and other improvements, although the impact area may be less because some of the 100-foot temporary construction easement for the water pipelines may not be disturbed. Most of the disturbance would involve the removal of woody and ground vegetation. Sage-nesting species would be the most likely impacted, such as sage thrasher, sage sparrow, Brewer's sparrow, and vesper sparrow. Direct impacts would be the incidental destruction of active bird nests, including eggs and hatchlings, and the temporary disruption of breeding territories of individual birds because of noise and human presence during construction. At the completion of construction activities, re-vegetation of disturbed areas would reduce the impacts of the Proposed Action. Some sage habitat would be converted to grass-dominated habitat within the permanent ROW. The amount of projected habitat conversion is small compared to the total amount of available sage habitat in the surrounding area.

Due to the staged nature of the Proposed Action, the relatively small, discrete areas of disturbance, and the availability of adjacent suitable habitat, the anticipated effects on migratory bird populations and species as a whole would be low to negligible in the short term and long term. Seasonal restriction on construction activities would further reduce the potential for disturbance on nesting migratory birds.

General Wildlife

Wildlife habitat may suffer short-term degradation due to loss of vegetation, which may provide forage and cover. No major or long-term effects on non-avian wildlife are anticipated. Incidental mortality or displacement among small animals may occur on the site during clearing and preparation of the site. The plant community, however, is widespread, and those animals are expected to move into adjacent habitats.

Cumulative Impacts

Livestock grazing and limited oil and gas exploration and development occurs in the vicinity of the pipeline locations. FFO and RPFO management actions within the project area would be limited. One future project to control invasive plants has been proposed on Navajo Nation lands in several New Mexico counties, including McKinley and San Juan. Installation of a waterline could lead to the growth of residential areas, which would increase the human population in the area and lead to more roads, power lines, and other development. The impacts would likely not be substantial in the foreseeable future due to the fact that the project area is rural and sparsely populated. Based on the limited nature of ongoing and reasonably foreseeable future actions, the temporary and short-lived effects due to the project would not contribute to cumulative effects on common wildlife species and migratory birds.

Mitigation Measures and Residual Impacts

If constructed during the avian breeding season, disturbance of soil and vegetation could result in the destruction of bird nests and/or the mortality of eggs or nestlings, resulting in a violation of the Migratory Bird Treaty Act. It is recommended that operations occur outside the principal avian breeding season (May 15–July 31 for BLM FFO; March 1–August 15 for NNDFW) to reduce potential impacts on nesting birds. The BLM FFO and NNDFW do not allow construction activities during these time periods without first performing migratory bird nest surveys. If nests are found on BLM land, the project must receive written approval from a BLM FFO biologist. NNDFW stipulates no disturbance within 165 feet of active nests during incubation to fledging (as determined by direct field observation or qualified literature source specific for nesting dates in the southwestern U.S.). Avoiding construction during the breeding season is perhaps the easiest solution because nest searching over such a large area would be time and labor intensive. Furthermore, if nests are found late in the season, BLM FFO and NNDFW approval processes may not be completed until the breeding season is over.

The local loss of sagebrush and piñon–juniper habitat should not affect birds in the long term because these habitats are common and abundant throughout the greater area. Impacts from invasive species would be minimized by implementing design features (Section 2.1.7).

3.8. Special Status Species

Affected Environment

Endangered Species Act of 1973

The ESA of 1973 requires all federal departments and agencies to conserve threatened and endangered species and the habitats on which they depend, and to consult with the USFWS on all actions authorized, funded, or carried out by a federal agency to ensure that the action will not likely jeopardize the continued existence of any threatened and endangered species or adversely modify critical habitat. Consultation with the USFWS, as required by Section 7 of the ESA, was conducted as part of the Farmington RMP/FEIS (Consultation No. 2-22-01-I-389) to address cumulative effects of RMP implementation. The consultation is summarized in Appendix M of the RMP/FEIS. Farmington Field Office staff reviewed the action alternatives and determined they would be in compliance with threatened and endangered species management guidelines outlined in the September 2002 Biological Assessment (Consultation No. 2-22-01-I-389). No further consultation with the U.S. Fish and Wildlife Service is required. Federally listed species with potential to occur in the project area are listed in Table 7.

Navajo Endangered Species Act

The Navajo Endangered Species Act (No. RCS-41-08) groups species of concern on Navajo Nation into four groups: Group 1: Those species or subspecies that no longer occur on the Navajo Nation. Group 2 and 3: "Endangered"—Any species or subspecies whose prospects of survival or recruitment within the Navajo Nation are in jeopardy or are likely within the foreseeable future to become so. Group 2 is species or subspecies whose prospects of survival or recruitment are in jeopardy. Group 3 is species or subspecies whose prospects of survival or recruitment are likely to be in jeopardy in the foreseeable future. Group 4 is any species or subspecies for which the NNDFW does not currently have sufficient information to support their being listed in Group 2 or Group 3 but has reason to consider them. The NNDFW will actively seek information on these species to determine if they warrant inclusion in a different group or removal from the list. The NNDFW shall determine the appropriate group for listing a species or subspecies due to any of the following factors:

1. The present or threatened destruction, modification, or curtailment of its habitat;

2. Over-utilization for commercial, sporting, or scientific purposes;

3. The effect of disease or predation;

4. Other natural or man-made factors affecting its prospects of survival or recruitment within the Navajo Nation; or

5. Any combination of the foregoing factors

Navajo-listed species with potential to occur in the project area are listed in Tables 7 and 8.

Special Management Species

In accordance with BLM Manual 6840, the FFO of the Bureau of Land Management has prepared a list of special management species to focus species management efforts toward maintaining habitats under a multiple use mandate, called FFO Special Management Species (SMS; Table 8). The BLM manages certain sensitive species not federally listed as threatened or endangered to prevent or reduce the need to list them as threatened or endangered in the future (Table 8). The authority for this policy and guidance

is established by the Endangered Species Act of 1973, as amended; Title II of the Sikes Act, as amended; the FLPMA of 1976; and Department of Interior Manual 235.1.1A.

Tables 7 and Table 8 provide an evaluation of potential for BLM SMS and sensitive, federally protected, and Navajo-listed species to occur in the action area (Ecosystem Management, Inc.2013). The evaluation of presence potential is based on the known habitat for the species and the assessment of the potential project during field assessments.

Table 7. Federally and Navajo Group 2-listed species. Table continued on following pages.

Species Name	Conservation Status*	Habitat Associations	Potential to Occur in Analysis Area
Birds			
Least tern (*Sternula antillarum athalassos*)	FWS E	Highly dependent on rivers, lakes and streams for diet and nesting habitat.	No large bodies of water occur within the project area.
Western yellow-billed cuckoo (*Coccyzus americanus*)	FWS Proposed T	Occurs in well-vegetated riparian areas.	There is no riparian vegetation within the project areas.
Southwestern willow flycatcher (*Empidonax traillii extimus*)	FWS E, N G2	This species inhabits dense riparian areas dominated by cottonwoods, willows, and tamarisk.	No riparian vegetation occurs in the project area.
Mexican spotted owl (*Strix occidentalis lucida*)	FWS T	Occurs in mature ponderosa pine and mixed-conifer forests and is typically associated with steep slopes and cliff/canyon complexes.	The project area lacks appropriate habitat for this species.
Mammals			
Gunnison's prairie dog (*Cynomys gunnisoni*)	FWS C	Occurs in mostly level, open grassy areas with soil that's suitable for burrowing.	No prairie dog towns were observed within or near the current project area.
Black-footed ferret (*Mustela nigripes*)	FWS E, N G2	This species is dependent on large prairie dog towns over 198 acres or with over 20 burrows per hectare (0.4 acre = 1 ha)	There were no prairie dog towns observed within or near the project area.
NM Meadow jumping mouse *(Zapus hudsonius luteus)*	FWS C	Occurs in montane riparian habitats and in tall sedges, thick grasses and willow–alder riparian habitats.	No suitable habitat occurs within the project area.
Reptiles			
Jemez Mountains salamander (*Plethodon neomexicanus)*	FWS E	Endemic to the Jemez mountains and occurs in mixed-conifer forests with loose rocky soils.	The project area lacks habitat for this species and is outside its range.
Fishes			
Zuni bluehead sucker (*Catostomus discobolus yarrow*)	FWS C	This fish occurs in the Zuni River and its tributaries.	The project area does not contain suitable habitat due to lack of

Species Name	Conservation Status	Habitat Associations	Potential to Occur in Analysis Area
			perennial waters in or near the project area.
Rio Grande silvery minnow (*Hybognathus amarus*)	FWS E	This fish occurs in the Rio Grande.	The project area does not contain suitable habitat due to lack of perennial waters in or near the project area.
Rio Grande cutthroat trout (*Oncorhynchus clarki virginalis*)	FWS C	This fish occurs in the Rio Grande.	The project area does not contain suitable habitat due to lack of perennial waters in or near the project area.
Plants			
Mancos milkvetch (*Astragalus humillimus*)	FWS E, N G2	Found in cracks or eroded depressions on sandstone rimrock ledges and mesa tops in Point Lookout sandstone from 5,000–6,000 feet.	Area lacks appropriate geology.
Zuni fleabane (*Erigeron rhizomatus*)	FWS T, N G2	Occurs in nearly barren detrital clay hillsides with soils derived from shales of the Chinle or Baca Formations most often on north- or east-facing slopes in open piñon–juniper woodlands from 7,300–8,000 feet.	Area lacks appropriate geology and vegetation community.
Knowlton cactus (*Pediocactus knowltonii*)	FWS E	Known only from the type locality in San Juan County, NM. It occurs on rolling, gravelly hills in piñon–juniper and sagebrush at about 6,200–6,300 feet.	Area lacks vegetation community and gravelly substrate. Area is far outside the only known locality.
Mesa Verde cactus (*Sclerocactus mesae-verdae*)	FWS T, N G2	Requires highly alkaline, gypsiferous soils in sparsely vegetated low, rolling clay hills formed from the Mancos or Fruitland Shale Formations at 4,900–5,500 feet.	The appropriate geology is present, but the area lacks appropriate vegetation community. Area is well outside the known range.

FWS T, E, and C = Fish and Wildlife Service Threatened, Endangered, and Candidate. N G1 and G2 = Navajo Endangered Species List rankings: G2 = endangered. All birds on list are protected under the Migratory Bird Treaty Act.

Table 8. Fish and Wildlife Service Species of Concern, BLM FFO Special Management and Sensitive species, Navajo Group 3 and 4 species, and eagles, with potential to occur in Sandoval County. Table continued on following pages.

Species Name	Conservation Status	Habitat Associations	Potential to Occur in Analysis Area
Birds			
Golden eagle (*Aquila chrysaetos*)	BLM SMS, N G3, BGEPA	Occurs in a variety of open habitats and nests mainly on large cliffs.	**Low:** There are no large cliffs or potential nesting habitats for golden eagles in the vicinity of the project area.
Burrowing owl (*Athene cunicularia*)	BLM SMS, BLM S, FWS SOC, N G4	Nests in ground cavities in open scrub and desert. Associated with prairie dog towns.	**Unlikely:** No associated prairie dog colonies occur in the action area. The proposed project area does not contain suitable nesting habitat.
Ferruginous hawk (*Buteo regalis*)	BLM SMS, BLM S, N G3	Frequently associated with prairie dog towns. Nests in badlands, desert scrub and grasslands on isolated elevated substrates.	**Low:** The project lacks potential nesting habitat.
Chestnut-collared longspur (*Calcarius ornatus*)	BLM S	Occurs in short- or mixed-grass prairies and prefers grazed or recently burned areas.	**Unlikely:** The project lacks potential nesting habitat.
Mountain plover (*Charadrius montanus*)	BLM S, N G4	Occupies arid, short grassland habitat including heavily grazed areas. Microhabitat variables important for nesting often include large patches of bare ground (> 30% total cover), grass, and proximity to prairie dog towns	**Unlikely:** Reaches 24.1–25 project areas lacks suitable habitat cover for nesting.
Western yellow-billed cuckoo (*Coccyzus americanus*)	BLM SMS	Occurs in well-vegetated riparian areas.	**Unlikely:** There is no riparian vegetation within the project areas.
Prairie falcon (*Falco mexicanus*)	BLM SMS	Occurs in open habitats and nests on cliff walls.	**Low:** Some small cliffs occur within several hundred meters of the Reaches 24.1–25 project area.

Species Name	Conservation Status	Habitat Associations	Potential to Occur in Analysis Area
Peregrine falcon (*Falco peregrine*)	BLM SMS, FWS SOC, N G4	Occurs in a wide variety of habitat types and nests on cliff walls.	**Unlikely:** There are no large cliffs or potential nesting habitats for peregrine falcons in the vicinity of the project area. It is unlikely that peregrine falcons would nest on the smaller cliff complexes near the project area when more suitable habitat exists throughout the general area.
Pinyon jay (*Gymnorhinus cyanocephalus*)	BLM S	Occurs in piñon–juniper woodlands of the foothills and lower mountain slopes. Nests on the south side of conifers. Habitat exists at the south end of the water line in piñon–juniper habitat.	**Moderate:** This bird was observed in the project area. The project area lacks extensive habitat for this species. Transient flocks may occur in the area.
Bald eagle (*Haliaeetus leucocephalus*)	BLM SMS, BGEPA	Occurs around large bodies of water with fresh fish.	**Unlikely:** No large bodies of water occur within the project area.
Bendire's thrasher (*Toxostoma bendirei*)	BLM S	Occurs in sparsely vegetated desert habitats and nests in shrubs, trees, and cacti.	**Unlikely:** There is no suitable habitat in the project area for this species.
Mammals			
Pronghorn (*Antilocapra americana*)	N G3	Occurs in grassy areas with no to low shrub cover.	Most of the project area is too shrubby for this species. Not likely to occur in the project area.
Townsend's big-eared bat (*Corynorhinus townsendii*)	BLM S	Occurs in mines and caves and is closely associated with coniferous forests, desert, native prairies, riparian areas and agricultural areas.	**Unlikely:** Lack of potential roosting and foraging habitats.
Gunnison's prairie dog (*Cynomys gunnisoni*)	BLM S	Occurs in mostly level, open grassy areas with soil that's suitable for burrowing.	**Unlikely:** No prairie dog towns were observed within or near the current project area.
Black-tailed prairie dog (*Cynomys ludovicianus*)	BLM S	Inhabits shortgrass prairies. Historically occurred in northwestern grasslands of New Mexico.	**Unlikely:** No prairie dog towns were observed in or near the project area.

Species Name	Conservation Status	Habitat Associations	Potential to Occur in Analysis Area
Spotted bat (*Euderma maculatum)*	BLM S	Occurs in piñon–juniper, desert scrub, arid desert, ponderosa pine, mixed conifer forests, canyon bottoms, rims of cliffs, riparian areas, fields, and open pasture habitat. It usually roosts in caves and crevices in high cliffs.	**Low:** This species could use the project area for night-time foraging, but the area lacks high cliffs for roost sites.
Allen's lappet-browed bat (*Idionycteris phyllotis*)	BLM S	Occurs in woodlands and forests and is associated with rocky substrate and cliffs.	**Low:** Not likely to occur in the project area because it is north of its range in NM.
Kit fox (*Vulpes microtis*)	N G4	Occurs in open grassland and desert scrub.	The project area is dominated by continuous big sagebrush. It is unlikely that this species would inhabit the project area.
NM Meadow jumping mouse *(Zapus hudsonius luteus)*	BLM S	Occurs in montane riparian habitats and in tall sedges, thick grasses and willow–alder riparian habitats.	**Unlikely:** No suitable habitat occurs within the project area.
Reptiles			
Southwestern toad (*Anaxyrus microscaphus*)	BLM S	Associated with permanent ponds or shallow rocky streams.	**Unlikely:** The project lacks perennial waters and therefore does not contain any suitable habitat for this species
Plants			
Galisteo sand verbena (*Abronia bigelovii*)	BLM S	Occurs in piñon–juniper woodlands and grassland communities at 5,500–6,000 feet on barren slopes of Todilto gypsum formation.	**Unlikely:** The project area lacks the geological substrate on which this species occurs.
Aztec gilia (*Aliciella formosa*)	BLM SMS, BLM S, N G4	Arid and sparsely vegetated Badland /Salt desert scrub communities in soils of the Nacimiento Formation. 5,000–6,000 feet.	**Unlikely:** Portion of project area mapped as Nacimiento formation but lack the exposed badland soils on which this species typically occurs.
San Juan milkweed (*Asclepias sanjuanensis*)	BLM S, FWS SOC, N G4	Occurs in sandy or sandy loam soils in piñon–juniper woodlands and Great Basin desert scrub from 5,000–6,200 feet elevation.	**Low:** The project area contains the appropriate vegetation communities for occurrence. The elevation of the project area is above that at which the milkweed is known to occur, but this does not rule out potential occurrence.

Species Name	Conservation Status	Habitat Associations	Potential to Occur in Analysis Area
Knight's milkvetch (*Astragalus knightii*)	BLM S	Occurs in the middle Rio Puerco Valley on rim rock ledges of Dakota Formation sandstone in juniper savannah and grassland at 5,700–5,900 feet.	**Unlikely:** Project area lack the geological substrate on which this species is known to occur.
Ripley milkvetch (*Astragalus ripleyi*)	BLM S	Occurs in sagebrush, piñon–juniper, and Gambel oak thickets in ponderosa pine forests at 7,000–8,250 feet. The southern portion of the project area around the Ojo Encino North tank is dominated by scattered ponderosa pine, sagebrush, piñon–juniper, and small patches of Gambel oak.	**Low:** Although this species is not known from Sandoval County, potential occurrence in the southern project area cannot be ruled out.
Acoma fleabane (*Erigeron acomanus*)	BLM S, N G3	Found on sandy slopes and benches beneath sandstone cliffs of the Entrada Sandstone Formation in piñon–juniper woodlands at 6,900–7,100 feet.	**Unlikely:** The project area lacks the geological substrate on which this species is known to occur.
Mancos saltbush (*Proatriplex pleiantha*)	BLM S	Occurs in San Juan County, NM, in badlands on saline clay soils of the Mancos and Fruitland Shale Formations at 5,000–5,500 feet.	**Unlikely:** The project area lacks the appropriate geology on which this species occurs.
Parish's alkaligrass (*Puccinellia parishii*)	BLM S, G 4	This grass occurs near alkaline springs, seeps, and seasonally wet areas at 2,600–7,200 feet.	**Unlikely:** No suitable habitat occurs within the project area based on direct field observations.
Brack's hardwall cactus (*Sclerocactus cloverae* ssp. *brackii*)	BLM SMS, BLM S	Sandy clay slopes of the Nacimiento Formation in sparse semi desert, piñon-juniper grasslands and open arid areas of badland habitat from 5,000–6,000 feet.	**Unlikely:** Portion of project area mapped as Nacimiento formation but lack the exposed badland soils on which this species typically occurs.
Grama grass cactus (*Sclerocactus papyracanthus*)	BLM S	Occurs in open flats of grasslands and woodlands, often with grama grass.	**High:** The project area contains the appropriate habitat.

Species Name	Conservation Status	Habitat Associations	Potential to Occur in Analysis Area
Gypsum Townsend daisy (*Townsendia gypsophila*)	BLM S	This gypsophile occurs in Sandoval County, NM, in weathered gypsum outcrops of the Jurassic-age Todilto and overlying Morrison Formations.	**Unlikely:** The project area lacks the geology and minerals on which this species occurs.

FWS SOC = Fish and Wildlife Species of Concern. BLM S and SMS = Bureau of Land Management Sensitive and Special Management Species. BGEPA = Bald and Golden Eagle Protection Act. N G3 and G4 = Navajo Endangered Species List rankings: G3 = threatened, G4 = candidate—they are not protected under Tribal Code but should be considered in project planning. All birds on list are protected under the Migratory Bird Treaty Act.

3.8.1. Impacts from the Proposed Action

Direct and Indirect Impacts

The Proposed Action would have no effect on the following species because of lack of suitable habitat (based on field observations and geological/soils data), because the project area is out of the species' range, or both, which make occurrence in the project area unlikely: burrowing owl, chestnut-collared longspur, mountain plover, bald eagle, Bendire's thrasher, pronghorn, Townsend's big-eared bat, kit fox, southwestern toad, Galisteo sand verbena, Aztec gilia, Knight's milkvetch, Acoma fleabane, Mancos saltbush, Parish's alkaligrass, Brack's cactus, and Gypsum Townsend daisy.

Golden eagle—The project would have no effect on the golden eagle because of lack of nesting habitat. The project would not violate the Bald and Golden Eagle Protection Act.

Ferruginous hawk—The proposed project area lacks isolated, elevated structures for nesting. It is unlikely that birds would nest on the ground in the project area because of grazing and the proximity to the residences and roads. The proposed project would have no effect on the ferruginous hawk because of lack of suitable breeding habitat.

Prairie falcon—Prairie Falcons tend to react to humans close to a nesting site by flying around and calling in an agitated fashion. The main road that the proposed ROW follows receives a fair amount of steady traffic from local residences and occasional eighteen wheelers. There are few places where potential nesting cliffs are in close proximity to the proposed ROW that nesting falcons may be disturbed. These places, however, are also close to the main road making it unlikely that falcons would nest in the area. Therefore, the Proposed Action would have no effect on the prairie falcon because most suitable nesting habitat is located away from the project area and the temporary nature of the disturbance.

Peregrine falcon—It is unlikely that peregrine falcons would nest on the smaller cliff complexes near the proposed project area when more suitable habitat exists throughout the general area. Therefore, the Proposed Action would have no effect on the American peregrine falcon because of lack of nesting habitat.

Pinyon jay—Habitat exists at the south end of the water line in piñon–juniper habitat. Direct impacts could occur if active nests are disturbed during clearing of vegetation for the waterline or by the presence of heavy machinery and humans. Indirect impacts could include the fragmentation of the bird's habitat. However, the Proposed Action would have no effect on the pinyon jay if no construction occurs during the avian breeding season as stated in section 2.1.7.

Black-tailed prairie dog—The proposed project would have no effect on the black-tailed prairie dog because it does not occur in or near the proposed project area based on field observations.

Spotted bat—Although nighttime foraging habitat is present within the proposed project area, there are no high cliffs for roost sites. Therefore, the Proposed Action would have no effect on the spotted bat due to lack of roost sites.

Allen's lappet-browed bat—There are some small cliff/rock structures near the piñon–juniper habitat at the southern end of proposed Reach 25 where this bat could occur and roost. However, the proposed project area is north of the species's range in NM; thus, the Proposed Action would have no effect on Allen's lappet-browed bat.

Ripley milkvetch—The proposed project may affect individual Ripley milkvetches if some occur in the proposed project ROW; however, the Proposed Action project would have no effect on the population and is not likely to result in a trend toward federal listing or loss of viability for the Ripley milkvetch.

San Juan milkweed—The proposed project may affect individual San Juan milkweeds if some occur in the proposed project ROW; however, the Proposed Action would have no effect on the population and is not likely to result in a trend toward federal listing or loss of viability for this species.

Grama grass cactus—The proposed project may affect individual grama grass cacti because of the potential take of individuals, dust effects, and competition from noxious weeds, which may become established in non-BLM disturbed areas. The project would have no effect at the population level because of the widespread distribution of the species.

Cumulative Impacts

Installation of a waterline could lead to the growth of residential areas, which would increase the human population in the area and lead to more roads, power lines, and other development. The impacts would likely not be substantial in the foreseeable future due to the fact that the project area is rural and sparsely populated.

Although habitat does exist for several species in the general area of the project, none of the species above would be affected with the exceptions of three plants: Ripley milkvetch, San Juan Milkweed, and grama grass cactus. Because only individual plants have the potential to be impacted by the construction activities, and the analysis indicates that there would be no effect at the population level for these species, there would be no cumulative effects from this project and other activities in the area.

3.9. Cultural Resources

3.9.1. Affected Environment

The proposed project area is located within the archaeologically rich San Juan Basin of northwest New Mexico. In general, the history of the San Juan Basin can be divided into five major periods: PaleoIndian (ca. 10000 B.C. to 5500 B.C.), Archaic (ca. 5500 B.C. to A.D. 400), Basketmaker II–III and Pueblo I–IV periods (a.k.a. Anasazi; A.D. 1–1540), and the Historic (A.D. 1540 to present), which includes Native American as well as later Hispanic and Euro-American settlers. Detailed descriptions of these various periods are provided in the BLM FFO-FEIS (2003) and will not be reiterated here. Additional information can also be found in the Cultural Resources Technical Report (CRTR; SAIC 2002).

Effects to cultural resources must be taken into consideration under every NEPA-governed Proposed Action. The term "cultural resources" refers to any historic or prehistoric resource. This encompasses a wide range of material remains that have the potential to provide information about the human use and occupation of the project area. These cultural resources generally consist of archaeological sites and Traditional Cultural Properties (TCPs).

Archaeological sites vary considerably and can include, but are not limited to, simple artifact scatters, structures or structural remains of various types with a myriad of associated features, rock art and inscriptions, ceremonial/religious features, and roads and trails. Archaeological sites are evaluated for their eligibility to be listed on the National Register of Historic Places (NRHP) on the basis of four criteria

(36 CFR Part 60; National Register Bulletin #15). Is the site 1) associated with events that have made a significant contribution to the broad patterns of our history; 2) associated with the lives of significant persons in or past; does it 3) embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic values; represent a significant and distinguishable entity whose components may lack individual distinction; or does it 4) yield or may be likely to yield information important in history or prehistory.

TCPs are a separate class of cultural resources and are places that have cultural values that transcend the values of scientific importance that are normally ascribed to cultural resources such as archaeological sites and may or may not coincide with archaeological sites (Parker and King 1998).

A TCP is defined as a property that is listed on, or is eligible for inclusion on the NRHP because of its association with cultural practices or beliefs of a living community that are: (1) rooted in that community's history; and (2) important in maintaining the continuing cultural identity of the community (National Register Bulletin #38). Native American communities are most likely to identify TCPs, although TCPs are not restricted to those associations. Some TCPs are well known, while others may only be known to a small group of traditional practitioners, or otherwise only vaguely known. Native American tribal perspectives on what is considered a TCP are not limited by a places age or its National Register eligibility or lack thereof.

TCPs cover a wide range of locales and use areas. Properties may include sacred landforms (e.g., mountains, rivers, lakes, outcrops, or naturally discolored rocks), places associated with deities, plant gathering areas, places mentioned in traditional histories, habitation sites, and ceremonial/offering places.

Navajo Nation Historic Preservation Department (NHPD) policy requires that a good-faith effort must be made to identify and evaluate all TCPs and sacred sites that may be affected by project-related activities. For the Proposed Action, identification of TCPs consisted of reviewing existing published and unpublished literature (e.g., Van Valkenburgh 1941, 1974; Brugge 1993; Kelly et al 2006). In addition, the NHPD's TCP database was searched for known TCPs within and adjacent to the project area. Further, TCP interviews were conducted at the Pueblo Pintado Chapter House meeting on July 2, 2012 by Ecosystem Management, Inc. (EMI) employee Lee Platero, an enrolled Navajo Nation tribal member fluent in Navajo. These interviews were performed during a formal chapter house meeting in which residents living along the proposed pipeline route were invited to attend, including the Counselor Chapter. EMI also made a good-faith effort to conduct field interviews with those residing near the route of the proposed pipeline.

Pursuant to 36 CFR 800.4(a)(1), Reclamation has defined the Proposed Action's Area of Potential Effect (APE) for direct physical effects on historic properties to include all lands within approximately 125 feet of the planned 150 foot construction ROW for a total width of 400 feet as depicted in the FEIS. The entire APE for the Proposed Action was surveyed for archaeological sites and TCPs by EMI archaeologists at a BLM Class III level (100% pedestrian survey of the APE). A report was prepared and submitted to the BLM in accordance with the Procedures for Performing Cultural Resources Fieldwork on Public Lands in the Area of New Mexico BLM Responsibilities (USDI/BLM 2005). The report was also prepared and submitted to NHPD in accordance with their Cultural Resource Compliance Section Standards and Guidelines.

The survey consisted of TCP interviews, a cultural resources inventory, evaluations and recommendations for NRHP eligibility, and assessment of potential impacts to cultural resources.

The Class III inventory identified 15 cultural sites within the APE (EMI: A Cultural Resource Survey of 568 Acres for the Navajo–Gallup Water Supply Reaches 24.1 and 25; An Addendum to a Cultural Resource Survey of 568 Acres for the Navajo–Gallup Water Supply Reaches 24.1 and 25, Sandoval County, New Mexico; BLM reports 2013(I)065F and 065.1F). Five of the sites lie on BLM (3-FFO, 2-RPFO) while the remainder lie on Navajo Nation land. Twelve of the sites are archaeological and three are reported as TCPs (modern descanso/roadside memorials).

Four cultural sites were recommended eligible for nomination to the NRHP, two are recommended eligible as TCPs, six are recommended not eligible, and three have an undetermined eligibility status. Forty-six isolated occurrences were identified in the proposed project areas. Isolated occurrences were not

recommended eligible for listing on the NRHP. Following Section III (Eligibility) of Reclamation's Programmatic Agreement regarding consultation on cultural resource eligibility determination, consultation under section 106 of the National Historic Preservation Act with Reclamation, BLM (FFO and RPFO), the NHPD, the BIA, the Jicarilla Apache Nation, and the New Mexico SHPO was completed in August 2013 with full concurrence on cultural resource eligibility recommendations agreed upon.

3.9.2. Impacts from the Proposed Action

Direct and Indirect Impacts

Direct impacts normally include alterations to the physical integrity of a cultural site. If a cultural site is significant for other than its scientific information, direct impacts may also include the introduction of audible, atmospheric, or visual elements that are out of character for the cultural site. A potential indirect impact from the proposed action is the increase in human activity or access to the area with the increased potential of unauthorized removal or other alteration to cultural sites in the area.

Following stipulations in Section IV (Assessment of Effect) of Reclamation's Programmatic Agreement, significant cultural sites (e.g. National Register eligible/undetermined, TCPs) are being avoided with the implementation of design features such as but not limited to reduction of construction areas, temporary barriers, and site monitoring (USDI BOR 2011, page 9). The proposed action is not known to physically threaten any TCP's, prevent access to sacred sites, prevent the possession of sacred objects, or interfere or otherwise hinder the performance of traditional ceremonies/rituals. The proposed action will have no direct or indirect impact on significant cultural sites.

Cumulative Impacts

Installation of a waterline could lead to the growth of residential areas, which would increase the human population in the area and lead to more roads, power lines, and other development. This development may impact cultural resources in the area. The impacts would likely not be substantial in the foreseeable future due to the project area's location on federal and tribal lands which are governed by environmental and cultural resource legislation that requires cultural resource surveys prior to residential development and supporting infrastructure installation.

3.10. Minerals

3.10.1. Affected Environment

A total of 2,597,193 acres of BLM-managed lands are open for oil and gas leasing. It is the policy of BLM to ensure that mineral development is carried out in a manner to minimize environmental damage while simultaneously making mineral resources available to encourage development of resources to meet national, regional, and local needs (USDI/BLM 2003b). The oil and natural gas production from the San Juan Basin in northwest New Mexico supports the growing energy needs of the U.S. (USDI/BLM 2003b). The primary natural gas reservoirs in the San Juan Basin are located in the Fruitland Formation, Pictured Cliffs Sandstone, Mesa Verde Group, and Dakota Sandstone Formations. In addition to oil and gas development, the federal lands in the San Juan Basin are also important sources of mineral materials such as sand, gravel, rock, stone, and other fill materials as well as coal (USDI/BLM 2003b).

3.10.2. Impacts from the Proposed Action

Direct and Indirect Impacts

There would be no direct effects to subsurface resources under the Proposed Action. Indirect effects to the extraction of these resources would be negligible. Any existing pipelines would be protected so that their functioning would not be affected. Gas well access roads may be temporarily impacted from time to time, but proposed activities would not block access to gas wells or interfere with gas production activities.

Cumulative Impacts

The Proposed Action would not contribute to any cumulative effects on mineral development.

3.11 Land Use

3.11.1. Affected Environment

The major landowners within the proposed project area include Navajo Nation lands held in trust by the BIA and BLM lands (Reclamation 2009). Further general information regarding land-use authorizations can be found in Chapter V of the 2007 Navajo–Gallup Water Supply Project Planning Report and Draft Environmental Impact Statement.

Land use on Reaches 24.1, 24.1 JAN, and 25 consists of mostly rural activities with scattered infrastructure. Jemez Mountains Electric Cooperative power lines, Williams Company gas pipeline, and waterlines managed by the Navajo Tribal Utility Authority cross the proposed waterline ROWs. Residences within a quarter mile of the waterlines are scattered throughout Reaches 24.1–25, concentrated around the convergences of Reaches 24.1 and 25 (Figure 6). The predominant land use across all reaches is open-range grazing of cattle, horses, and sheep. Occasional barbed-wire fences cross the reaches and some small impoundments or reservoirs have been developed along washes. The road that parallels Reaches 24.1–25 (BIA Routes 474 and 46 and Navajo Nation Route 461) receives traffic from large tankers and big-rig trucks because of the gas exploration in the area.

3.11.2. Impacts from the Proposed Action

Direct and Indirect Impacts

Impacts to land use are measured in terms of whether the changes to land use caused by the Proposed Action are consistent with present land-use regulations and if these land-use changes would prevent or alter the types of future land use that would be feasible. The lands where the improvements would be placed are primarily managed for habitat and livestock grazing. Although grazing would be temporarily affected during proposed construction, this would be a temporary effect. After completion of construction and reclamation of the waterline ROWs, they would again provide habitat and grazing opportunity. Small areas associated with storage and distribution tanks, the chlorination site and pump station, totaling about 2.42 acres, would not be available for other land uses. Should future waterline development occur in the area, these activities would not be incompatible with the waterline alignment or other improvements because they could be placed away from existing improvements.

Cumulative Impacts

No other past, present, or reasonably foreseeable future actions are known that would contribute to cumulative effects on land use.

3.12 Transportation and Travel Management

3.12.1. Affected Environment

Portions of the reaches of the proposed project area follow or are crossed by dirt roads. Most of these roads provide access to local residences. The majority of the waterline would follow existing Navajo Nation Route 461 and BIA Routes 46 and 474, a road corridor that receives big-rig truck and large tanker traffic because of the gas exploration in the area (Figure 6). The proposed project includes both a 40 ft wide permanent waterline right-of-way and a 60 ft temporary construction easement. The contractor will either construct berms to prevent public access to the ROWs and temporary construction easements from existing roadways or install signs restricting public access. No new roads will be created. After

construction is completed, the temporary construction easement shall revert to BLM. However, NTUA will continue to use the permanent ROW for access to the pipeline for operation and maintenance purposes.

3.12.2. Impacts from the Proposed Action

Direct and Indirect Impacts

Public roads are likely to be disturbed as part of the Proposed Action. Traffic control would be required on these roads during construction. In addition, some activities may require operating equipment on the edge or shoulder of some roads, especially during excavation of pipelines. Such activities may interfere with traffic, but the effects are anticipated to be low due to low traffic volumes on the road and mitigation measures. Construction activity would increase traffic on roads within the project area; this increase would be spread over a 3-year period as construction would last from 2013 through 2016.

Cumulative Impacts

Proposed oil and gas pipeline ROWs are located north and south of Reach 24.1 JAN; totaling approximately 11 acres. There are five proposed access road associated with the proposed oil and gas pipeline ROWs; totaling about 7 acres. No other activities are known to be occurring or are planned to occur in the project area that would affect transportation and travel management. There would be no cumulative effects.

Mitigation Measures and Residual Impacts

The Navajo Nation or the Navajo Nation's contractor will use adequate traffic control devices and warning signs to alert drivers of equipment and activities in or near roadways.

3.13. Recreation

3.13.1. Affected Environment

The BLM provides for multiple recreation uses of the public lands. The objective of the FFO outdoor recreation program is to ensure the continued availability of public land for a diverse array of quality resource-dependent outdoor recreation opportunities. Recreation use is managed to protect the health and safety of visitors; to protect natural, cultural, and other resource values; to stimulate enjoyment of public lands; and to resolve user conflicts (USDI/BLM, 2003b, page 2–14). The RPFO objective for Extensive Recreation Management Areas (ERMAs) is to manage recreation as planned actively on an interdisciplinary basis in concert with other resources/resource programs (USDI/BLM 2012). Further general information on recreation in the area can be found in the 2003 Farmington RMP/EIS, the 2012 Rio Puerco Draft RMP/EIS, and Chapters 2 and 3 of the 1986 Rio Puerco Resource Management Plan/Environmental Impact Statement (USDI/BLM 1986).

Reaches 24.1 and 25 lie along existing roads and pipeline ROWs. Most public use of the area associated with recreation is related to travel along roads to get to hunting areas. No developed recreation sites or other opportunities exist near the proposed project area. Dispersed recreation uses in these areas are limited, as the areas are not open to cross-country off-highway vehicle travel.

3.13.2. Impacts from the Proposed Action

Direct and Indirect Impacts

The proposed waterline alignments are located in a partially remote area removed from any notable recreation developments. Construction work may affect potential recreation activities and the general recreational experience of the public through increased noise, dust, and a general increase in human activity in the area. The general public may encounter equipment and personnel operating within the immediate project area. The proposed activities would likely not noticeably affect the recreating public as

there is little sign of recreation in the proposed project area and given the limited extent of the proposed activities. Noise and activity in close proximity (within ¼ mile) of residences may affect residents.

The recreational user may observe new surface disturbances and construction activities. However, the Proposed Action would be consistent with the existing environment, which contains extensive disturbances associated with utility and energy-development infrastructure and transportation infrastructure. Work would occur during normal business hours to minimize disturbing residents and overnight recreationists. When construction is complete, disturbed areas would be re-contoured, reclaimed, and seeded to decrease the visual effects to the recreating public.

The NGWSP EIS analyzed the potential for general recreation effects on Navajo Nation lands. Because no campgrounds, hiking trails, or established recreation areas exist on Navajo Nation lands in the proposed project area, there would be no effect on these activities. The EIS disclosed that hunting activities are limited in the area due to the types of habitat that exists. Some tribal members hunt small game or elk and construction could temporarily displace wildlife, which could reduce hunting success (NGWSP EIS, pages V–98 to 99). When project activities are complete, hunting opportunity would return to preconstruction levels.

Cumulative Impacts

No other projects are known to be occurring or are planned to occur that, when considered with the Proposed Action, would result in cumulative impacts on recreation.

3.14. Livestock Grazing

3.14.1. Affected Environment

The livestock grazing program is principally authorized by FLPMA, the Taylor Grazing Act of 1934, and the Public Rangelands Improvement Act of 1978. The principal objective of the rangeland program is "to promote healthy sustainable rangeland ecosystem to accelerate restoration and improvement of public rangeland to properly functioning condition; to promote the orderly use, improvement and development of the public lands; to efficiently and effectively administer domestic livestock grazing; and to provide for the sustainability of the western livestock industry and communities that are dependent upon productive, healthy public rangelands." Further general information on rangeland management in the area can be found in Chapters 2 and 3 of the Farmington Resource Management Plan/Environmental Impact Statement (RMP/EIS).

The proposed project crosses two grazing allotments managed by the FFO (Figure 7). The allotments are summarized in Table 9.

Table 9. Grazing allotments in the proposed project area.

Allotment Name and Number	Annual Operating Period	Maximum Permitted (head)			Available AUM	Public land portion	Organization Managing Allotment
		Cattle	Sheep	Horse			
Counselor Community 6015	3/01–2/28	146	2287	2	5902	100%	FFO
Venado 5112	3/01–2/28	79	—	—	806	85	FFO

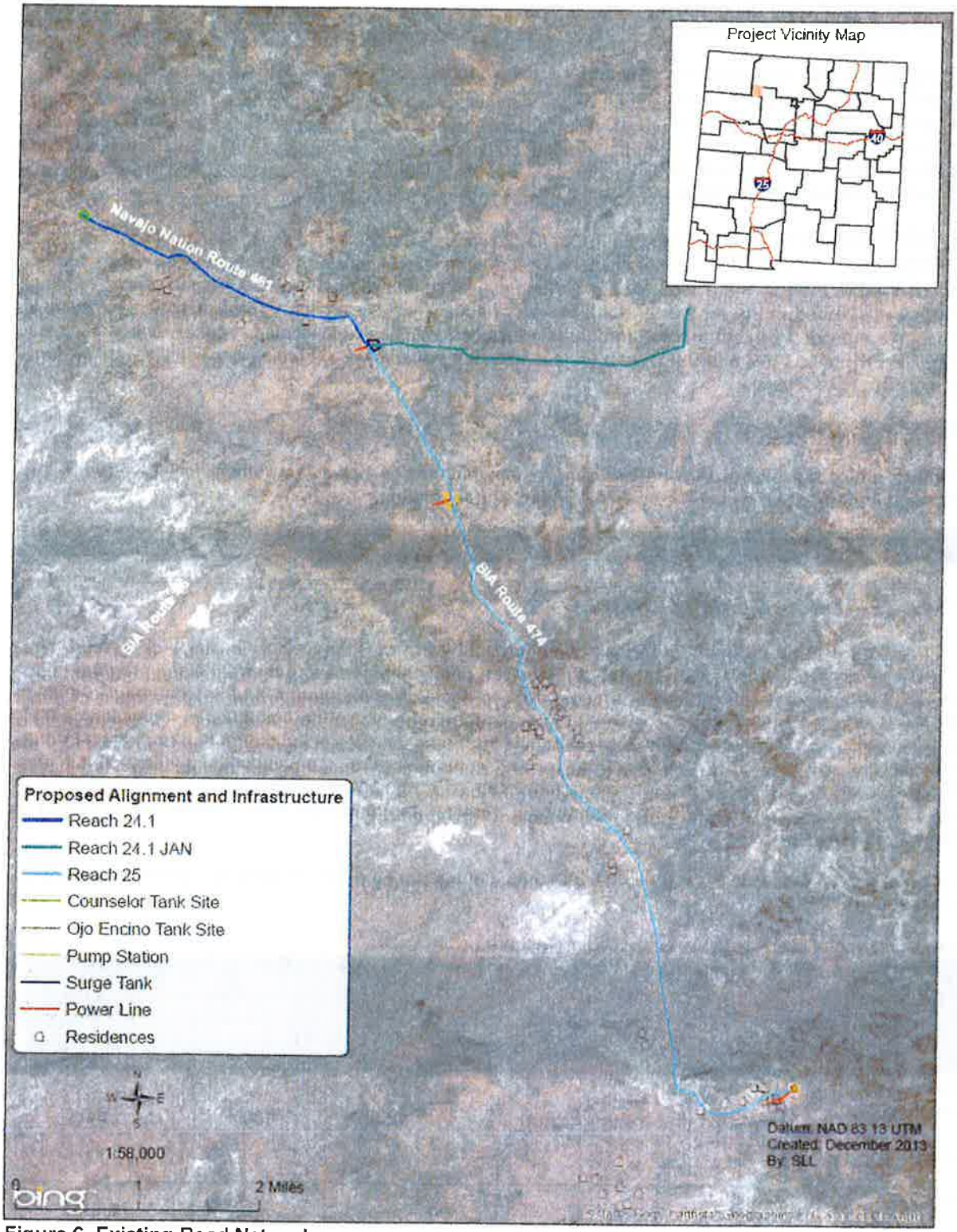

Figure 6. Existing Road Network

No permanent livestock water sources are within the immediate proposed project area. A number of fences would be crossed by the Reach 24.1–25 alignments. Livestock may be present during project operations.

3.14.2. Impacts from the Proposed Action

Direct and Indirect Impacts

The Proposed Action would result in the temporary loss of forage as a result of the construction activities within the grazing allotments. Grazing permittees would be contacted prior to any construction operations on their respective portions of the proposed reaches. All construction activities would be confined to the permitted areas only. Effects to range and grazing livestock are anticipated to be minor in both the short and long term.

Cumulative Impacts

No other known projects are ongoing or planned to occur within the grazing allotments that the Proposed action lies within. There would be no cumulative effects on livestock grazing.

3.15. Environmental Justice/Socio-Economics

3.15.1. Affected Environment

The BLM, USFS, and USBR are responsible for coordinating with Native American Tribes and the BIA to develop and maintain long-range resource management plans (USDI/BLM 2003a). Executive Order 12898 directs that federal programs, policies, and activities not have a disproportionately high and adverse human health and environmental effect on minority and low-income populations (Reclamation 2009). The region surrounding the proposed project area contains significant populations belonging to minority and/or low-income groups. The 2010 census reports that 75.5 percent of the 71,492 people in McKinley County, 36.6 percent of the 130,044 people in San Juan County, and 12.9 percent of the 131,561 people in Sandoval County, are American Indians.

3.15.2. Impacts from the Proposed Action

Direct and Indirect Impacts

The construction could impede access to multiple-use resources on BLM lands such as hunting, gathering, or woodcutting. This would be temporary during construction activities in any local area. Upon completion of construction, the reclamation activities would reestablish access where waterlines cross existing roads to the public. There would be no displacement of communities or displacement of lands for other uses. Indirect effects could include minimal positive effects to employment opportunities related to project contractor support industries in the region as well as the economic benefits to state and county governments related to taxes. Other effects could include a small increase in activity and noise disturbance in areas adjacent to construction activities. Indirect effects would apply to all residents and public land users in the proposed project area equally. Development of the proposed waterlines and associated improvements would not result in disproportionate negative effects to minority or low-income populations. Residents of the area would obtain improved access to potable water; thereby resulting in an improved quality of life.

As noted in the EIS for the NGWSP "the beneficial effects of providing water to those who would otherwise have to haul water would accrue primarily to the minority and low-income populations. This access-to-water benefit and related health improvements are discussed in earlier sections of this report. These important positive project impacts would assist rather than harm minority and low-income populations (Reclamation 2009, page V-131).

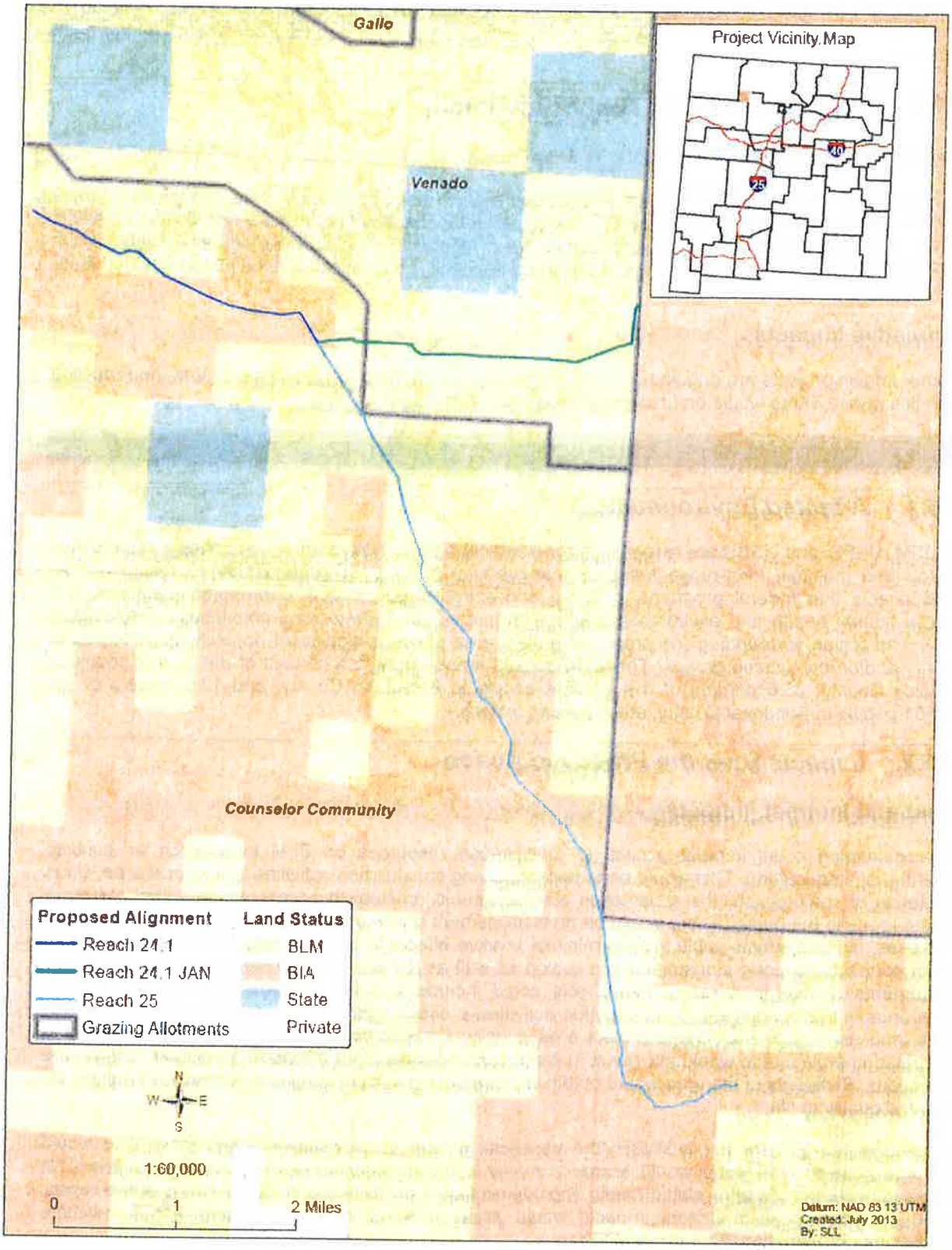

Figure 7. Grazing allotments and land ownership.

Cumulative Impacts

There are no other known projects, that, when considered with the Proposed Action, would contribute to cumulative effects on minority or low income populations.

3.16. Public Health and Safety

3.16.1. Affected Environment

OSHA laws regulate worker safety. The Proposed Action would include use of heavy equipment and creating open trenches during the course of construction and would comply with OSHA regulations (Navajo–Gallup Water Supply Project Reaches 24.1, 24.1 JAN, 25, and 26 Plan of Development 2013). Additional potential hazards to the general public include hazards associated with vehicle traffic.

The Environmental Protection Agency (EPA) and Department of Transportation (DOT) regulate hazardous materials under the Resource Conservation and Recovery Act (1976). The BLM manages public health and safety by complying with federal and state hazardous materials laws and regulations. The associated management goal of the BLM is to maintain the health of ecosystems through assessment, cleanup, and restoration of contaminated sites (USDI/BLM 2003a). Petroleum products that are transported in pipelines within the proposed project area are the primary hazardous material of concern. Accidental pipeline failure is a potential hazard associated with producing oil and gas fields (Reclamation 2009). Further general information on public health and safety in the proposed project area and potential hazards can be found in Chapter 5 of the 2009 Navajo–Gallup Water Supply Project Planning Report and Environmental Impact Statement.

3.16.2. Impacts from the Proposed Action

Direct and Indirect Impacts

Primary activities that could pose a risk to public health and safety from the Proposed Action are related to construction traffic and the operation of heavy equipment near public roadways. Health and safety risks for construction workers are related to the operation of heavy equipment, working around heavy equipment, and working in the vicinity of utilities (primarily gas gathering pipelines). These activities pose a risk of physical injury associated with auto accidents, contacting moving equipment, or explosion or fire from a punctured gas line. Direct and indirect effects to public health and safety would be minor and short term with the implementation of design features and adherence to OSHA regulations and BLM ROW grant stipulations.

Cumulative Impacts

There are no other known projects, that, when considered with the Proposed Action that would contribute to cumulative effects on public health and safety.

4. SUPPORTING INFORMATION

4.1. Tribes, Individuals, Organizations, or Agencies Consulted

Public scoping in this EA is tiered to the Reclamation FEIS-NGWSP, which conducted five public scoping meetings held specifically for the project and consulted with state and federal agencies, tribal governments, local governments, and interested organizations. The following individuals, agencies, or groups were consulted or sent copies of this document for review and comment:

Bureau of Indian Affairs—Navajo Regional Office and Jicarilla Agency

Jicarilla Apache Nation

Navajo Nation Chapters

Navajo Nation Historic Preservation Department

Navajo Nation Department of Fish and Wildlife

New Mexico State Historic Preservation Office

Souder Miller and Associates

U.S. Army Corps of Engineers

U.S. Fish and Wildlife Service

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APPENDIX A. RE-VEGETATION PLAN

This re-vegetation plan was designed to meet the requirements presented in the U.S. Department of the Interior Bureau of Land Management Farmington Field Office (BLM FFO) Bare Soil Reclamation Procedures (BLM FFO 2013) for disturbance resulting from the construction of the Navajo–Gallup Water Supply (NGWS) Reaches 24,1 24.1 JAN, and 25. The proposed project would consist of installing approximately 13.8 miles (22.2 km) of 14-inch diameter (36-cm) polyvinyl chloride pipeline from the Counselor Central tank to the Ojo Encino North tank, and an extension to the border of the Jicarilla Apache Nation ("24.1 JAN"), in Sandoval County, NM. The waterline would include 40 feet (12 m) of permanent right-of-way (ROW) and 60 additional feet (18 m) of temporary construction easement (TCE). The total acreage of permanent ROW would be 65.8 acres (26.6 ha); the total acreage of TCE would be 97.5 acres (39.5 ha). The total area of ROW and TCE combined would be approximately 163 acres (66.0 hectares). The majority of the waterline would follow existing BIA Route 474 and Navajo Tribal Utility Authority (NTUA) waterline ROWs.

The project would include construction of a pump station, with a 5.2-acre (2.1-ha) permanent easement, and a 0.1-mile-long (0.2-km) three-phase power line totaling 0.6 acre (0.2 ha) permanent easement. Another 0.1-mile-long single-phase power line would be constructed where the north–south portion of the waterline connects to the east–west portion leading to the Jicarilla Apache Nation. This would total 0.5 acre (0.2 ha). This line would power a proposed surge tank that would have a 0.3-acre (0.1-ha) ROW. Power lines on Bureau of Land Management (BLM) land would have a 30-foot (9-m) permanent ROW and ten feet (3 m) of TCE; power lines on Navajo land would have a 20-foot (6.1-m) ROW and an additional 20 feet of TCE.

The project would also include the construction of two water storage tanks/chlorination facilities at two existing tank sites. The Counselor tank would be built at the north end of the waterline and would have 3.8 acres (1.5 ha) of permanent easement. The Ojo Encino North tank would be built at the south end of the line and would have 1.4 acre (0.6 ha) of permanent easement. This tank would require the construction of a 0.2-mile-long (0.3-km) single-phase power line totaling 1.0 acre (0.4 ha).

The total area of potential disturbance for the pipeline and associated infrastructures would be approximately 176 acres (71.2 ha).

The major portion of the excavation will be done by bulldozers, scrapers and track hoes and possibly trenchers. A ripper will more than likely be used to break up sandstone, siltstone and shale. Topsoil will be stockpiled separate from general excavation material and will then be utilized during reseeding. The pipeline trench will reach a maximum depth in some areas as deep as 20 to 30 feet but typically averages around six feet in depth. The bottom width of the trench will be approximately three to four feet in width. Boring would involve a bore machine. Soil compaction would be conducted with sheepsfoot rollers, excavators, and/or jumping jack tampers. It is anticipated that water would need to be pumped from trenches when encountered to off-worksite areas. This water would need to be pumped off of the work area in order to minimize mud and rutting from heavy equipment and to dispose of excess water in the working trench. Contractors would be required to obtain all necessary permitting for such water disposal prior to commencing construction. Soils would be reshaped to original form and the area reseeded with native vegetation

The waterline and power line right-of-ways would be completely cleared of vegetation. Not all portions of the temporary construction easements would require vegetation removal because not all parts of the easements would be impacted—these would mostly function for stating areas and storage. A re-vegetation plan is required for all disturbances that remove vegetation and expose bare soil on BLM FFO lands.

The re-vegetation plan will follow the protocol outlined in Vegetation Reclamation Procedure B for disturbances over 0.1 acre. The initial onsite pre-disturbance visit was conducted on March 5th, 2013. Representatives from BLM FFO, BLM Rio Puerco Field Office (RPFO), and the Bureau of Reclamation

met with Ecosystem Management, Inc. (EMI) to survey the vegetation communities in the project area and discuss seed mixes and noxious weed issues. Re-vegetation on lands belonging to the BLM RPFO will also follow the Bare Soil Reclamation Procedures and resulting re-vegetation plan, as agreed to following the initial onsite visit and meeting with both field offices.

Long view of typical 30-foot disturbance right-of-way for the NGWS. Photo not from Reaches 24.1–25.

Cross view of typical 30-foot disturbance right-of-way for the NGWS. Photo not from Reaches 24.1–25.

A.1. Site Description

Pre-disturbance site photos are presented below.

A.1.1. Vegetation Communities

Sagebrush Community—The majority of the project area is classified as the Sagebrush Community (Figure 1). The dominant pre-disturbance vegetation consists of *Artemisia tridentata* (sagebrush), *Gutierrezia sarothrae* (broom snakeweed), and *Bouteloua gracilis* (blue grama). *G. sarothrae* is classified as an undesirable reclamation species in the Bare Soil Reclamation Procedures. *A. tridentata* is not recommended for re-vegetation because of its invasive nature in heavily grazed areas.

Pinyon–Juniper Community—The northern portion of Reach 24.1, the central and southern portions of Reach 25, and the eastern edge of 24.1 JAN, are classified as this community (Figure 1). The dominant vegetation consist of *Pinus edulis* (piñon pine), *Juniperus monosperma* (one-seeded juniper), and *A. tridentata*. The dominant grass is *B. gracilis*. All of this community is on the Navajo Nation. This community spans from approximately 280898E, 3999885N to 281485E, 3998174N (NAD83 UTM Zone 13N). *P. edulis* and *J. monosperma* occur on other portions of the project area, but they are scattered and sagebrush is the dominant shrub.

Photo 1. Northern end of project area facing east.

Photo 2. Northern end of project area facing west.

Photo 3. North-central portion of project area facing northwest.

Photo 4. North-central portion of project area facing southeast.

Photo 5. South-central portion of project area facing north.

Photo 6. South-central portion of project area facing south.

Photo 7. Southern end of project area facing east.

Photo 8. Southern end of project area facing north from pinyon–juniper community.

Photo 9. Southern section facing north.

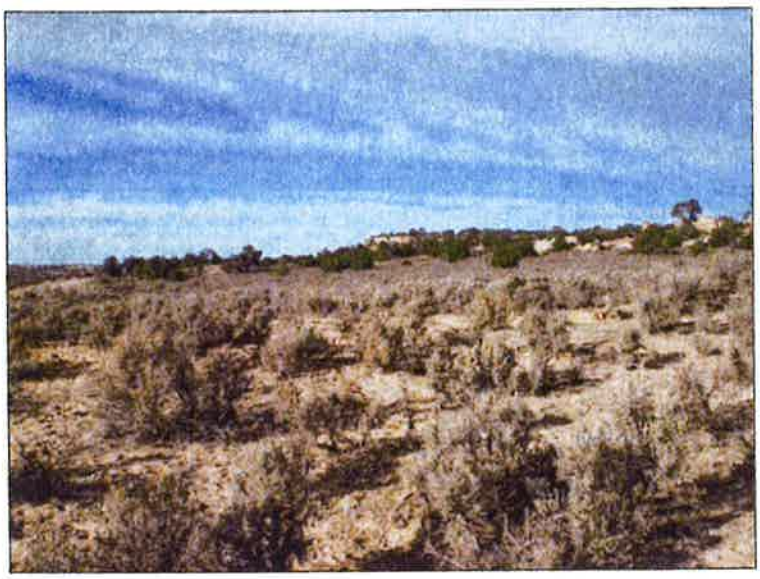

Photo 10. Reach 24.1 proposed pump station site facing north.

A.2. Reclamation

A.2.1. Seed Mixes

The reduced-palatability seed mix is recommended for the widespread sagebrush community and pinyon–juniper community. Most of the area is subject to grazing by cattle, horses, and sheep. It is unrealistic to fence off such a large disturbance area. Furthermore, fencing would interrupt current open ranges. Seed mixes for the community types are presented in Table 1.

A.2.2. Reclamation Techniques

Provided below are some procedures and methods that may to help achieve more effective reclamation success (taken from the BLM FFO community and seed-mix descriptions).

Soil Testing: Development of a soil-testing plan for evaluation of the results of topsoil handling and reclamation procedures related to re-vegetation may prove beneficial. Suggested soil testing may include some or all of the following: pH, electrical conductivity (EC), texture, topsoil depth and overall soil depth, carbonates (reactivity), organic matter (OM), and Sodium Absorption Ratio (SAR).

Topsoil Stripping, Storage, and Replacement: At a minimum, the upper six inches of topsoil should be stripped, following the removal of vegetation during construction. The stripped topsoil should be stored separately from subsoil or other excavated material and replaced prior to final seedbed preparation.

Seedbed Preparation: For cut-and-fill slopes, initial seedbed preparation should consist of backfilling and recontouring to achieve the configuration specified in the reclamation plan. Seedbed preparation for compacted areas should be ripped to a minimum depth of 18 inches, with a maximum furrow spacing of two feet. Where practicable, ripping should be conducted in two passes at perpendicular directions. Avoid leaving large clumps or clods. If this exists, disking should be conducted. Disking and seed drills should run perpendicular to slopes to provide terracing and prevent rapid runoff and erosion. Seedbed preparation is one of the most important steps for reclamation success. Following final contouring, the backfilled or ripped surfaces should be covered evenly with topsoil. Final seedbed preparation should consists of raking or harrowing to spread topsoil prior to seeding to promote a firm seedbed. A loose seedbed makes it impossible to control the depth of seeding because the tires and the planter sink into the soil. Seedbed preparation may not be necessary for topsoil storage piles or other areas of temporary seeding.

Planting Depth: Improper planting depth, particularly the planting of some species too deeply in "fluffy" soils, is one of the major impediments to reseeding success. The Truax™ seed drill or modified rangeland drills that allow for seeding species from different seed boxes at different planting depths have been used by other BLM offices to address this issue. Efforts should be taken to ensure that perennial grasses and shrubs are planted at the appropriate depth. Intermediate-sized seeds such as wheatgrasses and shrubs should be planted at a depth of 0.5 inch, larger seeds, such as *Achnatherum hymenoides* at one to two inches, and small seeds such as *Sporobolus airoides* and *S. cryptandrus*, should be planted at a depth of 0.25 inch. In situations where differing planting depths are not practicable with the equipment being used, the entire mix should be planted no deeper than 0.25 inch. Planting too shallow is generally better than planting too deep. A review of current research methods is recommended (e.g., USDA PLANTS, USDA Plant Materials Centers and Service Areas, and native seed companies).

Soil Amendments: Amending a soil is not the same thing as mulching, although many types of mulch also are used as amendments. A "soil amendment" is any material added to a soil to improve its physical properties, such as water retention, permeability, water infiltration, drainage, aeration, nutrition, and structure. Organic amendments include sphagnum peat, humate, wood chips, grass clippings, straw, compost, manure, biosolids, sawdust, and wood ash. Inorganic amendments include vermiculite, perlite, lime, gypsum, tire chunks, pea gravel, and sand.

Mulching: Mulch may increase the success of seed germination and provide protection against erosion. Mulch should be applied within 24 hours following completion of seeding. In areas of interim reclamation that used drill-seeding or broadcast-seeding/raking, mulch should consists of crimping certified weed-free straw or certified weed-free native grass hay into the soil. Hydromulching may be used in areas of interim reclamation where crimping is impracticable, in areas of interim reclamation that were hydroseeded, and in areas of temporary seeding regardless of seeding method. Mulch applications in extremely clayey soils should be evaluated carefully to avoid developing an adobe mixture. In these cases, a soil amendment may prove more beneficial.

Timing of Seeding: Precipitation is the principal input controlling biological processes in arid and semiarid regions. The pattern of soil moisture will have a great impact on the fate of seeding. Many grasses species will germinate following significant moisture events that allow for deeper infiltration of soil moisture (4–12 inches deep). This moisture generally persists for several weeks and is available for seedling root growth and establishment. Grass species belong to one of two basic physiological types: cool season or warm season. Cool-season grasses have optimum growth temperatures of 70–75°F, with growth halting at around 40°F. Warm-season optimum temperatures occur at 85–95°F, with growth ceasing at about 55°F. The best time for seeding grass is at the beginning of the growing season. For cool-season grasses, there are two growing cycles: fall and spring. The best time to plant cool-season grasses is in late summer or early fall. For warm-season grasses, there is one growing season: summer. The best time to plant warm-season grass species is early spring or summer, with the onset of the monsoons, which typically begin early to mid-July.

The paragraph above provides the optimal timings of seeding for cool- and warm-season species that make up the seed mixes for of the eight desired plant communities for reclaiming disturbed areas. Experience in Farmington Field Office has shown that with adequate winter moisture, cool-season seeds planted in the late fall or early winter (before the ground is frozen) will germinate the following spring, setting the stage for germination of warm-season species in the mix later in the season.

Table 1. Seed mixes for community types. Species in bold are known to grow in the project area.

Common Name	Scientific Name	Variety	Season	Form	PLS lbs./acre*
Reduced Palatability seed mix (for Sagebrush and Pinyon–Juniper Communities)					
Rubber rabbitbrush	*Ericameria nauseosa*	VNS	NA	Shrub	2
Four-wing saltbush	*Atriplex canescens*	VNS	NA	Shrub	2
Fringed sage	*Artemisia frigida*	VNS	NA	Sub-shrub	2
Purple threeawn	*Aristida purpurea*	VNS	Warm	Bunch	3
Indian ricegrass	*Achnatherum hymenoides*	Paloma or Rimrock	Warm	Bunch	3.5
Blue grama	*Bouteloua gracilis*	Alma or Hachita	Warm	Sod	2
Sand dropseed†	*Sporobolus cryptandrus*	VNS	Warm	Bunch	0.25
Scarlet globemallow	*Sphaeralcea coccinea*	VNS	Warm	Forb	0.25
Rocky Mountain beeplant	*Cleome serrulata*	VNS	Warm	Forb	0.25
Hairy false goldenaster	*Heterotheca villosa*	VNS	Warm	Forb	0.25

*Based on 60 pure live seeds (PLS) per square foot, drill seeded. Double this rate (120 PLS/ft.2) if broadcast or hydroseeded.

† *S. cryptandrus* is preferred over *S. airoides*, the common dropseed in the project area, because it is better suited for re-vegetation projects (S. Dykes, BLM FFO noxious weed coordinator, personal communication).

Additional Seeding Rates or Species: While minimum seed requirements have been provided by the BLM, it does not exclude proposals for increased seeding rates or additional species/varieties of plants to BLM for approval to achieve reclamation standards. Industry attaining an understanding of soil types, precipitation patterns, the climate, and vegetation/environment relationships could be very valuable.

Sterile Cover Crop Option: A straw mulch (see above) with no sterile cover nurse crop would be a better option than using a nurse crop in that the mulch would help preserve soil moisture in the upper 2–3 inches of soil, while nurse crops in arid environments can compete with native seedlings for moisture.

BLM Consultation: BLM is available provide consultations concerning fencing options to help minimize industry costs, should fencing be necessary to achieve reclamation success.

A.2.3. Challenges

Grazing Pressures

A challenge to successful re-vegetation of the project area is grazing pressure. Current BLM and Bureau of Indian Affairs grazing-allotment rates may not reflect the actual level of grazing pressure in the area. Feral horses are abundant in some places; sheep and cattle are also common. Fences are few across the project area. Large portions of the project area, particularly Reaches 24.1, 24.1 JAN, and 25, lack substantial grass cover, and the revegetated right-of-way may attract hungry animals from the surrounding areas. Indeed, a visual inspection of the project area suggests that heavy grazing, coupled with the recent years' drought, have had negative impacts on native vegetation. Moreover, it is impractical to fence off approximately 14 miles of ROW. For this reason, we have recommended the reduced-palatability seed mix for most of the area.

Noxious Weeds

Eliminating and preventing further invasion of noxious weeds is another challenge for re-vegetation.

The New Mexico Class B and Bureau of Indian Affairs (BIA) Navajo Region Class B noxious weed *Halogeton glomeratus* (halogeton) was found scattered throughout Reaches 24.1, 24.1 JAN, and 25 during the summer of 2011 (Figure 2). However, *H. glomeratus* along these reaches appeared less prevalent in 2012. These reaches closely follow a frequently used dirt road and intersect multiple disturbed areas (e.g., stock ponds, highly grazed areas).

H. glomeratus can be very problematic in disturbed areas where it may thrive from lack of competition. Following the protocol in the Bare Soil Reclamation Procedures Appendix D. Surface Use Plan of Operations Weed Management, the BLM FFO weed coordinator will review the noxious weed issues in the project area and submit onsite, specific requirements and instructions for weed treatments. The requirements and instructions will include the time frame of treatment, approved herbicides that may be used, required documentation to be submitted to the FFO after treatment, and any other site-specific instructions that may be applicable. Due to the seasonal nature of effective weed-treatment techniques, the operator may be required to treat the weeds before ground disturbance or may be required to treat the weeds after ground disturbance to avoid unreasonable delays.

A.3. Monitoring and Reporting Requirements

Post-re-vegetation monitoring requirements for Vegetation Reclamation Procedure B are presented below and can be found in section 3 of the Bare Soil Reclamation Procedures (BLM FFO 2013). It is available online:http://www.blm.gov/pgdata/etc/medialib/blm/nm/field_offices/farmington/farmington_planning/surface_use_plan_of.Par.69026.File.dat/FFO%20Bare%20Soil%20Reclamation%20Procedures%202-1-13.pdf.

A.3.1. Monitoring Responsibilities

The operator is responsible for the following:

- Conducting annual monitoring starting two calendar years after approval of required earthwork and/or seeding, and continuing until the vegetation percent cover standards have been attained, or an exception has been issued by the FFO. The FFO monitoring form will be completed and submitted to the FFO by December 31 of the year monitored.
- Reading the line point-intercept transects to document to FFO that vegetation percent cover standards have been attained.
- Requesting concurrence from the FFO that vegetation percent cover standards have been attained.
- Participating in conferences with the FFO and other effected parties to analyze issues contributing to unsuccessful reclamation.
- Participating in the implementation of remedial actions developed during the conference process as necessary.
- Conducting long term monitoring (every fifth year) after vegetation percent cover standards have been attained during the life of the well.
- All areas authorized by the APD until the operator transfers the permit or abandons the project and obtains a Final Abandonment Notice (FAN) from the FFO.

The FFO is responsible for the following:

- Establishing monitoring sites in collaboration with the operator during the required earthwork and/or seeding inspection, and submitting to the operator the initial monitoring report within 60 days of earthwork and/or seeding inspection approval.
- Evaluating annual monitoring reports submitted by the operator, and acknowledging to the operator that the reports have been received and evaluated within 60 days after received from the operator.
- Providing concurrence (or not) to the operator that the vegetation percent cover standards have been attained and rational for the determination within 60 days of receiving the request for concurrence.
- Participating in conferences with the operator and other effected parties to analyze issues contributing to unsuccessful reclamation.
- Participating in the implementation of remedial actions developed during the conference process as necessary.

A.3.2. Monitoring Components

The following monitoring components are required for the Vegetation Reclamation Procedure B:

- Establish monitoring sites after seeding is completed.
- Conduct annual monitoring starting two calendar years after seeding is completed.
- Evaluate monitoring reports.
- Compile and present documentation that percent vegetation cover standards have been attained.
- Request concurrence from the FFO that percent vegetation cover standards have been attained.
- FFO will provide concurrence (or not) that percent vegetation cover standards have been attained.
- Develop remedial plans to correct impacts to re-vegetation that may prevent the revegetated area from attaining per cent vegetation cover standards.
- Conduct long term monitoring after percent vegetation cover standards have been attained.

A.3.3. Monitoring Reporting

The FFO annual monitoring form will be completed and submitted to the FFO by December 31 of the year monitored. The FFO will evaluate the monitoring reports submitted and acknowledge that the reports have been received and evaluated within 60 days after they are received.

A.4 Standards

The following are the reclamation goals for each community type.

Sagebrush Community—≥ 35% foliar cover of trees/shrubs/grasses/forbs. ≤ 10% foliar cover of invasive/undesirables. 10% is allowed toward the meeting standard of 35%.

Pinyon–Juniper Community—≥ 20% foliar cover of trees/shrubs/grasses/forbs. ≤ 10% foliar cover of invasive/undesirables. 10% is allowed toward the meeting standard of 35%.

FFO will read the line point intercept transects when the vegetation appears to have the potential to attain the standard. The holder may also request FFO staff to repeat a linear transect with a representative of the holder present if the holder believes the standard may be attained. The FFO will compile the following information to document that the percent vegetation cover standards have been attained:

- The overall percent foliar cover score from the linear transects for the ROW.
- The line point intercept transect data sheets.
- Photos from each established photo point.
- Two photos of each ROW line point intercept transect location: one photo looking each direction along the ROW. One photo taken of each transect from one end of the transect looking straight down to the ground.
- The FFO will prepare a notice to the ROW file that the percent cover standards have been attained.
- A copy of the notice will be supplied to the holder upon request.

The operator may request FFO concurrence that vegetation percent cover standards have been attained any time after two calendar years of completion of earthwork and seeding. When the vegetation on a reclaimed site appears to meet the required percent re-vegetation standard, the proponent may read the transect to document that the percent vegetation standards for the site have been attained. A request for concurrence that the percent re-vegetation standards have been attained may be submitted to the FFO. The request for concurrence will include the transect data sheets and photos taken from all the initial photo points established in the initial monitoring report. The FFO will review the request and either approve or deny the request within 60 days. If the FFO denies the request, the FFO may initiate a site inspection within 60 days of the denial to analyze the site and determine if remedial actions may be appropriate.

A.5. Final Abandonment and Relinquishment

Requirements for the abandonment or relinquishment of re-vegetation monitoring for Vegetation Reclamation Procedure B are described below and can be found in section 3 of the Bare Soil Reclamation Procedures (BLM FFO 2013). It is available online:

http://www.blm.gov/pgdata/etc/medialib/blm/nm/field_offices/farmington/farmington_planning/surface_use_plan_of.Par.69026.File.dat/FFO%20Bare%20Soil%20Reclamation%20Procedures%202-1-13.pdf.

Monitoring requirements remain in effect as long as the permit, grant, or authorization remains in force, and until all associated facilities or infrastructure is abandoned by established BLM procedure and a final abandonment notice (FAN) or relinquishment is issued by the FFO. The operator must document that percent cover standards have been obtained when submitting a request for a FAN or a relinquishment. If ownership of any portion of the permit, grant, or authorization is transferred to another entity, the re-vegetation and monitoring requirements for the portion transferred will be assumed by the acquiring entity.

A.5.1. Lack of Progress in the Attainment of the Reclamation Standards

When monitoring reports indicate that bare soil reclamation is not successful, or the FFO identifies negative impacts within the reclamation area, the FFO or the permit holder/grantee may request a conference to analyze the issues that may have contributed to reclamation failure, or lack of meaningful progress. FFO will facilitate the conference and invite potential affected parties such as the permit holder, grantee, FFO surface staff, range staff, realty staff, recreation staff, grazing permittee, or other authorized users that may be operating in the vicinity. The members of the conference will discuss the potential causes that may have contributed to the nonattainment of the reclamation standards. The conference may result in the development of a remedial plan to address the lack of re-vegetation success, or to repair and reseed damage to reclaimed areas. In cases where the permit holder/grantee can demonstrate that

the site does not have the biological potential to attain the standards, the conference may result in the initiation of the exception process (see section 3 in the Bare Soil Reclamation Procedures (BLM FFO 2013).

A.6 Literature Cited

Souder, Miller and Associates. 2013. Navajo–Gallup water supply project Reach 24.1, 24.1 JAN, 25, and 26 plan of development. Souder, Miller and Associates, Albuquerque, NM.

U.S. Department of the Interior Bureau of Land Management Farmington Field Office (BLM FFO). 2013. Bare Soil Reclamation Procedures.

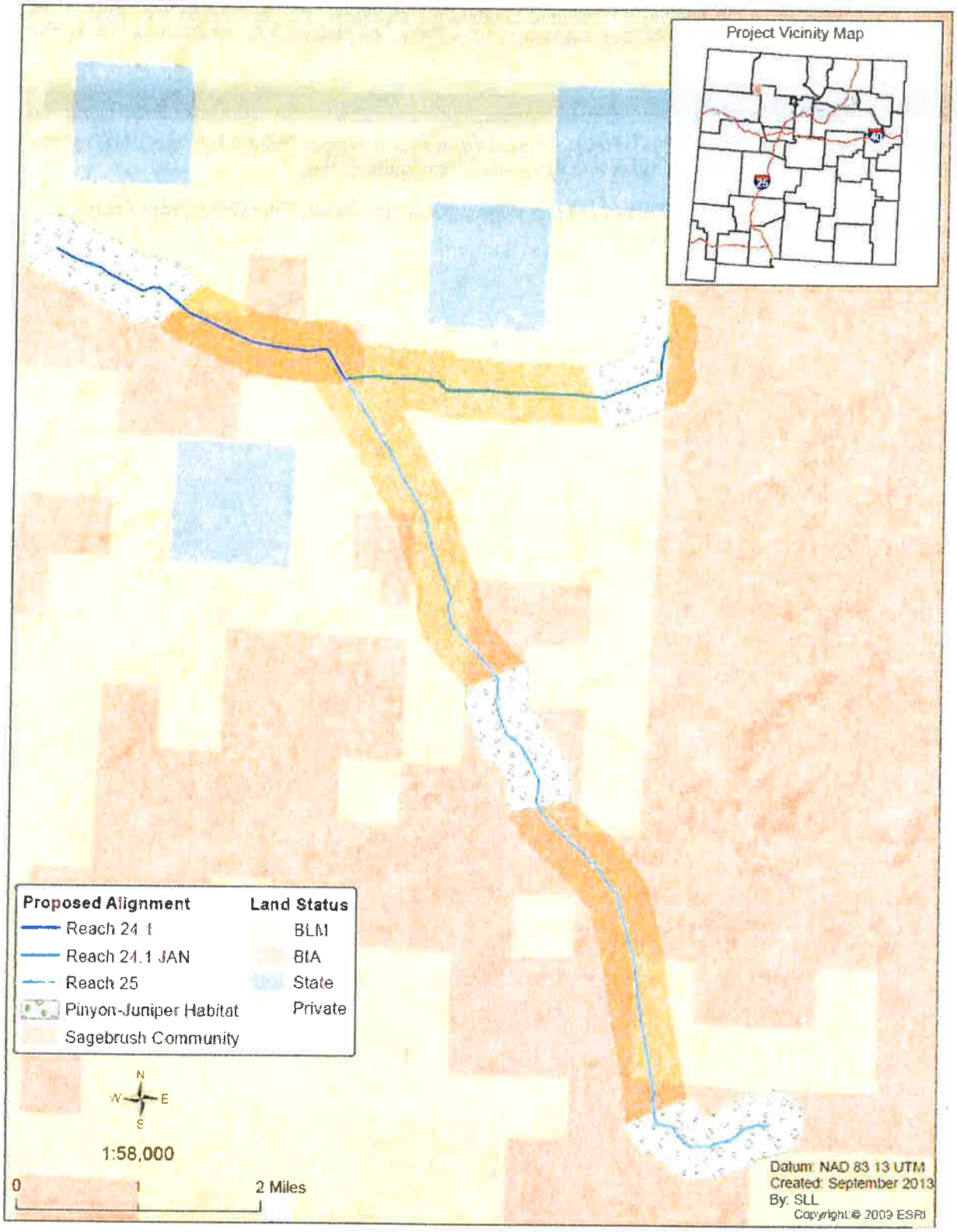

Figure 1. Vegetation communities for Reaches 24.1, 24.1 JAN, and 25.

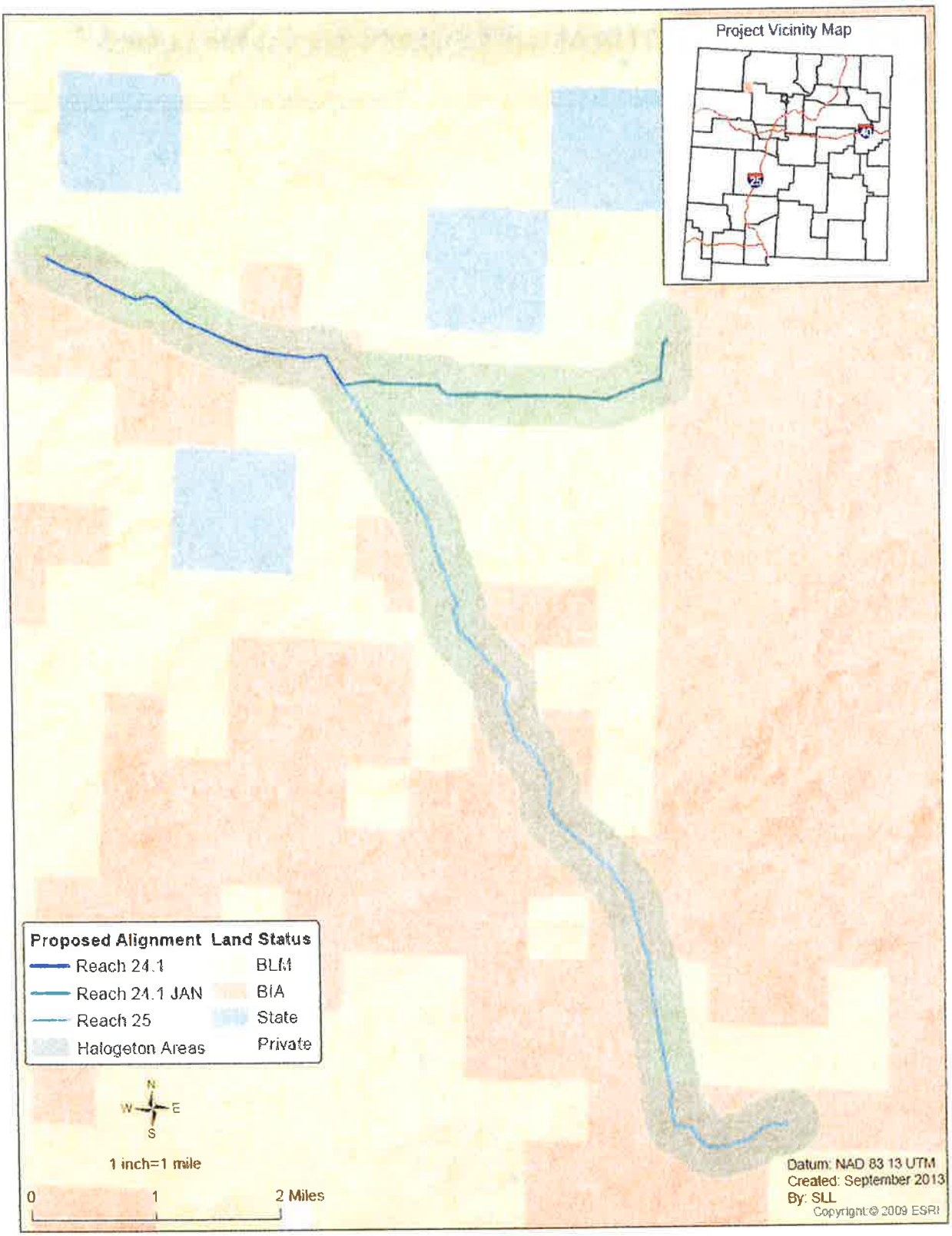

Figure 2. General location of noxious weeds for Reaches 24.1, 24.1 JAN, and 25.

APPENDIX B. CULTURAL RESOURCES COMPLIANCE FORM

APPENDIX C. BIOLOGICAL RESOURCES COMPLIANCE FORM

NNDFW Review No. 12EM-03

BIOLOGICAL RESOURCES COMPLIANCE FORM
NAVAJO NATION DEPARTMENT OF FISH AND WILDLIFE
P.O. BOX 1480, WINDOW ROCK, ARIZONA 86515-1480

It is the Department's opinion the project described below, with applicable conditions, is in compliance with Tribal and Federal laws protecting biological resources including the Navajo Endangered Species and Environmental Policy Codes, U.S. Endangered Species, Migratory Bird Treaty, Eagle Protection and National Environmental Policy Acts. This form does not preclude or replace consultation with the U.S. Fish and Wildlife Service if a Federally-listed species is affected.

PROJECT NAME & NO.: Navajo-Gallup Water Supply Reaches 24.1, 24.1 JAN & 25

DESCRIPTION: Proposed permanent right-of-way of 100.4 acres and temporary construction easement of 66.9 acres. The project would also include the construction of a new pump station, surge tank, single-phase & three-phase power line, three water storage tanks, and one chlorination facility. The total combined area of potential disturbance for the water line and associated infrastructure would be approximately 179.3 acres.

LOCATION: Counselor Chapter, Sandoval County, New Mexico

REPRESENTATIVE: Matt Brooks, Ecosystem Management. Inc. (EMI)

ACTION AGENCY: U.S. Department of the Interior, Bureau of Reclamation/Souder, Miller & Associates

B.R. REPORT TITLE / DATE / PREPARER: Biological Report for NGWS Reaches 24.1, 24.1 JAN & 25/JUL 2013/EMI

SIGNIFICANT BIOLOGICAL RESOURCES FOUND: Area 3. Suitable nesting habitat is present for Migratory Birds not listed under the NESL or ESA. Migratory Birds and their habitats are protected under the Migratory Bird Treaty Act (16 USC §703-712) and Executive Order 13186. Under the EO, all federal agencies are required to consider management impacts to protect migratory birds.

POTENTIAL IMPACTS

NESL SPECIES POTENTIALLY IMPACTED: NA

FEDERALLY-LISTED SPECIES AFFECTED: NA

OTHER SIGNIFICANT IMPACTS TO BIOLOGICAL RESOURCES: NA

AVOIDANCE / MITIGATION MEASURES: [1] Mitigation measures will be implemented to avoid impacts on species protected under the MBTA that could potentially nest within and adjacent to the proposed action area.

CONDITIONS OF COMPLIANCE*: NA

FORM PREPARED BY / DATE: Pamela A. Kyselka/26 AUG 2013

COPIES TO: (add categories as necessary)

☐ _____ ☐ _____

2 NTC § 164 Recommendation:
- ☒ Approval
- ☐ Conditional Approval (with memo)
- ☐ Disapproval (with memo)
- ☐ Categorical Exclusion (with request letter)
- ☐ None (with memo)

Signature _____ Date 8/27/13

Gloria M. Tom, Director, Navajo Nation Department of Fish and Wildlife

*I understand and accept the conditions of compliance, and acknowledge that lack of signature may be grounds for the Department not recommending the above described project for approval to the Tribal Decision-maker.

Representative's signature _____ Date _____

Appendix J – Endangered Species Documentation

Appendix K – Historic Preservation Documentation

NMCRIS No. 122467

An Addendum to a Cultural Resource Survey of 568 Acres for the Navajo Gallup Water Supply Reaches 24.1 and 25, Sandoval County, New Mexico

Prepared for:
Souder Miller & Associates
3451 Candelaria Rd NE # D
Albuquerque, NM 87107-1955

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Survey Conducted Under:
Navajo Nation Cultural Resources Inventory Permit B10616
BLM Permit 157-2920-09-T

EMI Report Number 1002.a

BLM Report Number 2013(I)065.1F

May 2013

An Addendum to a Cultural Resource Survey of 568 Acres for the Navajo Gallup Water Supply Reaches 24.1 and 25

Sandoval County, New Mexico

Submitted To:

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ABSTRACT

Ecosystem Management, Inc. (EMI) was contracted by Souder, Miller & Associates to conduct a cultural resources inventory for the proposed U. S. Department of Interior Bureau of Reclamation-funded Navajo Gallup Water Supply (NGWS) Reaches 24.1 and 25 Project. The proposed project would consists of installing approximately 13.9 miles (22.4 km) of 14-inch diameter (36-cm) polyvinyl chloride pipeline from the Counselor Central tank to the Ojo Encino North tank in Sandoval County, NM. The waterline would include 40 feet (12 m) of permanent right-of-way (ROW) and 60 additional feet (18 m) of temporary construction easement (TCE). The majority of the waterline would follow existing BIA road 474 and Navajo Tribal Utility Authority (NTUA) waterline right-of-ways.

Following initial field survey, an additional 3.11 mile (5.01 km) waterline extension was added to the project. This extension, referred to as Reach 24.1 JAN, travels east-west from BIA road 474 to the Jicarilla Apache Nation border. A small 0.1 mile (0.17 km) single-phase power line is also associated with Reach 24.1 JAN. The supplementary survey was conducted from November 19-20, 2012, and resulted in the addition of 149.9 acres to the larger waterline project.

On April 18, 2013, EMI conducted further supplementary surveys associated with the proposed NGWS reaches. Five areas were surveyed during the field visit: a 722 meter long reroute around a recently constructed natural gas well, a 501 meter long reroute around a large sandstone outcrop, a 340 meter powerline running to the Ojo Encino Tank, a 25.5 meter long drain off the Ojo Encino Tank, and a 1.75 acre area selected for the installation of culverts near the pump station. The Ojo Encino Tank footprint was also expanded to the north, west, and east, increasing from 1.08 acres to 1.42 acres. The additional fieldwork resulted in the addition of 15.9 acres to the larger project. The inventory consisted of a cultural resources inventory and evaluation and recommendations for the National Register of Historic Places (NRHP) eligibility. The total length of routes for both the 24.1 JAN extension and five supplemental surveys is 38,018.4 feet, 18,717.6 of which are on BLM land.

This undertaking complies with the provisions of the National Historic Preservation Act of 1966, as amended and applicable regulations. The report is consistent with applicable federal and state standards for cultural resource management, as well as with standards and guidelines required by the Navajo Nation; and the standards set forth in the BLM National Handbook and the BLM New Mexico Handbook. The lead agency for the project is the United States Bureau of Reclamation (USBR). Dr. Anthony Klesert served as Principal Investigator; Shane Montgomery served as field director. Natalie P. Frodsham made the maps for this report. The inventory was conducted under Navajo Nation Historic Preservation Department Cultural Resources Inventory Permit B10616 and BLM Permit 157-2920-09-T. The New Mexico Cultural Resources Information System (NMCRIS) project activity number is 122467. The Bureau of Land Management (BLM) report number is 2013(I)065.1F.

No new or previously recorded archaeological sites reside within the additional survey areas. EMI recommends a determination of *no adverse effect* on cultural resources within the Area of Potential Effect if all parties involved in the project adhere to stipulations presented above to avoid impacts of the project's effects on the cultural resources described here.

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INTRODUCTION

Description of Undertaking

Ecosystem Management, Inc. (EMI) was contracted by Souder, Miller & Associates to conduct a cultural resources inventory for the proposed U. S. Department of Interior Bureau of Reclamation-funded Navajo Gallup Water Supply (NGWS) Reaches 24.1 and 25 project. The proposed project would consists of installing approximately 13.9 miles (22.4 km) of 14-inch diameter (36-cm) polyvinyl chloride pipeline from the Counselor Central tank to the Ojo Encino North tank in Sandoval County, NM. The waterline would include 40 feet (12 m) of permanent right-of-way (ROW) and 60 additional feet (18 m) of temporary construction easement (TCE). The majority of the waterline would follow existing BIA road 474 and Navajo Tribal Utility Authority (NTUA) waterline right-of-ways.

The original survey work was conducted in July 2011 and June 2012 (consult EMI report 1002 for full details). Following initial field survey, an additional 3.11 mile (5.01 km) waterline extension was added to the project. This extension, referred to as Reach 24.1 JAN, travels east-west from BIA road 474 to the Jicarilla Apache Nation border. A small 0.1 mile (0.17 km) single-phase power line is also associated with Reach 24.1 JAN. The supplementary survey was conducted from November 19-20, 2012, and resulted in the addition of 149.9 acres to the larger waterline project, including 142 acres on BLM land and 7.9 acres on Navajo Nation land. Transects paralleled the proposed routes, following staked t-posts denoting the right-of-way centerline. The t-posts were placed at irregular distances and marked with fluorescent flagging tape to aid visibility. Project boundaries were identified based on project shapefiles accessed through handheld GPS devices and cross-referenced with scaled USGS 7.5' Quadrangle maps.

On April 18, 2013, EMI conducted further supplementary surveys associated with the proposed NGWS reaches. Five areas were surveyed during the most recent field visit in additional to the 3.11 mile waterline extension (see Figures 1-4). The total length of routes for both the 24.1 JAN extension and five supplemental surveys is 38,018.4 feet, 18,717.6 of which are on BLM land.

First Supplement: Ojo Encino Tank Drain
Two small surveys were conducted at the end of Reach 25 near the Ojo Encino Tank. The first involved a proposed 80 ft. (24 m) drain line from the north end of the tank. The drain flows into an existing ditch and would provide overflow protection for the tank. Inventory of the drain resulted in the addition of 3.6 acres, 3.3 of which were located within the previously identified APE (see Figure 5).

Second Supplement: Ojo Encino Tank Power line
The second survey was around the Ojo Encino Tank and consisted of a 0.2 mile (340 m) long power line connecting the tank to existing utilities. A 30 foot buffer was surveyed along this route, resulting in the addition of 0.78 acres, 0.25 of which were located within the previous APE. The Ojo Encino Tank footprint was also increased by 6.1 meters (20 ft) on the west and north sides and 4.6 meters (15 ft) on the east side, increasing the associated area of disturbance by 0.53 acres. The increased Ojo Encino Tank footprint was also resurveyed at this time (see Figure 6)

Third Supplement: Culverts
The third survey area included areas for culverts located southwest of the proposed booster pump station. Approximately 1.75 acres were identified on the southwest side of ISR 474 for the

installation of several culverts to provide drainage under the road. The actual disturbance resulting from culvert installation will be minimal and run underneath the road; however, a larger area was surveyed to allow flexibility with culvert placement. Pedestrian survey in these area resulted in the addition of 1.86 acres (see Figure 7).

Fourth Supplement: Sandstone Outcrop Reroute
The fourth survey was located in the northern end of Reach 24.1. This minor reroute diverged from the main proposed water line in order to avoid a large sandstone outcrop. The rerouted portion measured 501 meters (1,643.7 ft) long and resulted in the addition of 0.13 acres (see Figure 8).

Fifth Supplement: Oil Pad Reroute
The fifth survey area was a 722 meter (2,368.77 ft) long reroute of Reach 24.1 to avoid a large oil/natural gas well that had been constructed in the proposed waterline route following initial survey. Survey of the area surrounding the oil field revealed significant impacts to LA 171644, a site previously identified by EMI in 2011. The additional fieldwork resulted in a total of 15.9 acres to the larger waterline project (see Figure 9).

Heavy equipment associated with the construction project will include excavators, trenchers, backhoes, bulldozers, augers, cranes, and water trucks. Bulldozers will clear and grub the width of the ROW and cut/fill rough areas along the waterline alignment. An excavator, trencher, and backhoe will be used to construct trenches for waterlines and footings for the tanks and pump station. A crane will be used to help construct the tanks and install the prefabricated pump station. Backhoes will backfill all trenches once the waterline is installed. An excavator with a rock hammer or a rock saw will be used to remove rock where present. Water trucks will be utilized along the ROW for dust control. An auger will be used to create post holes for the power line poles and guide wire anchors, with each hole measuring less than two square meters. The power poles will be installed by large utility trucks, which will also string the lines. The power line would include 30 ft. (9 m) wide right-of-ways.

The inventory consisted of a cultural resources inventory and evaluation and recommendations for the National Register of Historic Places (NRHP) eligibility. Potential adverse effects from the project include ground disturbance from construction workers, transport and placement of vehicles and equipment and subsurface trenching for the installation of the pipeline, power poles, culverts, and drain.

This undertaking complies with the provisions of the National Historic Preservation Act of 1966, as amended, and applicable regulations. The report is consistent with applicable federal and state standards for cultural resource management, as well as with standards and guidelines required by the Navajo Nation; and the standards set forth in the BLM National Handbook and the BLM New Mexico Handbook. The inventory was conducted under Navajo Nation Historic Preservation Department Cultural Resources Inventory Permit B10616 and BLM Permit 157-2920-09-T.

Client
Souder Miller & Associates, 3451 Candelaria Rd NE #D, Albuquerque, NM 87107-1955 is the project proponent. The contact name is Jane Ann Bode.

Agency Consultation
The Bureau of Reclamation is the lead federal agency for purposes of compliance with Section 106 of the NHPA and related requirements.

Dates of Investigation and Personnel

Fieldwork was conducted on April 18, 2013. Dr. Anthony Klesert served as Principal Investigator and Shane Montgomery served as field director. Garth Hayden, Shane Montgomery and Natalie P. Frodsham prepared this report addendum. Natalie P. Frodsham made the maps for this report.

Map References and Legal Descriptions

Maps consulted for the additional survey areas include the Counselor 36107b4 and Mule Dam 36107a4 quadrants.

Table 1: Project Area Location by USGS 7.5' Quadrangle

Map/Reference Name	Code	Date
Counselor	36107b4	1970
Mule Dam	36107a4	1969

Table 2: Additional Survey Locations: Township, Range and Section

Survey Location	Quadrant	Township (N/S)	Range (E/W)	Section(s)
Reach 24.1 JAN	Counselor	22N	6W	1, 10, 11, 12
1. Ojo Encino Tank Drain	Mule Dam	21N	5W	8
2. Ojo Encino Tank Powerline	Mule Dam	21N	5W	8
3. Pump Station Culverts	Counselor	22N	6W	14
4. Sandstone Outcrop Reroute	Counselor	22N	6W	5
5. Oil Pad Reroute	Counselor	22N	6W	4, 5, 8, 9

Table 3: Additional Survey Acreages

Survey Location	BLM FFO	BLM RPFO	Navajo FFO	Navajo RPFO
Reach 24.1 JAN	142		7.9	
1. Ojo Encino Tank Drain				0.3
2. Ojo Encino Tank Powerline				0.53
3. Pump Station Culverts	1.86			
4. Sandstone Outcrop Reroute			0.13	
5. Oil Pad Reroute	13.1			

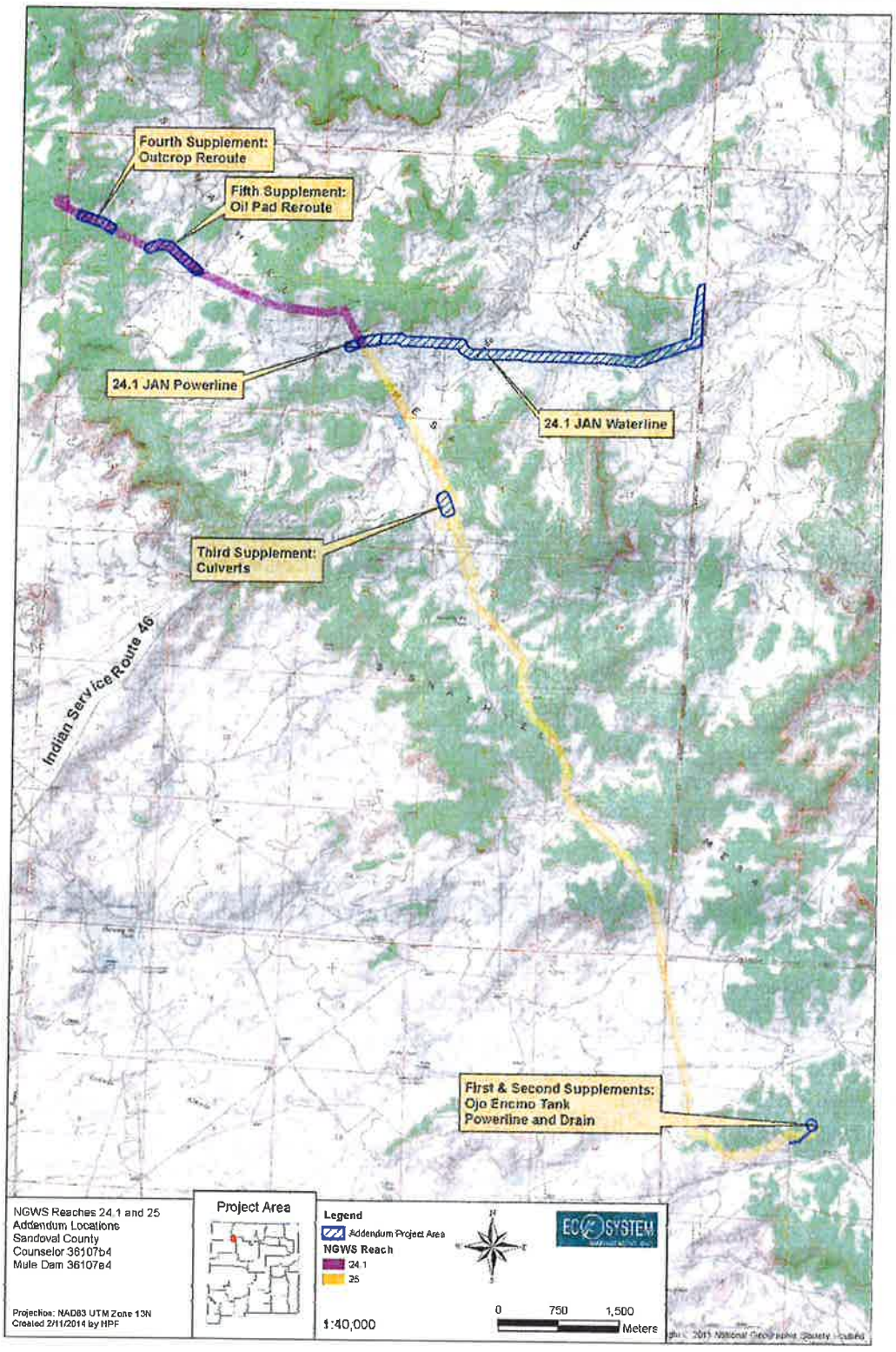


Figure 1: Addendum Locations Overview

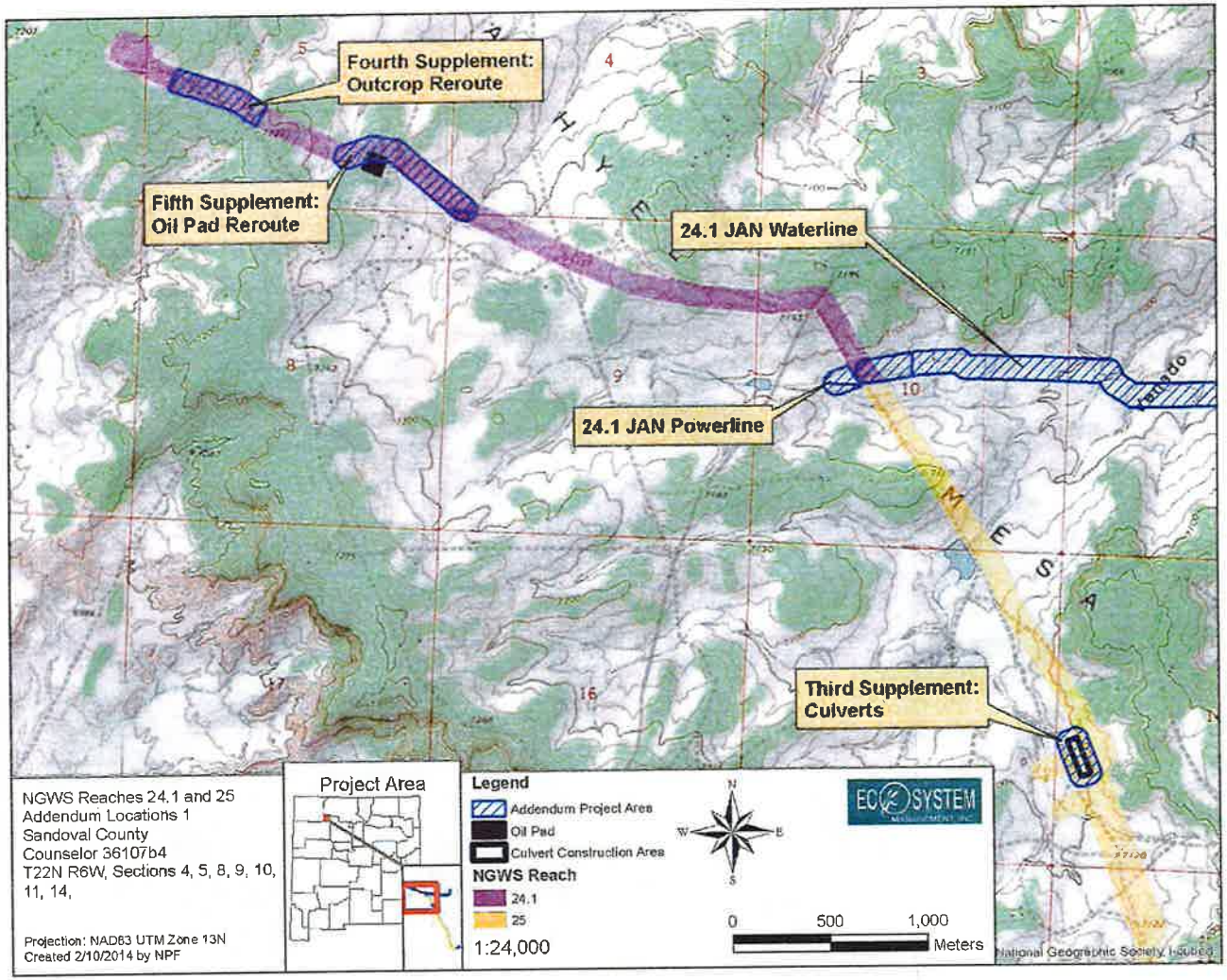


Figure 2: Addendum Locations 1

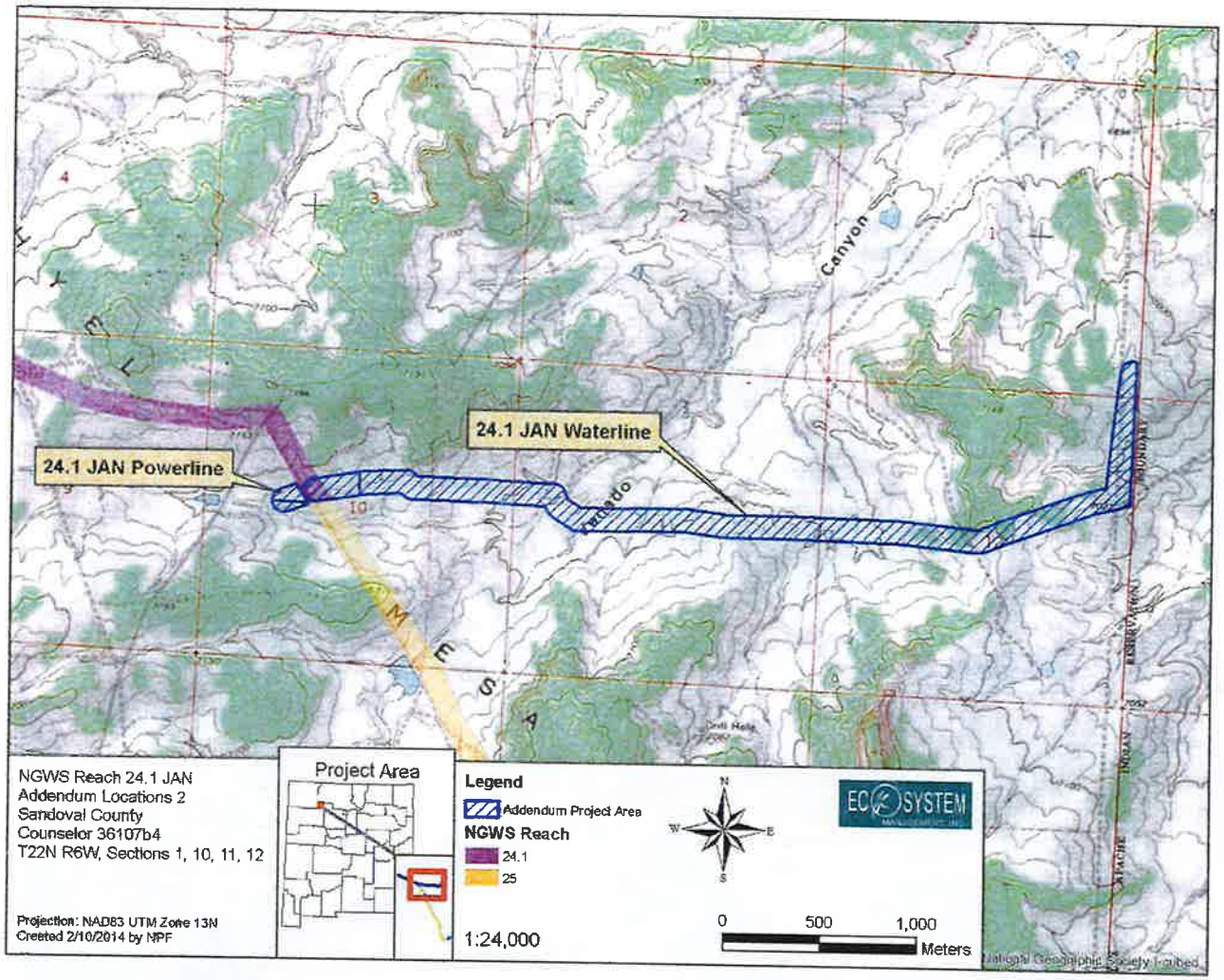


Figure 3: Addendum Locations 2

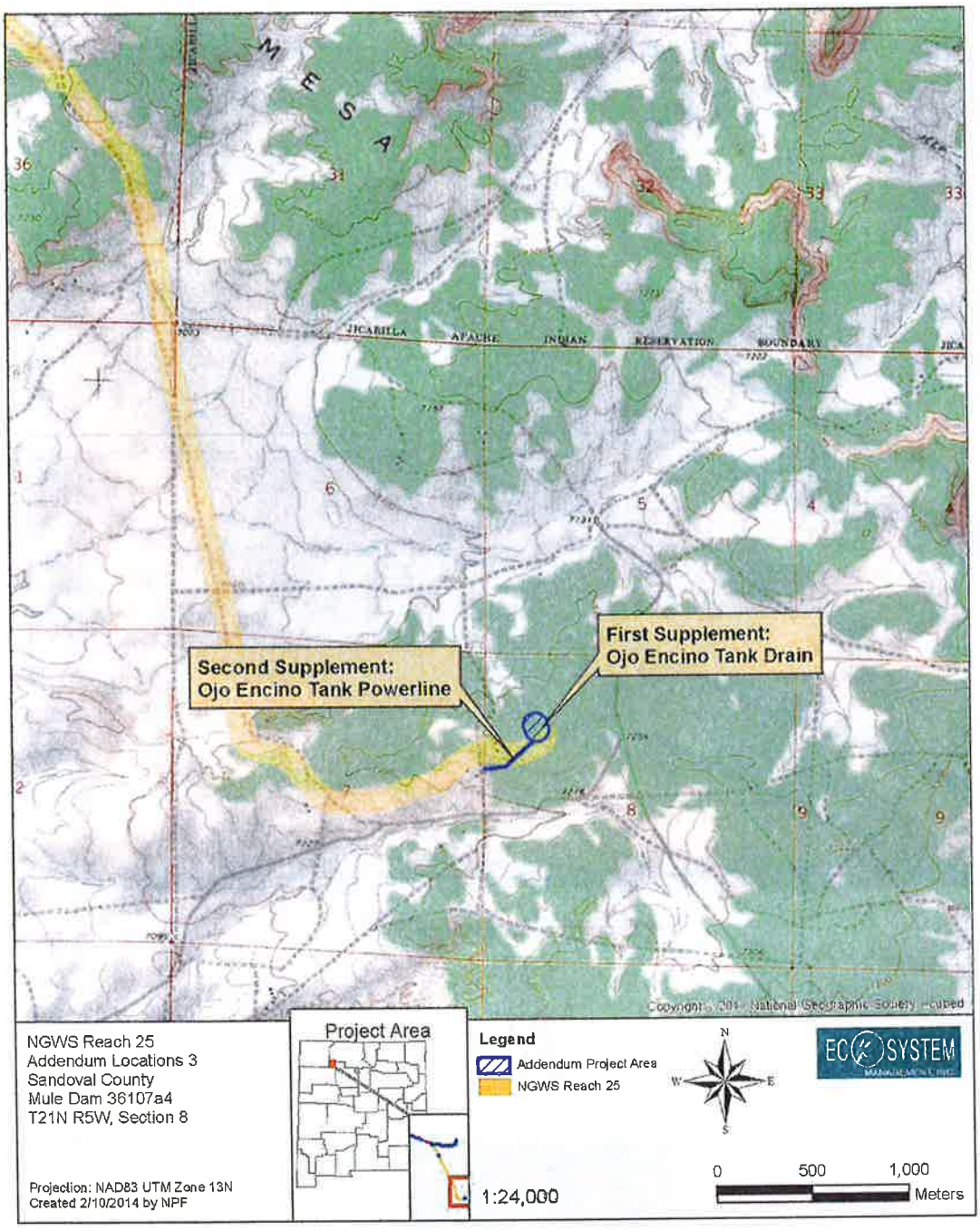


Figure 4: Addendum Locations 3

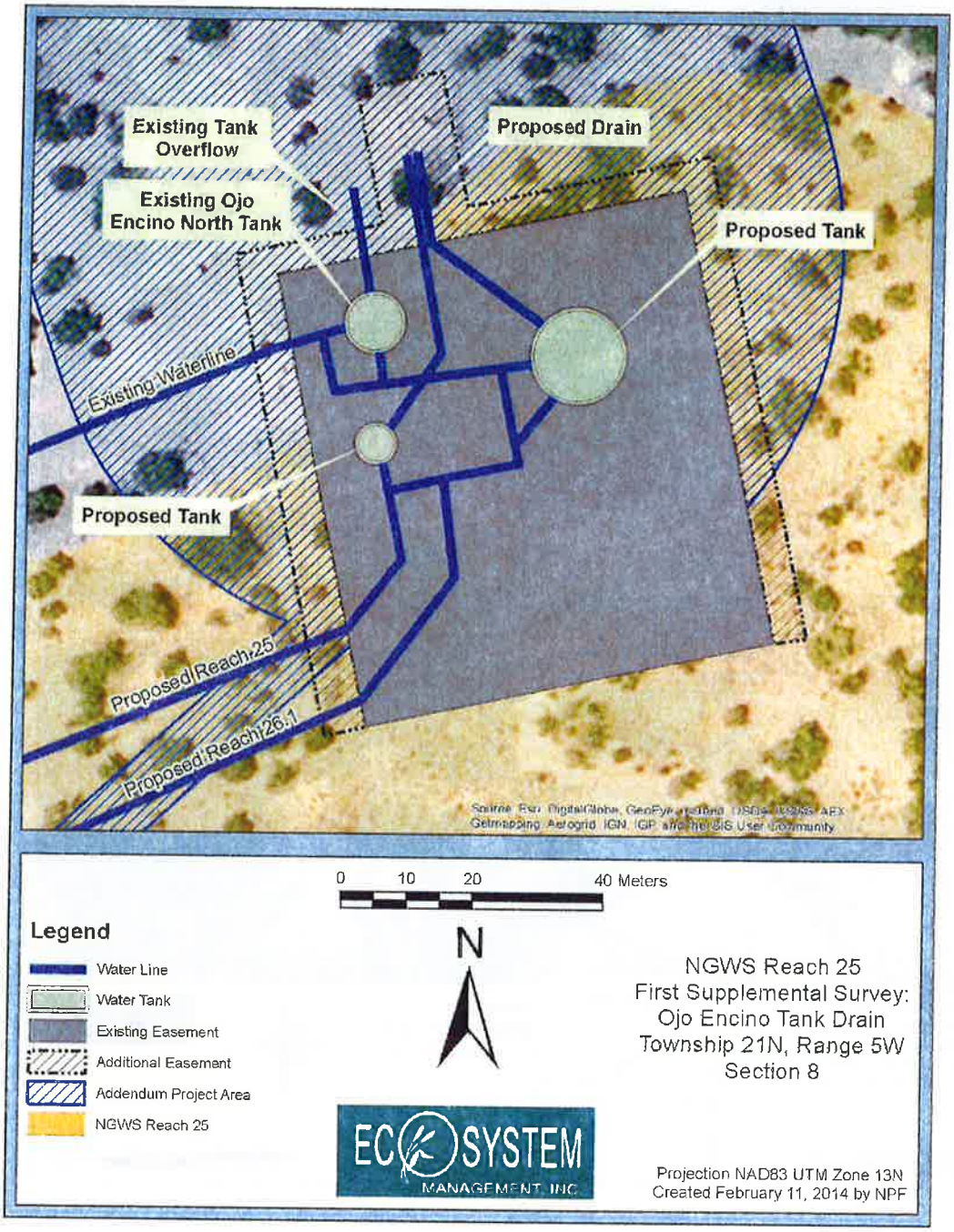


Figure 5: Ojo Encino Tank Drain Area

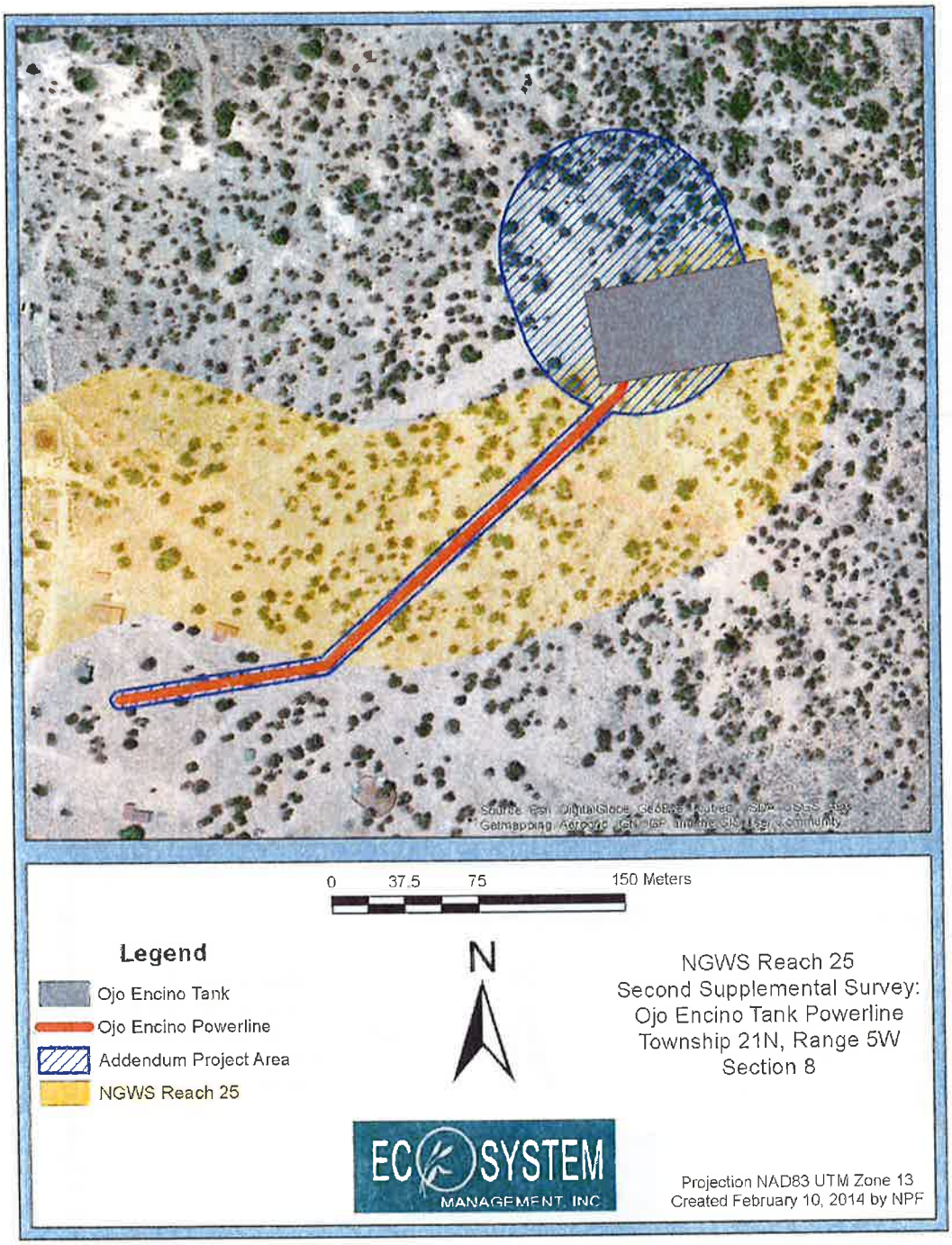


Figure 6: Ojo Encino Tank Power Line Area

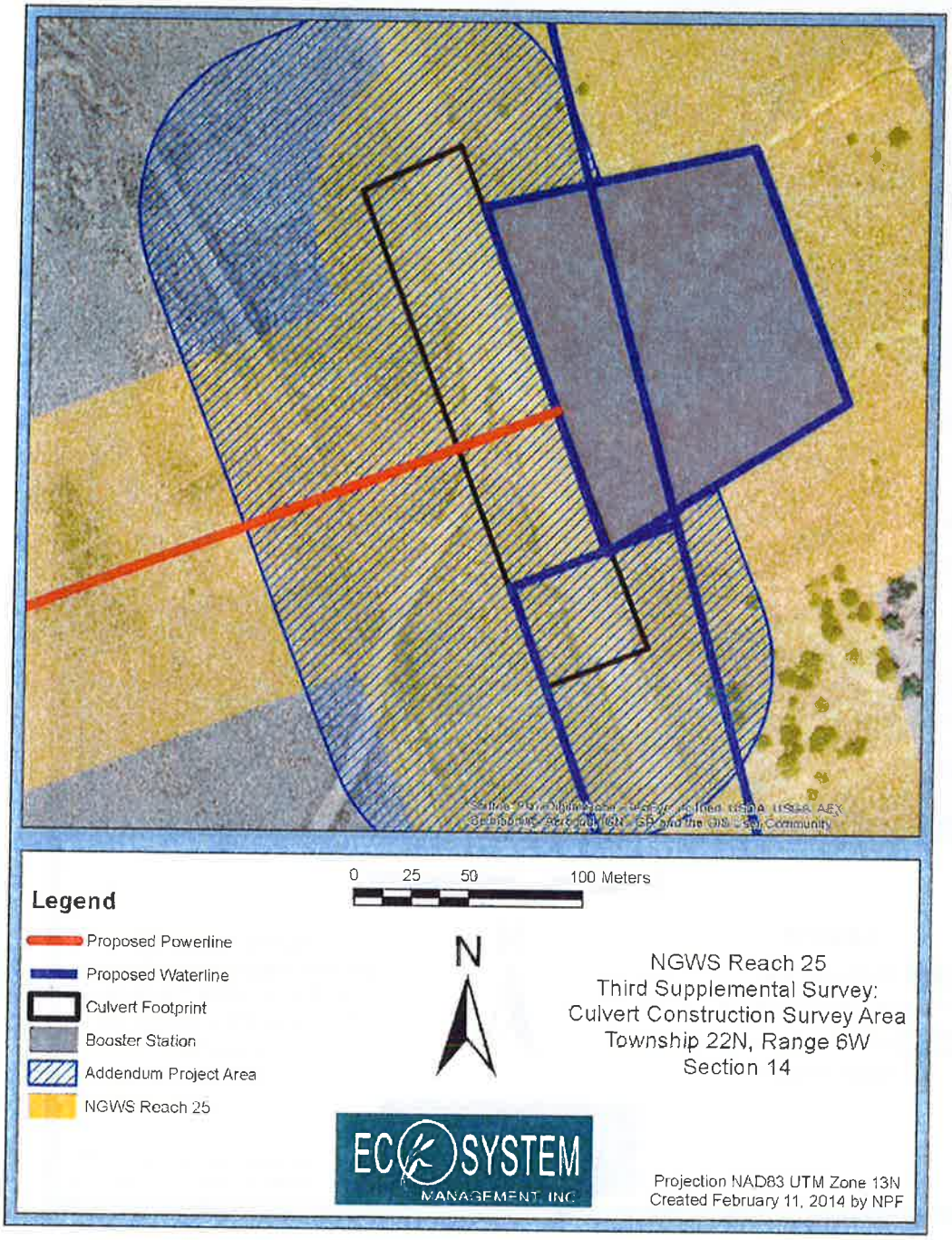


Figure 7: Proposed Culvert Construction Area

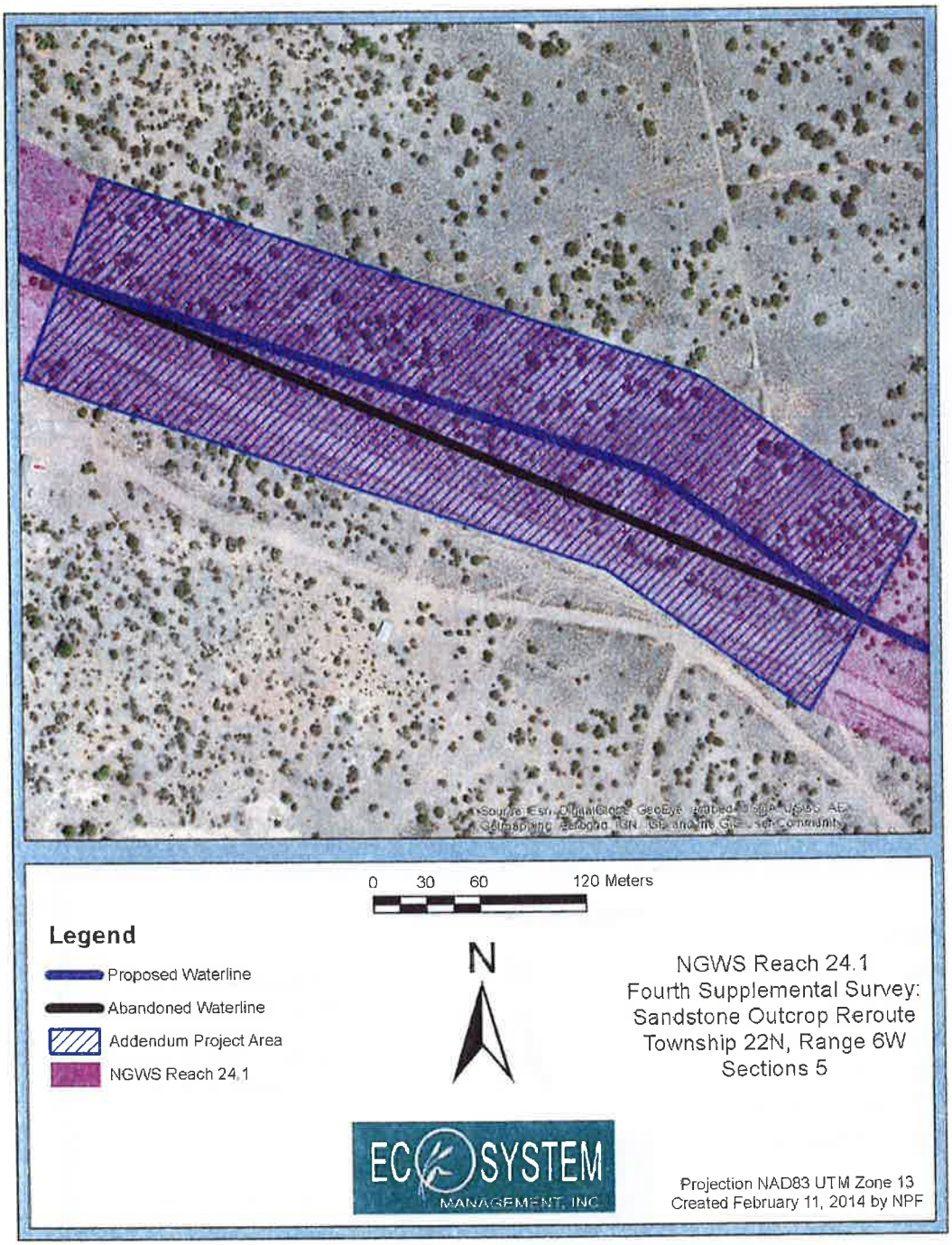


Figure 8: Sandstone Outcrop Reroute

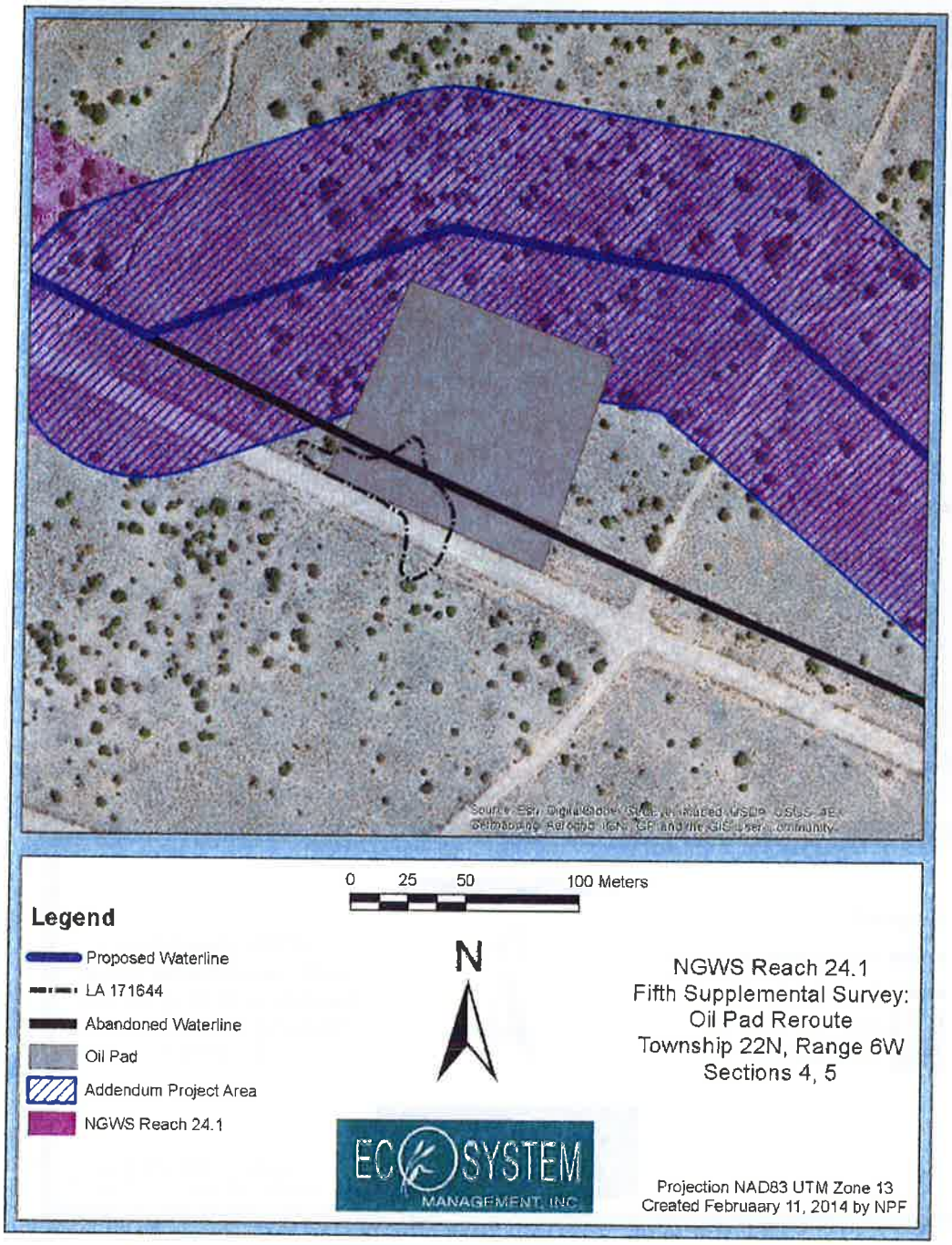


Figure 9: Reroute Around Oil Pad and LA 171644

RESULTS OF THE INVENTORY

A cultural resource inventory of the Reach 24.1 JAN line revealed no new or previously recorded archaeological sites. Nine isolated occurrences were observed during the survey, consisting mainly of solitary lithic material and section markers. Survey of the area surrounding the oil field revealed significant impacts to LA 171644, a site previously identified by EMI in 2011. Below is an updated site narrative.

LA 171644

Site Type	Non-Structural
Cultural Affiliation	Unknown Historic
Temporal Affiliation	1930 to Present
Site Area	4500 sq. m
Township, Range and Section	T22N, R6W, Section 5
Elevation	7198 ft.
Field Number	EMI-6A-3

LA 171644 was originally recorded by Ecosystem Management, Inc. in July of 2011 in the western portion of Reach 24.1. The site was rerecorded in 2013 by La Plata Archaeological Consultants as LA 174174. The site was an extensive historic refuse disposal site located on BLM land, situated on a northeast facing hill slope. The site resided mostly on the north side of ISR 474, with a small portion carrying over to the south side of the road. The site was observed in poor condition at the time of initial documentation. Impacts included rodent bioturbation, alluvial erosion, road construction/maintenance, and vehicular traffic. Much of the archaeologically eligible material had been mixed with recently deposited trash. EMI recommended the site as not eligible for inclusion in the NRHP under any criteria due to the low information potential associated with the refuse.

At some point after the initial recordation, a large oil/natural gas operation was constructed on top of the site. Based on the date of the most recent aerial photographs of the area, this construction likely occurred between September 2012 and March 2013. Ground disturbing activities associated with the operation included bulldozing/leveling of the hill slope, construction of the well and derrick, installation of the beam pumping unit, flare stack, storage tanks, and a plastic lined reserve pit (approximately 50 feet by 20 feet and six feet deep), and associated traffic from heavy machinery, work vehicles, and field members. Leveling efforts at the site have effectively removed between one to four feet of the top soil over a 300 by 300 foot area. The oil field was constructed over the heart of the archaeological site. While refuse concentrations in the far northwest portion of the site and on the south side of ISR 474 have been spared from damage, the rest of the site has been completely destroyed. Over 90 percent of the historic assemblage has been affected; artifacts were observed in the backfill and push piles along the fringe of the operation. The site now retains extremely poor integrity of setting, location, and materials throughout much of the original site boundary (see Figure 10).

The original proposed waterline was rerouted to the north to avoid conflicts with the oil/natural gas operation. This new route measured approximately 722 meters long and resulted in the additional survey of 24.6 acres, 11.5 of which were located in the previous APE (Figures 9 and 10). No additional archaeological sites were observed along the reroute. Two isolated occurrences were noted along the line but do not warrant any further action or management.

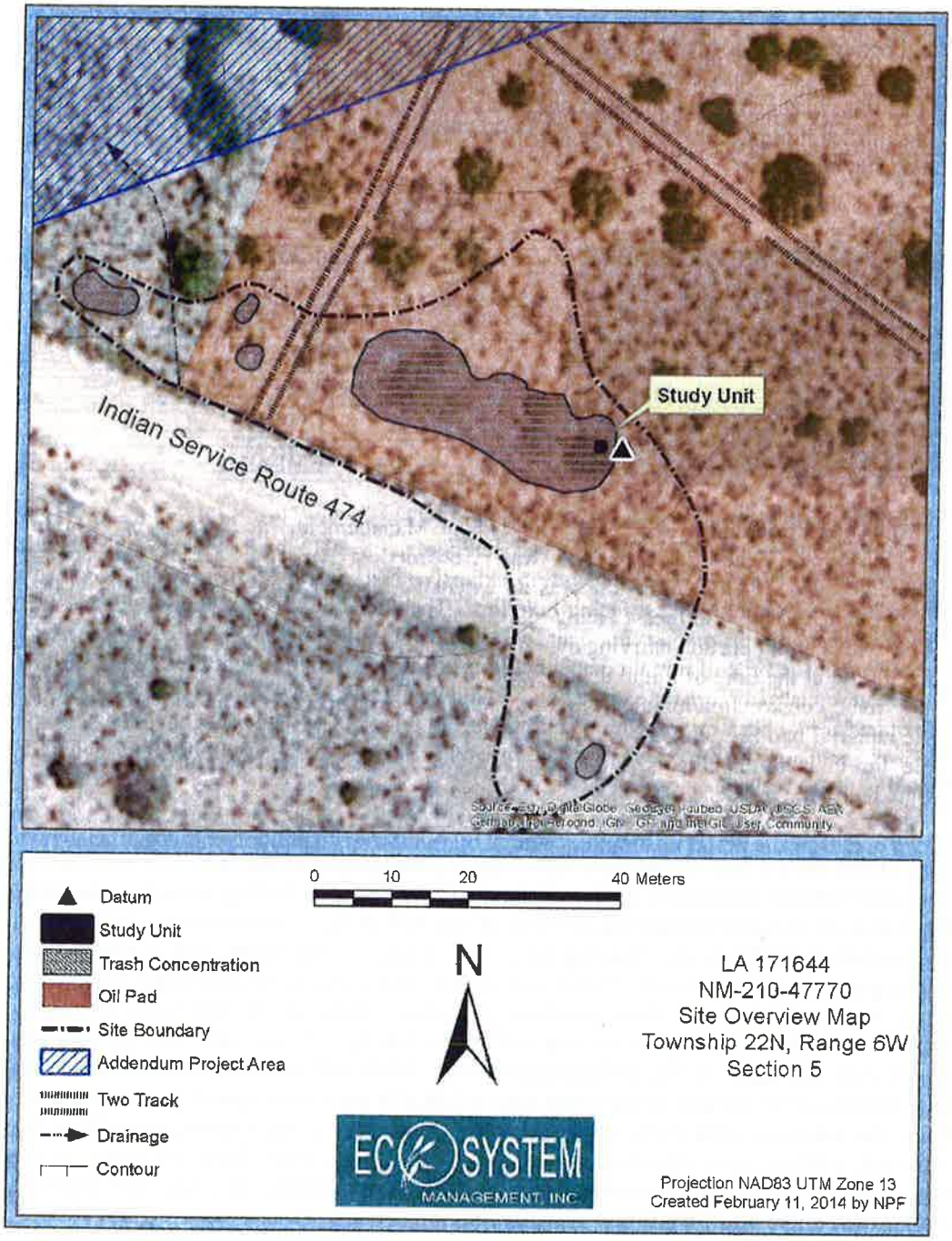


Figure 10: LA 171644 Site Map

Isolated Finds

Nine isolated occurrences were recorded during the additional survey work and are summarized below in Table 3.

Table 4: Isolated Occurrence Summary

IO#	Description	Easting	Northing
1	One piece of obsidian shatter	283020	4004330
2	One white chert primary flake	283062	4004445
3	US GLO survey marker; cap displays: "1948 T22N R6W R5W S1 S6 S12 S7	283084	4004314
4	US GLO survey marker; caps displays: "1948 S11 S12"; two juniper posts (one 10 meters south of marker, one 33 meters NW of marker)	281456	4003558
5	One piece of heat treated white/gray chert shatter	282037	4003556
6	Medial segment of large unidentified game animal rib (element has grayed and hardened, suggesting significant age), the element displays perpendicular scraping marks on the ventral edge consistent with butchering and/or human consumption; one tertiary gray chert core reduction flake; one tertiary pink chert flake	282355	4003568
7	Fragmented sandstone slab metate (six pieces); artifact displays moderate unifacial use wear; one tertiary chalcedony flake	282458	4003557
8	Sandstone rubble pile with approximately 10 clear glass bottle shards; likely discard from construction fill	276486	4004837
9	Collection of aluminum bimetallic cans, Shasta soda cans, ribbed canned food cans, and solder dot cans; material likely dates to the late 1960s	276501	4004878

MANAGEMENT RECOMMENDATIONS AND SUMMARY

The additional inventory of these areas resulted in the identification of no new or previously recorded archaeological sites. Site LA 171644 has been almost completely destroyed by oil/natural gas activities and no longer retains integrity of setting, locations, or materials. Nine isolates were observed during the course of the additional fieldwork. Isolated occurrences are not deemed eligible for listing on the National Register of Historic Places or State Register of Cultural Properties.

No new or previously recorded archaeological sites reside within the additional survey areas. EMI recommends a determination of *no adverse effect* on cultural resources within the Area of Potential Effect if all parties involved in the project adhere to stipulations presented above to avoid impacts of the project's effects on the cultural resources described here.

APPENDIX A: Isolated Occurrence Maps

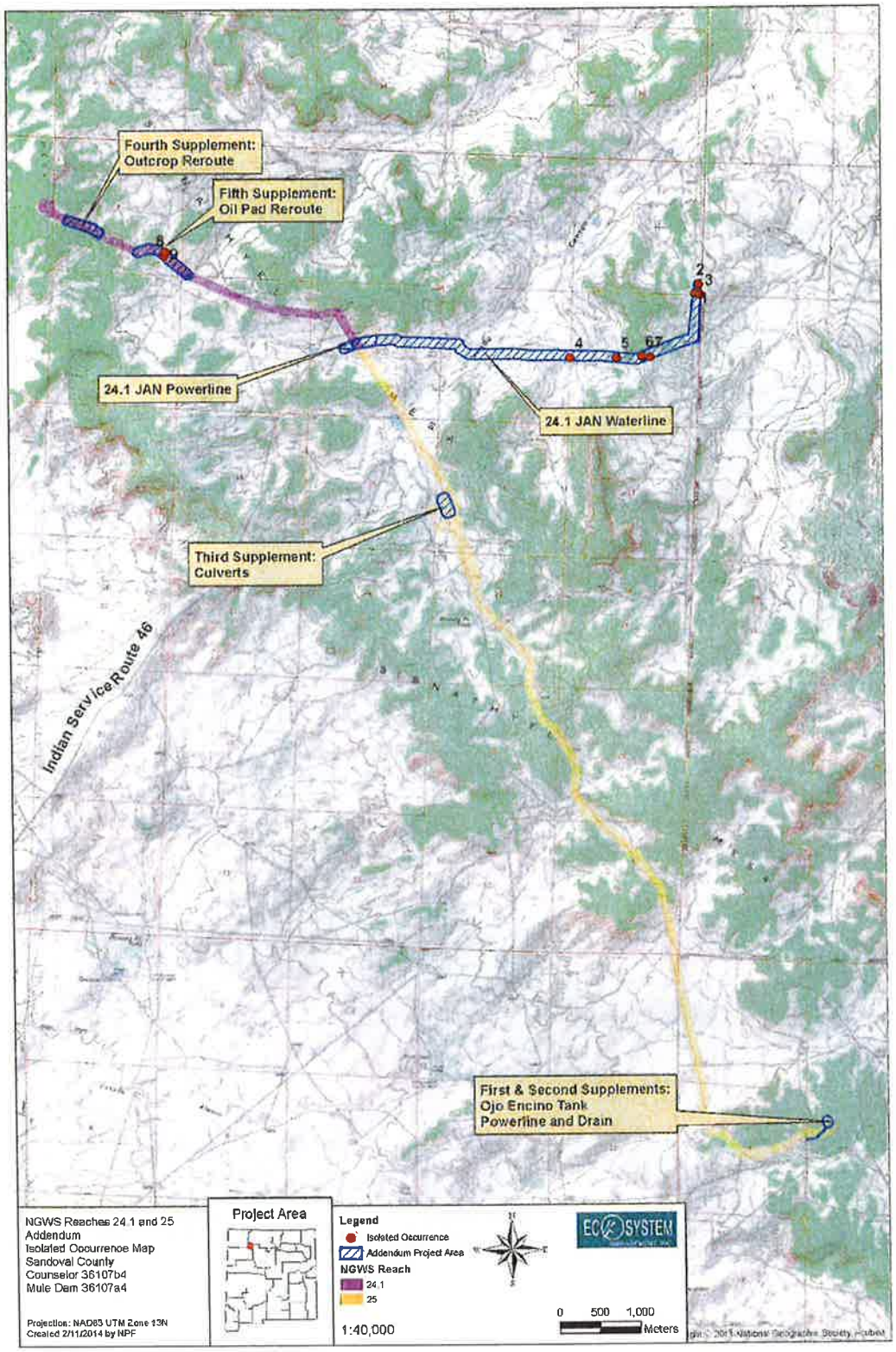


Figure 11: Isolated Occurrence Map

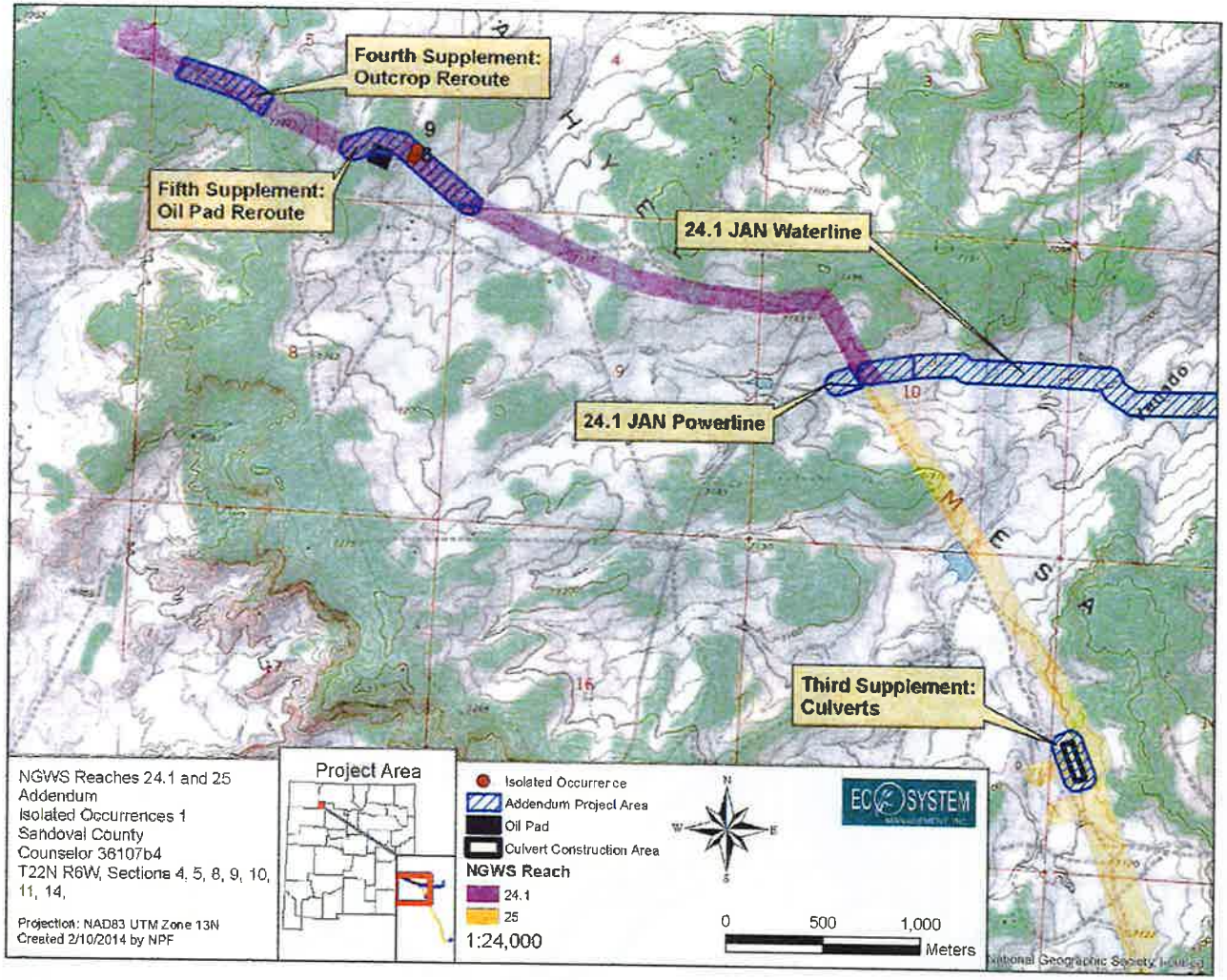


Figure 12: Isolated Occurrence Map 1

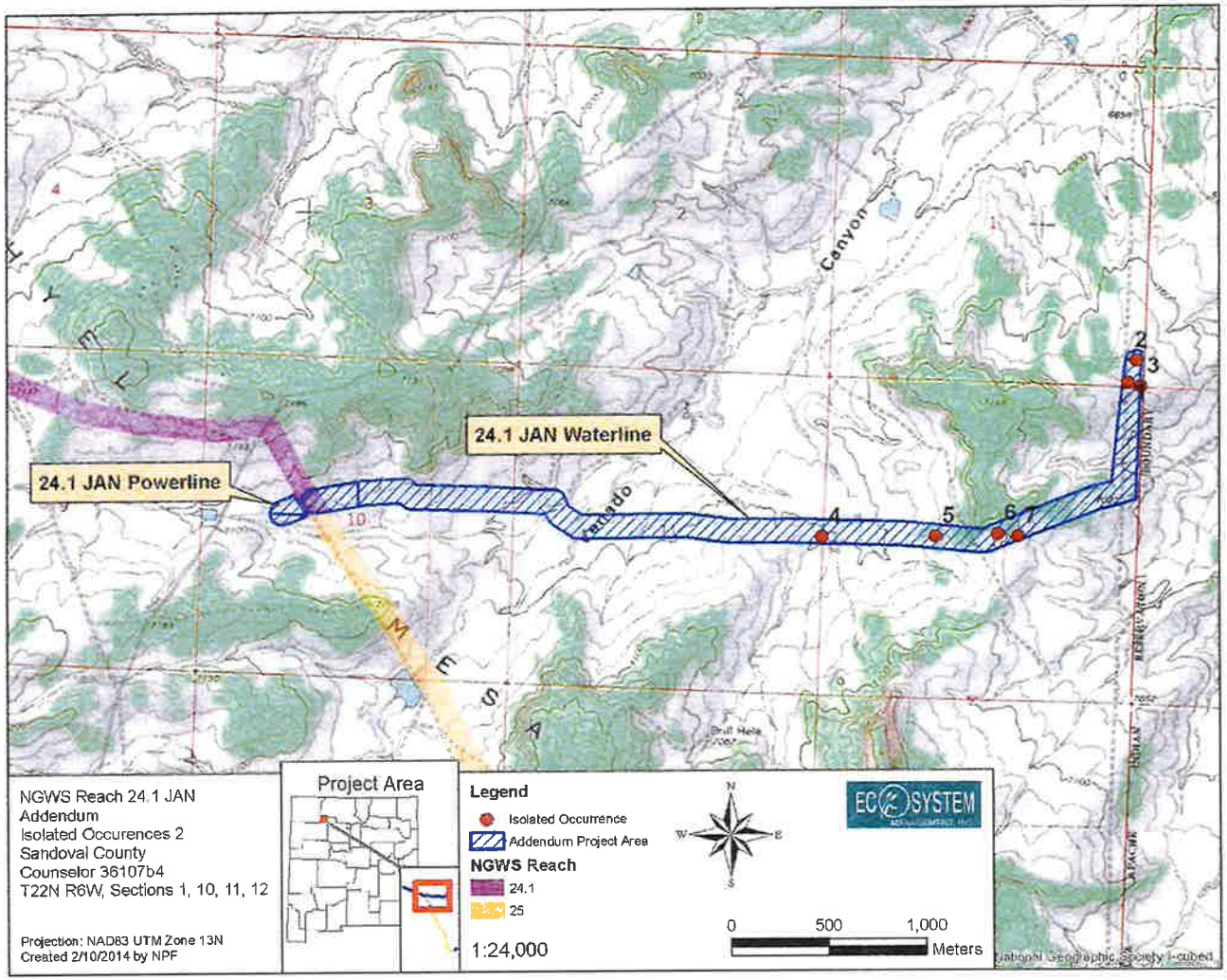


Figure 13: Isolated Occurrence Map 2

APPENDIX B: Updated Laboratory of Anthropology Form

LABORATORY OF ANTHROPOLOGY SITE RECORD

1. IDENTIFICATION & OWNERSHIP

LA Number: 171644 ☐ **Site Update?** (complete at least Sections 1-4)

Site Name(s): N/A

Other Site Number(s):
LA 174174
NM-210-47770
EMI-6A-3

Agency Assigning Number:
Laboratory of Anthropology/ARMS
US Bureau of Land Management Albq. Dist-Farmington Resource Area
Ecosystem Management, Inc.

Current Site Owner(s): US Bureau of Land Management Farmington District

Site Type: ☐ Structural ☒ Non-structural **Occupation Type:** ☒ historic ☐ prehistoric ☐ both

2. RECORDING INFORMATION

NMCRIS Activity No.: 122467 **Field Site Number:** EMI-6A-3

Site Marker? ☒ (specify ID#): Fieldworkers placed a rebar site datum in the eastern portion of the site along with a metal tag listing the field site number "EMI-6A-3".

Recorder(s): SMM

Agency: Ecosystem Management Inc. **Recording Date (dd-MMM-yyyy):** 18 April 2013

Site Accessibility (choose one): ☒ accessible ☐ buried (sterile overburden) ☐ flooded ☐ urbanized ☐ not accessible

Surface Visibility (% visible; choose one): ☐ 0% ☐ 1-25% ☐ 26-50% ☐ 51-75% ☒ 76-99% ☐ 100%

Remarks: Large portions of the site have been bulldozed and lack surface vegetation.

Recording Activities:
- ☒ sketch mapping
- ☐ instrument mapping (e.g., total station mapping)
- ☐ surface collection (controlled or uncontrolled)
- ☐ in-field artifact analysis
- ☐ other activities (specify):
- ☐ photography
- ☐ shovel or trowel tests; probes
- ☐ test excavation
- ☐ excavation (data recovery)

Description of Analysis or Excavation Activities: Completion of LA form; updated site map

Photographic Documentation: N/A

Surface Collections (choose one):
- ☒ no surface collection
- ☐ uncontrolled surface collection
- ☐ collections of specific items only
- ☐ controlled (sample: <100%)
- ☐ controlled (complete: 100%)
- ☐ other method (describe): _____

Records Inventory:
- ☒ site location map
- ☒ sketch map(s)
- ☐ instrument map(s)
- ☐ excavation, collection, analysis records
- ☐ photos, slides, and associated records
- ☐ other records: _____
- ☐ field journals, notes
- ☐ NM Hist. Building Inventory form

Repository for Original Records: Ecosystem Management, Inc., 3737 Princeton Dr. NE, Suite 150, Albuquerque, NM, 87107

Repository for Collected Artifacts: N/A

3. CONDITION

Archaeological Status: ☐ surface collection ☐ test excavation ☐ partial excavation ☐ complete excavation

Disturbance Sources: ☒ wind erosion ☒ water erosion ☐ bioturbation ☐ vandalism ☒ construction/land development ☐ other source (specify): _____

Vandalism: ☐ defaced glyphs ☐ damaged/defaced building ☒ surface disturbance ☒ manual excavation ☒ mechanical excavation ☐ other vandalism (specify): _____

Percentage of Site Intact (choose one): ☐ 0% ☒ 1-25% ☐ 26-50% ☐ 51-75% ☐ 76-99% ☐ 100%

Observations on Site Condition: Much of the site has been destroyed by the construction of an oil/natural gas well. Ground disturbing activities associated with the operation included bulldozing/leveling of the hill slope, construction of the well and derrick, installation of the beam pumping unit, flare stack, storage tanks, and a plastic lined reserve pit (approximately 50 feet by 20 feet and six feet deep), and associated traffic from heavy machinery, work vehicles, and field members. Leveling efforts at the site have effectively removed between one to four feet of the top soil over a 300 by 300 foot area. The oil field was constructed over the heart of the archaeological site. While refuse concentrations in the far northwest portion of the site and on the south side of ISR 474 have been spared from damage, the rest of the site has been completely destroyed. Over 90 percent of the historic assemblage has been impacted; artifacts were observed in the backfill and push piles along the fringe of the operation. The site now retains extremely poor integrity of setting, location, and materials throughout much of the original site boundary.

4. RECOMMENDATIONS (for Performer/Recorder use only)

National Register Eligibility (choose one): ☐ eligible ☒ not eligible ☐ not sure

Applicable Criteria: ☐ (a) ☐ (c) ☐ (b) ☐ (d)

Basis for Recommendation: Site LA 171644 was previously recommended as not eligible due to the low information potential associated with the site. Currently, most of the site has been destroyed by construction activities and no longer retains any integrity of setting, location, and materials.

Assessment of Project Impact: The initial proposed pipeline runs through the northern portion of the project area, with several of the main refuse concentrations contained within the permanent right-of-way and temporary easement. The original proposed waterline was rerouted to the north to avoid conflicts with the oil/natural gas operation. This new route measured approximately 722 meters long and resulted in the additional survey of 24.6 acres, 11.5 of which were located in the previous APE. No additional archaeological sites were observed along the reroute.

Treatment Recommendations: No further treatment necessary.

5. SHPO CONSULTATIONS (for SHPO and Sponsor use only)

Sponsor NR Determination: ☐ eligible ☐ not eligible ☐ not determined **Applicable Criteria:** ☐ (a) ☐ (b) ☐ (c) ☐ (d)

Sponsor Staff:_____ **Date (dd-MMM-yyyy):** ___ day ___ month ___ year

Sponsor Remarks:_____

_____

_____

_____

_____

SHPO NR Concurrence: ☐ eligible ☐ not eligible ☐ not determined **Applicable Criteria:** ☐ (a) ☐ (b) ☐ (c) ☐ (d)

HPD Staff: _____ **Date (dd-MMM-yyyy):** ___ day ___ month ___ year **HPD Log No:** _____

Register Status: ☐ listed on National Register ☐ listed on State Register ☐ formal determination of eligibility

State Register No.: _____

SHPO Remarks: _____

6. LOCATION

Source Graphics:

☒ USGS 7.5' (1:24,000) topo maps ☐ rectified aerial photos [Scale: _____]

☐ other topo maps [Scale: _____] ☐ unrectified aerial photos [Scale: _____]

☒ GPS unit GPS accuracy (choose one): ☐ < 1.0 m ☒ 1-10 m ☐ 10-100 m ☐ >100 m

☐ other source (describe): _____

UTM Coordinates (@ site datum; at least one set of coordinates required):

GPS-based Coordinates Datum: NAD83 **Zone 13: E:** 276294 **N:** 4004811

Directions to Site: Take NM 550 west towards Farmington. Turn onto ISR 46, a wide dirt road, and proceed south 4.6 miles, turn right at the fork in the road onto ISR 474 and drive another 1.5 miles to get to the site. Site is located on the north and south side of the road.

In highway R-O-W? ☐ **Town** (if in city limits): _____ **State:** NM **County:** Sandoval

USGS Quadrangle Name	Date	USGS Code
Counselor	1970	36107b4

PLSS Meridian	Unplatted	Township	Range	Section	¼ Sections	Protracted?
New Mexico	☐	T 22 N	R 6 W	5	SE SW SE	☐

7. PHYSICAL DESCRIPTION

Site Dimensions: 60 (N-S) x 75 (E-W) meters **Basis for Dimensions** (choose one): ☐ estimated ☒ measured

Site Area: 4500 sq m **Basis for Area** (choose one): ☐ estimated ☒ measured **Elevation:** 7198 feet

Site Boundaries Complete? (choose one): ☒ Yes ☐ No (explain): _____

Basis for Site Boundaries: ☒ distribution of archeological features & artifacts ☐ modern features or ground disturbance
☐ property lines ☐ topographic features ☐ other (specify): _____

Depositional/Erosional Environment: ☐ alluvial ☒ aeolian ☐ colluvial ☐ residual ☐ no deposition (on bedrock)
☐ other process (describe): _____

Stratigraphy & Depth of Archeological Deposits (choose one): ☐ unknown/not determined
☒ no subsurface deposits present ☐ subsurface deposits present ☐ stratified subsurface deposits present

Estimated Depth of Deposits: 0 cm

Basis for Depth Determinations: ☒ estimated ☐ shovel/trowel tests ☐ core/auger tests ☐ excavations ☐ road or arroyo cuts ☐ rodent burrows ☐ other observations (describe): _____

Observations on Subsurface Archeological Deposits: The recent nature of the material present within the site suggests that all artifacts are restricted to the current ground surface.

Local Vegetation (list species in decreasing order of dominance):

Overstory: One-seed juniper, piñon pine

Understory: Sagebrush, blue grama grass, other sparse grasses

Vegetation Community (choose one or two): ☐ forest ☒ woodland ☒ grassland ☐ scrubland ☐ desert scrubland ☐ marshland

☐ other community (specify): _____

Topographic Location:

☐ alluvial fan	☐ bench	☐ dune	☒ low rise	☐ ridge
☐ arroyo/wash	☐ blowout	☐ flood plain/valley	☐ mesa/butte	☐ rockshelter
☐ badlands	☐ canyon rim	☐ foothill/mountain front	☐ mountain	☐ saddle
☐ base of cliff	☐ cave	☒ hill slope	☐ open canyon floor	☐ talus slope
☐ base of talus slope	☐ cliff/scarp/bluff	☐ hill top	☐ plain/flat	☐ terrace
☐ other location (describe): _____	☐ constricted canyon	☐ lava flow (malpais)	☐ playa	

Observations on Site Setting: The site is located on a northeast-facing hill slope/low rise.

8. ASSEMBLAGE DATA

Assemblage Content (all components):

Lithics:

- ☐ lithic debitage
- ☐ chipped-stone tools
- ☐ diagnostic projectile points
- ☐ non-local lithic material
- ☐ stone-tool manufacturing items (cores, hammerstones, etc.)
- ☐ ground-stone tools
- ☐ other stone tools

Prehistoric Ceramics

- ☐ whole ceramic vessels
- ☐ diagnostic ceramics
- ☐ other prehistoric ceramics

Historic Artifacts:

- ☒ diagnostic glass artifacts
- ☒ other glass artifacts
- ☒ diagnostic metal artifacts
- ☒ other metal artifacts
- ☐ whole ceramic vessel
- ☐ diagnostic ceramics
- ☐ other historic ceramics

Other Artifacts and Materials:

- ☐ bone tools
- ☐ faunal remains
- ☐ macrobotanical remains
- ☐ perishable artifacts
- ☐ ornaments
- ☐ figurines
- ☐ mineral specimens
- ☐ architectural stone
- ☐ burned adobe
- ☐ fire-cracked rock/burned caliche

☐ Other items (specify): _____

Assemblage Size (all components):

artifact class	estimated frequency: 0	1s	10s	100s	1000s	>10,000	*Counts (if <100)
lithic artifacts (choose one): (include debitage)	☒	☐	☐	☐	☐	☐	
prehistoric ceramics (choose one):	☒	☐	☐	☐	☐	☐	
historic artifacts (choose one):	☐	☐	☐	☐	☒	☐	
total assemblage size (choose one):	☐	☐	☐	☐	☒	☐	

Dating Potential: ☐ radiocarbon ☐ dendrochronology ☐ archeomagnetism ☐ obsidian hydration
☒ relative techniques (e.g. seriation, diagnostics, etc.) ☐ other methods (specify): _____

Assemblage Remarks: LA 171644 is a large, diffuse refuse disposal site with five distinct artifact concentrations. The largest concentration measures approximately 10 by 28 meters. Material is located mainly north of Indian Service Route 474; however, a small deposit was observed on the southern side of the road. Due to high artifact density, fieldworkers recorded a sample of surface artifacts present on site. Study Unit 1 measured 50 square centimeters and contained 40 artifacts (see Table 7 for details). Artifacts within the site represent typical household items, including solder dot cans, coffee tins, glass beverage bottles, medicine bottles, steel beverage cans, and other goods. Material is fairly homogenous between concentrations, with no clear indication of temporal ordering. Older steel cans and bottles are mixed with more recent aluminum pull tab cans and plastic modern trash in all concentrations. Diagnostic material throughout the site includes Type 19 evaporated milk cans (1930-1975) and Mission Brand soda cans (1929-1970). No features or structures were observed in association with the refuse scatter. Several in use residences are located beginning 300 meters to the southwest of the site but there is no evidence to link any of the homes to the material present. It is likely that the site represents a dumping ground utilized by local residences from 1930 to present.

9. CULTURAL/TEMPORAL AFFILIATIONS

TOTAL NUMBER OF COMPONENTS DEFINED: __

COMPONENT #1 (EARLIEST)

Cultural Affiliation: ☐ Anasazi ☐ Navajo ☐ European Other: Unknown, likely Navajo

Basis for Temporal Affiliations (choose one): ☐ not applicable ☐ based on associated chronometric data or historic records

☐ associated diagnostic artifact or feature types ☐ based on analytically derived assemblage data or archeological experience

***Period of Occupation:** (*see NMCRIS Guidelines for valid periods, default occupation dates, and phase/complex names)

	Period Name	Begin Date	End Date
Earliest Period:	**Statehood to WWII**	**AD 1912**	**AD 1945**
Latest Period (if any):	**Recent**	**AD 1945**	**Present**

Dating Status: ☐ radiocarbon ☐ dendrochronology ☐ archaeomagnetism ☐ obsidian hydration
☒ relative techniques (e.g. seriation, diagnostics, etc.) ☐ other methods (specify): _____

Basis for Cultural/Temporal Affiliation: No culturally diagnostic material or features were observed during recordation. Temporal affiliation is based on the presence of diagnostic evaporated milk cans and Mission brand soda cans.

Component Type: Artifact scatter Dump

Remarks: Material present within the site dates from 1930-present.

***Associated Phase/Complex Name(s):** N/A

COMPONENT #2

Cultural Affiliation: ☐ Anasazi ☐ Navajo ☐ European Other: _____

Basis for Temporal Affiliations (choose one): ☐ not applicable ☐ based on associated chronometric data or historic records

☐ associated diagnostic artifact or feature types ☐ based on analytically derived assemblage data or archeological experience

***Period of Occupation:** (*see NMCRIS Guidelines for valid periods, default occupation dates, and phase/complex names)

	Period Name	Begin Date	End Date
Earliest Period:	_____		
Latest Period (if any):	_____	_____	_____

Dating Status: ☐ radiocarbon ☐ dendrochronology ☐ archaeomagnetism ☐ obsidian hydration

☐ relative techniques (e.g. seriation, diagnostics, etc.) ☐ other methods (specify): _____

Basis for Cultural/Temporal Affiliation: _____

Component Type: _____ _____

Remarks: _____

***Associated Phase/Complex Name(s):** _____

10. FEATURE DATA

(see NMCRIS User's guide for a list of valid feature types)

Feature Type	Reliable ID ?	# Observed	Assoc. Comp. #s	Feature ID, Notes
Refuse concentration	Yes	5	1	Refuse concentrations of various sizes spread throughout the site. Largest measures 10 by 28 meters. Material within the concentrations is fairly homogenous; no temporal order was noticed between concentrations.

Feature Remarks: See narrative description

11. REFERENCES

Written Sources of Information:

Mission Beverage Co History. http://www.angelfire.com/tn/traderz/mission.html

Harden, Fred

2012 A Cultural Resources Survey of Logos Resources LLC's Logos Number 3 Well Pad and Access Road, Sandoval County, New Mexico. La Plata Archaeological Consultants, NMCRIS 47727.

Additional Sources of Information: N/A

12. NARRATIVE DESCRIPTION

LA 171644 was originally recorded by Ecosystem Management, Inc. in July of 2011 in the western portion of Reach 24.1. The site was rerecorded in 2013 by La Plata Archaeological Consultants as LA 174174. The site was an extensive historic refuse disposal site located on BLM land, situated on a northeast facing hill slope. The site resided mostly on the north side of ISR 474, with a small portion carrying over to the south side of the road. The site was observed in poor condition at the time of initial documentation. Impacts included rodent bioturbation, alluvial erosion, road construction/maintenance, and vehicular traffic. Much of the archaeologically eligible material had been mixed with

recently deposited trash. EMI recommended the site as not eligible for inclusion in the NRHP under any criteria due to the ow information potential associated with the refuse.

At some point after the initial recordation, a large oil/natural gas operation was constructed on top of the site. Based on the date of the most recent aerial photographs of the area, this construction likely occurred between September 2012 and March 2013. Ground disturbing activities associated with the operation included bulldozing/leveling of the hill slope, construction of the well and derrick, installation of the beam pumping unit, flare stack, storage tanks, and a plastic lined reserve pit (approximately 50 feet by 20 feet and six feet deep), and associated traffic from heavy machinery, work vehicles, and field members. Leveling efforts at the site have effectively removed between one to four feet of the top soil over a 300 by 300 foot area. The oil field was constructed over the heart of the archaeological site. While refuse concentrations in the far northwest portion of the site and on the south side of ISR 474 have been spared from damage, the rest of the site has been completely destroyed. Over 90 percent of the historic assemblage has been impacted; artifacts were observed in the backfill and push piles along the fringe of the operation. The site now retains extremely poor integrity of setting, location, and materials throughout much of the original site boundary.

The original proposed waterline was rerouted to the north to avoid conflicts with the oil/natural gas operation. This new route measured approximately 722 meters long and resulted in the additional survey of 24.6 acres, 11.5 of which were located in the previous APE (Figures 4 and 5). No additional archaeological sites were observed along the reroute. Two isolated occurrences were noted along the line but do not warrant any further action or management.

13. SITE RECORD ATTACHMENTS

☒ site location map (USGS 7.5' topo; required) ☒ sketch map or site plan (required) ☐ continuation forms?
☒ other materials (itemize): Site Overview Photograph

Figure 14: Site overview from original session facing southeast. Area has been completely destroyed by bulldozer and other heavy machinery.

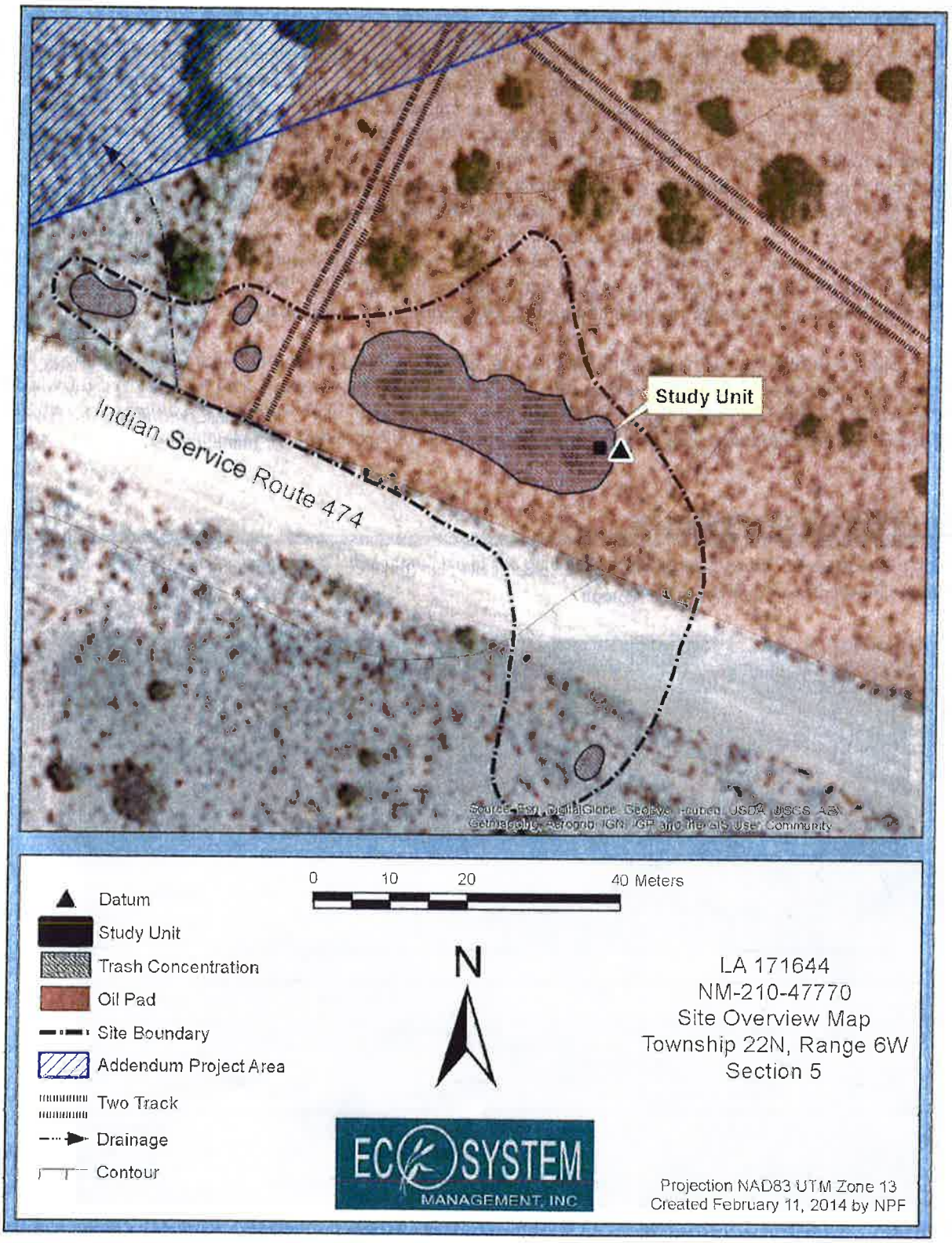


Figure 15: LA 171644/EMI-6A-3 Site Map

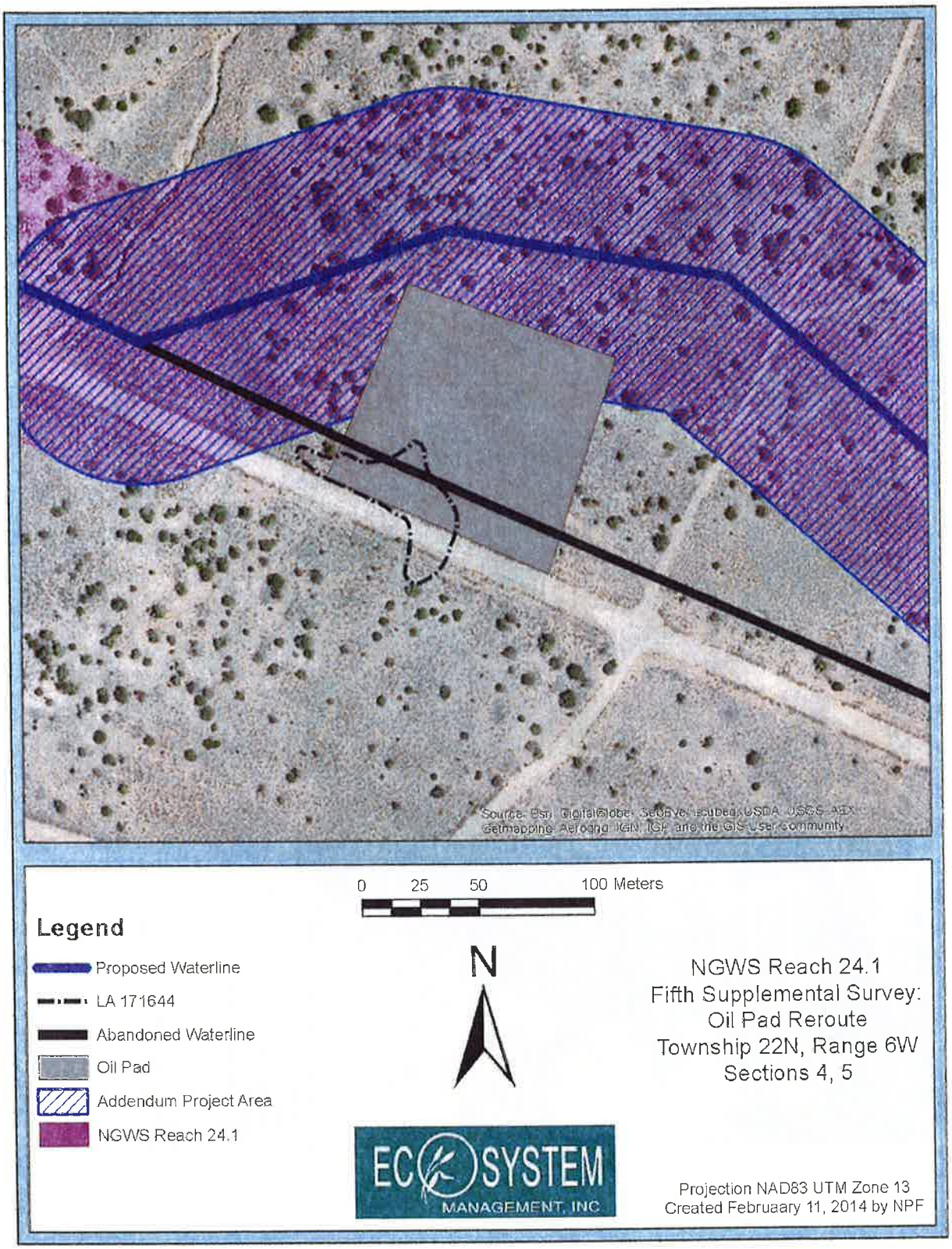


Figure 16: Reroute Map

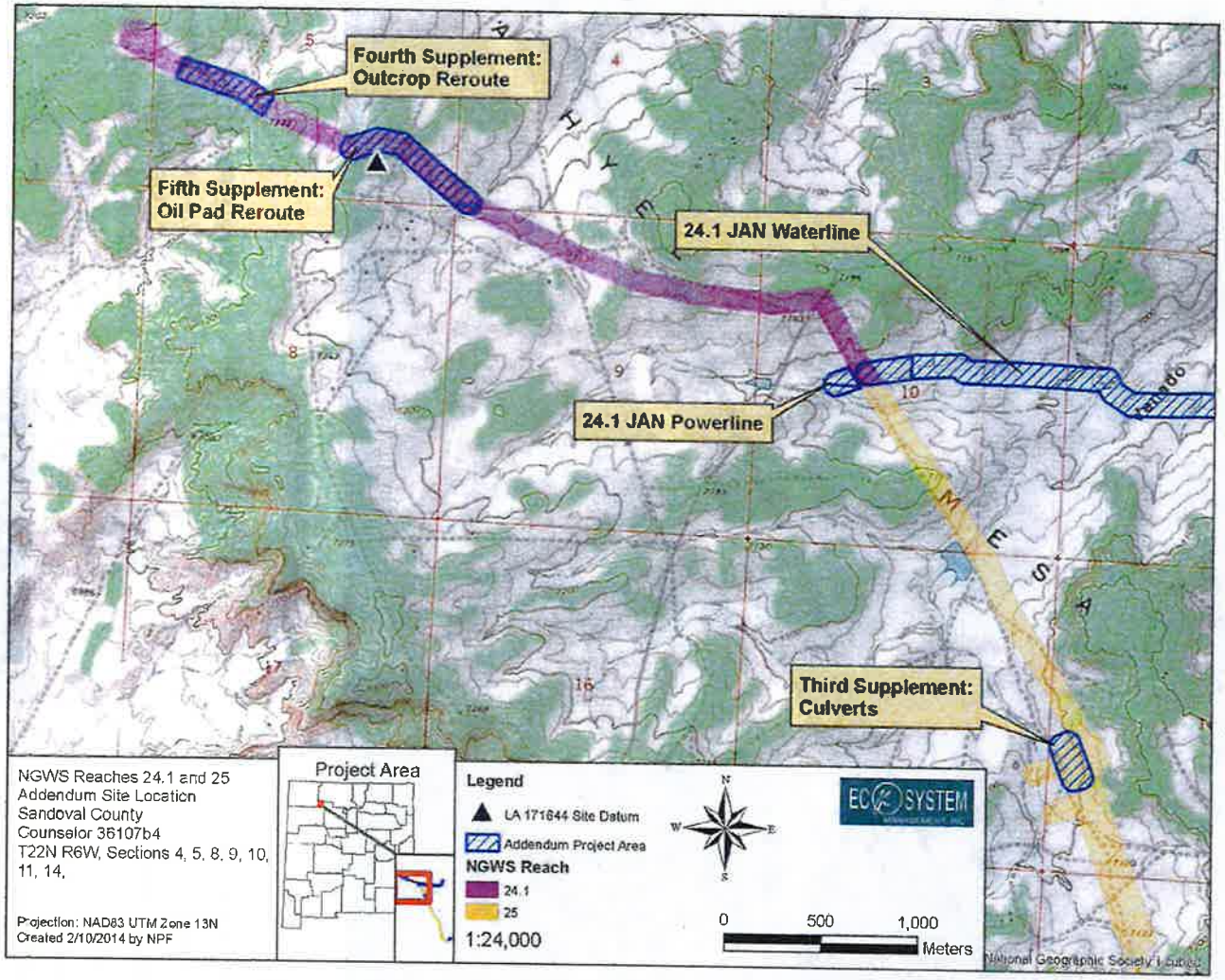


Figure 17: Site Location Map

Appendix K – Historic Properties Documentation

SPCC

DD92

Tier I Qualified Facility SPCC Plan

Maintain a complete copy of the Plan at the facility if the facility is normally attended at least four hours per day, or at a facility attended fewer than four hours per day, at the nearest field office. When making operational changes at a facility that are necessary to comply with the rule requirements, the owner/operator should follow state and local requirements (such as for permitting, design and construction) and obtain professional assistance, as appropriate.

Facility Description

Facility Name: NECA COUNSELOR CONSTRUCTION YARD

Facility Address: COUNSELOR NECA YARD, 0.1 MILE SE OF US550

City: COUNSELOR State: NM ZIP: 87018

County: SANDOVAL Tel. Number: (505) 406 2419 (Gene Laughlin)

Owner or Operator Name: NAVAJO ENGINEERING AND CONSTRUCTION AUTHORITY

Owner or Operator Address: #1 URANIUM BLVD., P.O. BOX 969

City: SHIPROCK State: NM ZIP: 87420

County: SAN JUAN Tel. Number: (505) 368 - 5151

I. Self-Certification Statement (§112.6(a) (1))

The operator of a facility certifies that each of the following is true in order to utilize this template to comply with the SPCC requirements:

I Daniel Gourneau (**NECA Safety Manager**) certify that the following is accurate:

1. I am familiar with the applicable requirements of 40 CFR part 112;
2. I have visited and examined the facility;
3. This Plan was prepared in accordance with accepted and sound industry practices and standards;
4. Procedures for required inspections and testing have been established in accordance with industry inspection and testing standards or recommended practices;
5. I will fully implement the Plan;
6. This facility meets the following qualification criteria (under §112.3(g)(1)):
   a. The aggregate aboveground oil storage capacity of the facility is 10,000 U.S. gallons or less; and
   b. The facility has had no single discharge as described in §112.1(b) exceeding 1,000 U.S. gallons and no two discharges as described in §112.1(b) each exceeding 42 U.S. gallons within any twelve month period in the three years prior to the SPCC Plan self-certification date, or since becoming subject to 40 CFR part 112 if the facility has been in operation for less than three years (not including oil discharges as described in §112.1(b) that are the result of natural disasters, acts of war, or terrorism); and
   c. There is no individual oil storage container at the facility with an aboveground capacity greater than 5,000 U.S. gallons.
7. This Plan does not deviate from any requirement of 40 CFR part 112 as allowed by §112.7(a)(2) (environmental equivalence) and §112.7(d) (impracticability of secondary containment) or include any measures pursuant to §112.9(c)(6) for produced water containers and any associated piping;
8. This Plan and individual(s) responsible for implementing this Plan have the full approval of management and I have committed the necessary resources to fully implement this Plan.

I also understand my other obligations relating to the storage of oil at this facility, including, among others:

1. To report any oil discharge to navigable waters or adjoining shorelines to the appropriate authorities. Notification information is included in this Plan.
2. To review and amend this Plan whenever there is a material change at the facility that affects the potential for an oil discharge, and at least once every five years. Reviews and amendments are recorded in an attached log [See Five Year Review Log and Technical Amendment Log in Attachments 1.1 and 1.2.]
3. Optional use of a contingency plan. A contingency plan:
   a. May be used in lieu of secondary containment for qualified oil-filled operational equipment, in accordance with the requirements under §112.7(k), and;
   b. Must be prepared for flowlines and/or intra-facility gathering lines which do not have secondary containment at an oil production facility, and;
   c. Must include an established and documented inspection or monitoring program; must follow the provisions of 40 CFR part 109; and must include a written commitment of manpower, equipment and materials to expeditiously remove any quantity of oil discharged that may be harmful. If applicable, a copy of the contingency plan and any additional documentation will be attached to this Plan as Attachment 2.

I certify that I have satisfied the requirement to prepare and implement a Plan under §112.3 and all of the requirements under §112.6(a). I certify that the information contained in this Plan is true.

Signature _____ Title: NECA SAFETY MANAGER

Name Daniel L. Gourneau Date: _____

Signature _____ Title: _____

Name _____ Date: _____

II. Record of Plan Review and Amendments

Five Year Review (§112.5(b)):

Complete a review and evaluation of this SPCC Plan at least once every five years. As a result of the review, amend this Plan within six months to include more effective prevention and control measures for the facility, if applicable. Implement any SPCC Plan amendment as soon as possible, but no later than six months following Plan amendment. Document completion of the review and evaluation, and complete the Five Year Review Log in Attachment 1.1. If the facility no longer meets Tier I qualified facility eligibility, the owner or operator must revise the Plan to meet Tier II qualified facility requirements, or complete a full PE certified Plan.

Table G-1 Technical Amendments (§§112.5(a), (c) and 112.6(a)(2))	
This SPCC Plan will be amended when there is a change in the facility design, construction, operation, or maintenance that materially affects the potential for a discharge to navigable waters or adjoining shorelines. Examples include adding or removing containers, reconstruction, replacement, or installation of piping systems, changes to secondary containment systems, changes in product stored at this facility, or revisions to standard operating procedures.	☒
Any technical amendments to this Plan will be re-certified in accordance with Section I of this Plan template. *[§112.6(a)(2)]* **[See Technical Amendment Log in Attachment 1.2]**	☒

III. Plan Requirements

1. Oil Storage Containers (§112.7(a)(3)(i)):

Table G-2 Oil Storage Containers and Capacities		
This table includes a complete list of all oil storage containers (aboveground containers[a] and completely buried tanks[b]) with capacity of 55 U.S. gallons or more, unless otherwise exempt from the rule. For mobile/portable containers, an estimated number of containers, types of oil, and anticipated capacities are provided.		☐
Oil Storage Container	**Type of Oil**	**Shell Capacity (gallons)**
Aboveground Fuel Tank	Diesel	
Aboveground Fuel Tank	Gasoline	
Mobile Service Truck	Gasoline/Diesel	

Total Aboveground Storage Capacity [c] _____ gallons
Total Completely Buried Storage Capacity _____ gallons
Facility Total Oil Storage Capacity _____ gallons

[a] Aboveground storage containers that must be included when calculating total facility oil storage capacity include: tanks and mobile or portable containers; oil-filled operational equipment (e.g. transformers); other oil-filled equipment, such as flow-through process equipment. Exempt containers that are not included in the capacity calculation include: any container with a storage capacity of less than 55 gallons of oil; containers used exclusively for wastewater treatment; permanently closed containers; motive power containers; hot-mix asphalt containers; heating oil containers used solely at a single-family residence; and pesticide application equipment or related mix containers.

[c] Counts toward qualified facility applicability threshold.

Table G-3 Secondary Containment and Oil Spill Control	
Appropriate secondary containment and/or diversionary structures or equipment[a] are provided for all oil handling containers, equipment, and transfer areas to prevent a discharge to navigable waters or adjoining shorelines. The entire secondary containment system, including walls and floor, is capable of containing oil and is constructed so that any discharge from a primary containment system, such as a tank or pipe, will not escape the containment system before cleanup occurs.	☐

[a] Use one of the following methods of secondary containment or its equivalent: (1) Dikes, berms, or retaining walls sufficiently impervious to contain oil; (2) Curbing; (3) Culverting, gutters, or other drainage systems; (4) Weirs, booms, or other barriers; (5) Spill diversion ponds; (6) Retention ponds; or (7) Sorbent materials.

Table G-4 b .v identifies the tanks and containers at the facility with the potential for a. Jischarge; the mode of failure; the flow direction and potential quantity o. discharge; and the secondary containment method and containment capacity that is provided.

Table G-4 Containers with Potential for an Oil Discharge					
Area	Type of failure (discharge scenario)	Potential discharge volume (gallons)	Direction of flow for uncontained discharge	Secondary containment method[a]	Secondary containment capacity (gallons)
Bulk Storage Containers and Mobile/Portable Containers [b]					
Aboveground Fuel Tank					
Aboveground Fuel Tank					
Mobile Service Truck					
Oil-filled Operational Equipment (e.g., hydraulic equipment, transformers)[c]					
Piping, Valves, etc.					
Product Transfer Areas (location where oil is loaded to or from a container, pipe or other piece of equipment.)					
Other Oil-Handling Areas or Oil-Filled Equipment (e.g. flow-through process vessels at an oil production facility)					

[a] Use one of the following methods of secondary containment or its equivalent: (1) Dikes, berms, or retaining walls sufficiently impervious to contain oil; (2) Curbing; (3) Culverting, gutters, or other drainage systems; (4) Weirs, booms, or other barriers; (5) Spill diversion ponds; (6) Retention ponds; or (7) Sorbent materials.

[b] For storage tanks and bulk storage containers, the secondary containment capacity must be at least the capacity of the largest container plus additional capacity to contain rainfall or other precipitation.

[c] For oil-filled operational equipment: Document in the table above if alternative measures to secondary containment (as described in §112.7(k)) are implemented at the facility.

3. Inspections, Testing, Recordkeeping and Personnel Training (§§112.7(e) and (f), 112.8(c)(6) and (d)(4), 112.9(c)(3), 112.12(c)(6) and (d)(4)):

Table G-5 Inspections, Recordkeeping and Personnel Training	
An inspection is implemented for all aboveground bulk storage containers and piping at this facility. *[§112.8(c)(6) and (d)(4), 112.9(c)(3), 112.12(c)(6) and (d)(4)]*	☐

The following is a description of the inspection (e.g. reference to industry standard utilized, scope, frequency, method of inspection and person conducting the inspection) for all aboveground bulk storage containers and piping at this facility:

1) An assigned knowledgeable employee does periodic visual inspections of the aboveground oil storage containers, including all aboveground container piping using Attachment 3.1 to document inspections; records of inspections consist of the monthly inspection checklist and the annual inspection checklist in the Steel Tank Institute (STI) SP001 inspection standard. Visual inspections of oil storage containers follow the inspection schedule in Attachment 3.2 of this plan.

2) The liquid level gauges on the off-road diesel, on-road diesel, and gasoline ASTs are also adjusted and inspected monthly following the gauge manufacturer's procedures by the assigned knowledgeable employee; Attachment 3.1 documents these inspections.

3) An assigned knowledgeable employee also visually inspects the dispensers at the Fuel Transfer Area for indications of deterioration and discharges, including the transfer hoses and fittings, at least monthly.

4) The knowledgeable employee will inspect the earthen berm containments on a weekly basis for signs of deterioration, discharges (leaking tanks or piping), or accumulation of oil. In addition, knowledgeable employee inspect the berm containments after any heavy rainfall. These inspections are documented in Attachment 3.1. As the berm containments do not have drains, the collected rain is pumped from the berm containments by using a portable pump but only after the inspection shows that there is no oil or oil sheen present. If oil or oil sheen is detected on rainwater in the berm, then oily rainwater is pumped into the 250-gal waste oil tote for disposal by the waste oil hauler contractor or the contractor is requested to remove the oily rainwater in the berm contents for disposal. Each drainage activity is recorded in Attachment 3.3. Record keeping for disposal of waste oil or oil-contaminated water accumulated in the berm area is in Attachment 3.3 of this plan.

5) If employee encounters a spill during an inspection of the oil storage or transfer equipment, the employee will immediately take the necessary actions outlined in Table G-7.

Inspections and records are conducted in accordance with written procedures developed for the facility. Records of inspections kept under usual and customary business practices will suffice for purposes of this paragraph. *[§112.7(e)]*	☒
A record of the inspections are kept at the facility and/or with the SPCC Plan for a period of three years. *[§112.7(e)]* **[See Inspection Log and Schedule in Attachment 3.1]**	☒
The appropriate supervisor or inspector signs inspections. *[§112.7(e)]*	☒
Personnel, training, and discharge prevention procedures [§112.7(f)]	
Oil-handling personnel are trained in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; **applicable pollution control laws, rules, and regulations; general facility operations; and, the contents of the facility SPCC Plan.** *[§112.7(f)]*	☒
A person who reports to facility management is designated and accountable for discharge prevention. *[§112.7(f)]* Name/Title: BYRON SMITH, NECA SAFETY OFFICER	☒
Discharge prevention briefings are conducted for oil-handling personnel annually to assure adequate understanding of the SPCC Plan for that facility. Such briefings highlight and describe past reportable discharges or failures, malfunctioning components, and any recently developed precautionary measures. *[§112.7(f)]* **[See Oil-handling Personnel Training and Briefing Log in Attachment 3.4]**	☒

4. Security (excluding oil production facilities) §112.7(g):

Table G-6 Implementation and Description of Security Measures	
Security measures are implemented at this facility to prevent unauthorized access to oil handling and storage area.	☒

The following is a description of how you secure and control access to the oil handling, processing and storage areas; secure master flow and drain valves; prevent unauthorized access to starter controls on oil pumps; secure out-of-service and loading/unloading connections of oil pipelines; address the appropriateness of security lighting to both prevent acts of vandalism and assist in the discovery of oil discharges:

1) The any residence or dwelling will be about 200 yards away with a full view of the fuel storage and transfer area. If there is a spill, yard employees would be close by to smell the fuel.

2) Tank fill pipes are capped and locked when not in use; these tanks do not have drain valves.

3) Fuel dispensers and their pump control switches are locked when not in use.

4) The drums and totes are located in the shop, which is locked when not in use.

5) If motion-activated lights are mounted above the entrance to the shop and at the fuel storage and transfer area next to the tank berm. Employees can see the lights from living quarters and when they come on, check to see if there are trespassers or problems with the equipment.

6) Mobile fuel truck and the pick-up truck with tanks are parked in a lined area, which is locked when they are not in use.

5. Emergency Procedures and Notifications (§112.7(a)(3)(iv) and 112.7(a)(5)):

Table G-7 Description of Emergency Procedures and Notifications
The following is a description of the immediate actions to be taken by facility personnel in the event of a discharge to navigable waters *[§112.7(a)(3)(iv) and 112.7(a)(5)]*:

1) Shutdown pumping in even of a spill during fuel transfer operations.

2) Eliminate potential sources of ignition, such as open flames or sparks.

3) If possible, identify and secure source of the discharge and contain the discharge with sorbents, sandbags, or other material from the spill kits:

   The main spill kit is in the area opposite the fuel dispensers at the fuel storage and transfer areas, additional spill kit will be located near the mobile dispenser truck.

4) Contact the regulatory authorities and response personnel.(see contact list)

6. Contact List (§112.7(a)(3)(vi)):

Table G-8 Contact List	
Contact Organization / Person	**Telephone Number**
ational Response Center (NRC)	1-800-424-8802
leanup Contractor(s) ENVIROTECH, INC.	505-632-0615
Key Facility Personnel	
Designated Person Accountable for Discharge Prevention: GENE LAUGHLIN NECA PROJECT SUPERVISOR	Office: 505-368-5151 Emergency: 505-406-2419
BYRON SMITH NECA FIELD SAFETY OFFICER	Office: 505-368-5151 Emergency: 505-406-6963
LEE B. ROY NECA ENVIRONMENTAL FIELD OFFICER	Office: 505-368-3025 Emergency: 928-205-1180
State Oil Pollution Control Agencies NMED: New Mexico Environmental Department	505-827-2855
Federal, and Tribal Agencies RCRA NNEPA: NN Environmental Protection Agency Mr. Todd Reber, Regional BIA Safety Manager	928-871-7994 Office: 505-863-8316, cell 505-796-2918.
ocal Fire Department	911
Local Police Department	911
Hospital Dzilth-Na-O-Dith-Hle Heath Center Huerfano, New Mexico Cuba Health Center – Presbyterian Medical Services Cuba, New Mexico 87013 Jicarilla Apache Health Care Facility Dulce, New Mexico	505-960-1801 575-289-3291 575-759-3291
Other Contact References COUNSELOR CHAPTER HOUSE New Mexico Department of Transportation Shiprock New Mexico New Mexico Department of Transportation Maintenance Cuba, New Mexico 87103	 505-568-4311 1-505-368-4032 1-575-289-3387

7. NRC Notification Procedure (§112.7(a)(4) and (a)(5)):

Table G-9 NRC Notification Procedure	
In the event of a discharge of oil to navigable waters or adjoining shorelines, the following information identified in Attachment 4 will be provided to the National Response Center immediately following identification of a scharge to navigable waters or adjoining shorelines : *[§112.7(a)(4)]*	☐

- The exact address or location and phone number of the facility;
- Date and time of the discharge;
- Type of material discharged;
- Estimate of the total quantity discharged;
- Estimate of the quantity discharged to navigable waters;
- Source of the discharge;
- Description of all affected media;
- Cause of the discharge;
- Any damages or injuries caused by the discharge;
- Actions being used to stop, remove, and mitigate the effects of the discharge;
- Whether an evacuation may be needed; and
- Names of individuals and/or organizations who have also been contacted.

8. SPCC Spill Reporting Requirements (Report within 60 days) (§112.4):

Submit information to the EPA Regional Administrator (RA) and the appropriate agency or agencies in charge of oil pollution control activities in the State/Tribal lands in which the facility is located within 60 days from one of the following discharge events:

A single discharge of more than 1,000 U.S. gallons of oil to navigable waters or adjoining shorelines or
Two discharges to navigable waters or adjoining shorelines each more than 42 U.S. gallons of oil occurring within any twelve month period

You must submit the following information to the EPA RA:

(1) Name of the facility;
(2) Your name;
(3) Location of the facility;
(4) Maximum storage or handling capacity of the facility and normal daily throughput;
(5) Corrective action and countermeasures you have taken, including a description of equipment repairs and replacements;
(6) An adequate description of the facility, including maps, flow diagrams, and topographical maps, as necessary;
(7) The cause of the reportable discharge, including a failure analysis of the system or subsystem in which the failure occurred; and
(8) Additional preventive measures you have taken or contemplated to minimize the possibility of recurrence
(9) Such other information as the Regional Administrator may reasonably require pertinent to the Plan or discharge.

* * * * *

A. Onshore Facilities (excluding production) (§§112.8(b) through (d), 112.12(b) through (d)):

The owner or operator must meet the general rule requirements as well as requirements under this section. Note that not all provisions y be applicable to all owners/operators. **In cases where a provision is not applicable, write "N/A".**

Table G-10 General Rule Requirements for Onshore Facilities		N/A
Drainage from diked storage areas is restrained by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. Diked areas may be emptied by pumps or ejectors that must be manually activated after inspecting the condition of the accumulation to ensure no oil will be discharged. *[§§112.8(b)(1) and 112.12(b)(1)]*	☐	☐
Valves of manual, open-and-closed design are used for the drainage of diked areas. *[§§112.8(b)(2) and 112.12(b)(2)]*	☐	☐
The containers at the facility are compatible with materials stored and conditions of storage such as pressure and temperature. *[§§112.8(c)(1) and 112.12(c)(1)]*	☐	☐
Secondary containment for the bulk storage containers (including mobile/portable oil storage containers) holds the capacity of the largest container plus additional capacity to contain precipitation. Mobile or portable oil storage containers are positioned to prevent a discharge as described in §112.1(b). *[§112.6(a)(3)(ii)]*	☐	☐
If uncontaminated rainwater from diked areas drains into a storm drain or open watercourse the following procedures will be implemented at the facility: *[§§112.8(c)(3) and 112.12(c)(3)]* • Bypass valve is normally sealed closed • Retained rainwater is inspected to ensure that its presence will not cause a discharge to navigable waters or adjoining shorelines • Bypass valve is opened and resealed under responsible supervision • Adequate records of drainage are kept **[See Dike Drainage Log in Attachment 3.3]**	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐
Each aboveground bulk container is inspected for integrity on a regular schedule and whenever material repairs are made. Scope and frequency of the inspections and inspector qualifications are in accordance /ith industry standards. Container supports and foundations are regularly inspected. **[See Inspection Log and Schedule and Bulk Storage Container Inspection Schedule in Attachments 3.1 and 3.2]** *[§112.8(c)(6) and §112.12(c)(6)(i)]*	☐	☐
Outsides of bulk storage containers are frequently inspected for signs of deterioration, discharges, or accumulation of oil inside diked areas. **[See Inspection Log and Schedule in Attachment 3.1]** *[§§112.8(c)(6) and 112.12(c)(6)]*	☐	☐
Each container is provided with a system or documented procedure to prevent overfills for the container. Describe: Tank truck fuel delivery procedures: 1) Gauge AST and check the level gauge to prevent tank overfill. 2) Set parking brake and use chock blocks to prevent movement; inspect fittings and fueling hose for damage. 3) Place drip pans under valve-hose fitting connections. 4) Monitor the liquid level in the receiving tank during transfer to prevent tank overfill. 5) If an oil spill occurs, the spill kit will be used to contain the spill. Main spill kit is located opposite the fuel dispensers at the fuel storage and transfer area. Dispenser and mobile refueler fueling procedures: 1) Before filling motorized equipment, shutoff all engines and set parking brakes; **do not leave filling operation unattended.** 2) Do not top off tank after automatic shut-off. 3) If an oil spill occurs, the spill kit will be used to contain the spill. Transfers into waste oil tote: Transfer all waste oil into the tote fill port using a funnel. If an oil spill occurs, the spill kit in the shop will be used to contain the spill.	☐	☐

Table G-10 General Rule Requirements for Onshore Facilities		N/A
Visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts are promptly corrected and oil in diked areas is promptly removed. *[§§112.8(c)(10) and 112.12(c)(10)]*	☐	☐
Aboveground valves, piping, and appurtenances such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces are inspected regularly. **[See Inspection Log and Schedule in Attachment 3.1]** *[§§112.8(d)(4) and 112.12(d)(4)]*	☐	☐

ATTACHMENT 1.2 – Technical Amendment Log

Any technical amendments to this Plan will be re-certified in accordance with Section I of this Plan.

Table G-15 Description and Certification of Technical Amendments

eview Date	Description of Technical Amendment	Name and signature of person certifying this technical amendment

ATTACHMENT 2 – Oil Spill Contingency Plan and Checklist

An oil spill contingency plan and written commitment of resources is required for:

- Flowlines and intra-facility gathering lines at oil production facilities and
- Qualified oil-filled operational equipment which has no secondary containment.

An oil spill contingency plan meeting the provisions of 40 CFR part 109, as described below, and a written commitment of manpower, equipment and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful is attached to this Plan.	☐

Complete the checklist below to verify that the necessary operations outlined in 40 CFR part 109 - Criteria for State, Local and Regional Oil Removal Contingency Plans - have been included.

Table G-15 Checklist of Development and Implementation Criteria for State, Local and Regional Oil Removal Contingency Plans (§109.5)[a]	
(a) Definition of the authorities, responsibilities and duties of all persons, organizations or agencies which are to be involved in planning or directing oil removal operations.	☐
(b) Establishment of notification procedures for the purpose of early detection and timely notification of an oil discharge including:	
(1) The identification of critical water use areas to facilitate the reporting of and response to oil discharges.	☐
(2) A current list of names, telephone numbers and addresses of the responsible persons (with alternates) and organizations to be notified when an oil discharge is discovered.	☐
(3) Provisions for access to a reliable communications system for timely notification of an oil discharge, and the capability of interconnection with the communications systems established under related oil removal contingency plans, particularly State and National plans (e.g., NCP).	☐
(4) An established, prearranged procedure for requesting assistance during a major disaster or when the situation exceeds the response capability of the State, local or regional authority.	☐
(c) Provisions to assure that full resource capability is known and can be committed during an oil discharge situation including:	
(1) The identification and inventory of applicable equipment, materials and supplies which are available locally and regionally.	☐
(2) An estimate of the equipment, materials and supplies which would be required to remove the maximum oil discharge to be anticipated.	☐
(3) Development of agreements and arrangements in advance of an oil discharge for the acquisition of equipment, materials and supplies to be used in responding to such a discharge.	☐
(d) Provisions for well defined and specific actions to be taken after discovery and notification of an oil discharge including:	
(1) Specification of an oil discharge response operating team consisting of trained, prepared and available operating personnel.	☐
(2) Predesignation of a properly qualified oil discharge response coordinator who is charged with the responsibility and delegated commensurate authority for directing and coordinating response operations and who knows how to request assistance from Federal authorities operating under existing national and regional contingency plans.	☐
(3) A preplanned location for an oil discharge response operations center and a reliable communications system for directing the coordinated overall response operations.	☐
(4) Provisions for varying degrees of response effort depending on the severity of the oil discharge.	☐
(5) Specification of the order of priority in which the various water uses are to be protected where more than one water use may be adversely affected as a result of an oil discharge and where response operations may not be adequate to protect all uses.	☐
(6) Specific and well defined procedures to facilitate recovery of damages and enforcement measures as provided for by State and local statutes and ordinances.	☐

[a] The contingency plan must be consistent with all applicable state and local plans, Area Contingency Plans, and the National Contingency Plan (NCP)

ATTACHMENT 3 – Inspections, Dike Drainage and Personnel Training Logs

ATTACHMENT 3.1 – Inspection Log and Schedule

Table G-16 Inspection Log and Schedule
This log is intended to document compliance with §§112.6(a)(3)(iii), 112.8(c)(6), 112.8(d)(4), 112.9(b)(2), 112.9(c)(3), 112.9(d)(1), 112.9(d)(4), 112.12(c)(6), and 112.12(d)(4), as applicable.

Date of Inspection	Container / Piping / Equipment	Describe Scope (or cite Industry Standard)	Observations	Name/ Signature of Inspector	Records maintained separately [a]
					☐
					☐
					☐
					☐
					☐

[a] Indicate in the table above if records of facility inspections are maintained separately at this facility.

ATTACHMENT 3.2 – Bulk Storage Container Inspection Schedule – onshore facilities (excluding production):

comply with integrity inspection requirement for bulk storage containers, inspect/test each shop-built aboveground bulk storage ıtainer on a regular schedule in accordance with a recognized container inspection standard based on the minimum requirements in the following table.

Table G-17 Bulk Storage Container Inspection Schedule

Container Size and Design Specification	Inspection requirement
Portable containers (including drums, totes, and intermodal bulk containers (IBC))	Visually inspect monthly for signs of deterioration, discharges or accumulation of oil inside diked areas
55 to 1,100 gallons with sized secondary containment	Visually inspect monthly for signs of deterioration, discharges or accumulation of oil inside diked areas plus any annual inspection elements per industry inspection standards
1,101 to 5,000 gallons with sized secondary containment and a means of leak detection[a]	
1,101 to 5,000 gallons with sized secondary containment and no method of leak detection[a]	Visually inspect monthly for signs of deterioration, discharges or accumulation of oil inside diked areas, plus any annual inspection elements and other specific integrity tests that may be required per industry inspection standards

[a] Examples of leak detection include, but are not limited to, double-walled tanks and elevated containers where a leak can be visually identified.

ATTACHMENT 3.3 – Dike Drainage Log

Table G-18 Dike Drainage Log

Date	Bypass valve sealed closed	Rainwater inspected to be sure no oil (or sheen) is visible	Open bypass valve and reseal it following drainage	Drainage activity supervised	Observations	Signature of Inspector
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		
	☐	☐	☐	☐		

ATTACHMENT 3.4 – Oil-handling Personnel Training and Briefing Log

Table G-19 Oil-Handling Personnel Training and Briefing Log

ate	Description / Scope	Attendees

ATTACHMENT 4 – Discharge Notification Form

In the event of a discharge of oil to navigable waters or adjoining shorelines, the following information will be provided to the National sponse Center **[also see the notification information provided in Section 7 of the Plan]**:

Table G-20 Information provided to the National Response Center in the Event of a Discharge			
Discharge/Discovery Date		Time	
Facility Name			
Facility Location (Address/Lat-Long/Section Township Range)			
Name of reporting individual		Telephone #	
Type of material discharged		Estimated total quantity discharged	Gallons/Barrels
Source of the discharge		Media affected	☐ Soil ☐ Water (specify) ☐ Other (specify)
ctions taken			
Damage or injuries	☐ No ☐ Yes (specify)	Evacuation needed?	☐ No ☐ Yes (specify)
Organizations and individuals contacted	☐ National Response Center 800-424-8802 Time ☐ Cleanup contractor (Specify) Time ☐ Facility personnel (Specify) Time ☐ State Agency (Specify) Time ☐ Other (Specify) Time		

NAVAJO ENGINEERING AND CONSTRUTION AUTHORITY

P O Box 969
Shiprock, New Mexico 87420
(505) 368-5151

SPILL INCIDENT SUMMARY FORM

This form must be completed for any reportable spills of Petroleum Products or Chemical spills that occur in NECA Yard or out on the NECA Project sites. Call NECA Safety Department immediately after the spill.

Location of spill: _____ Date: _____

Time: _____ Total amount of spill: _____

What caused the spill:

_____

_____

_____

_____

Corrective Action Taken:

_____

_____

_____

Plans for preventing recurrence:

_____

_____

_____

_____

Foreman (Print) Signature Title

_____

Supervisor (Print) Signature Title

NAVAJO ENGINEERING AND CONSTRUCTION AUTHORITY
P O BOX 969
SHIPROCK, NEW MEXICO 87420
(505) 368-5151

ABOVE STORAGE TANKS AND FIRE SAFETY MONTHLY VISUAL INSPECTION FORM

Project Name: _____ Date: _____

Location of Tanks: _____

DESCRIPTION	STORAGE TANK 1	STORAGE TANK 2	STORAGE TANK 3	STORAGE TANK 4	OIL DRUMS	OTHER
AST ONLY						
SIZE OF TANK						
PRODUCT						
PUMPS						
Corrosion						
Hose						
Leakage						
Nozzle						
Pump Condition						
SECONDARY CONTAINMENT						
Plastic Liner						
Dirt Dike						
Fence						
FIRE SAFETY						
Fire Extinguisher						
No Smoking Sign						
Placard						
Locks						
Security						

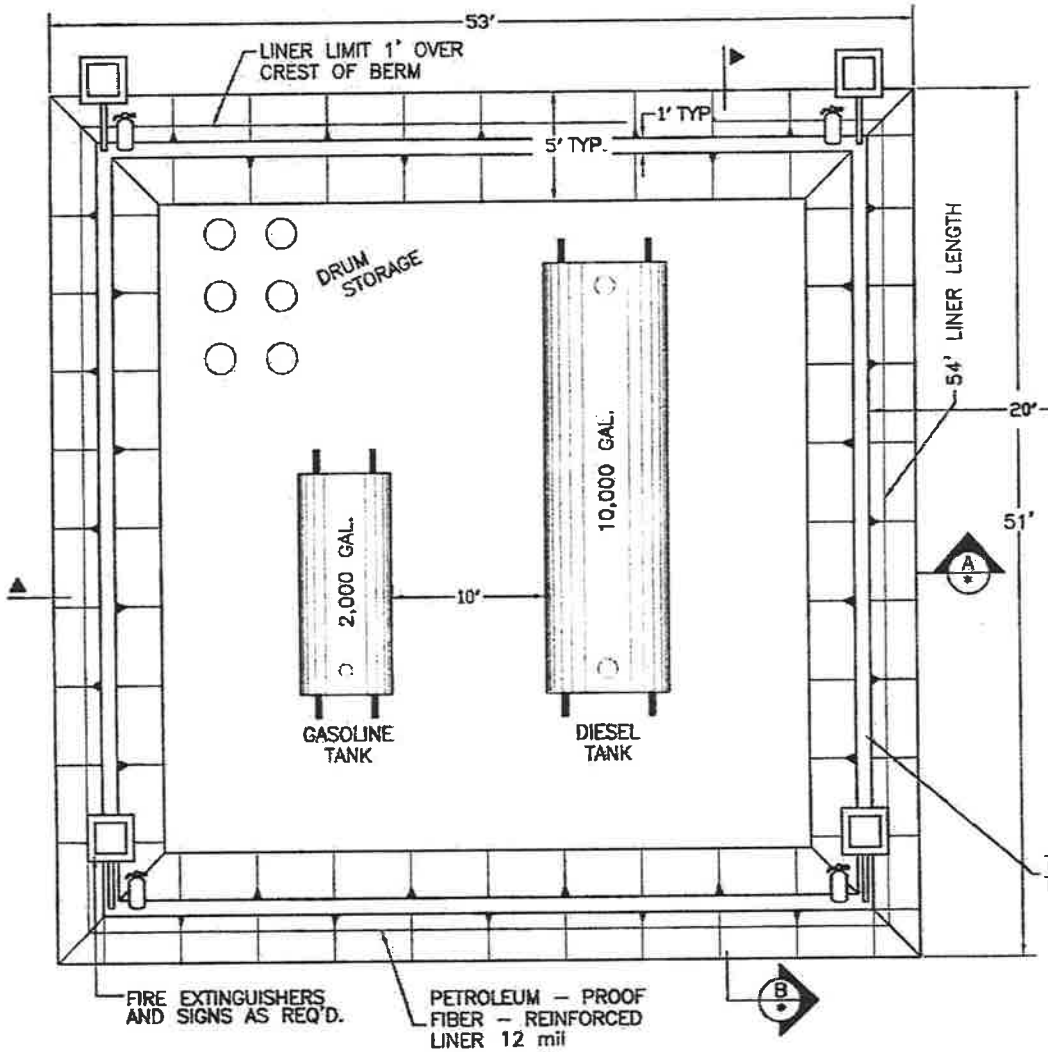
Keep this document for your records for three years.

APPENDIX A.

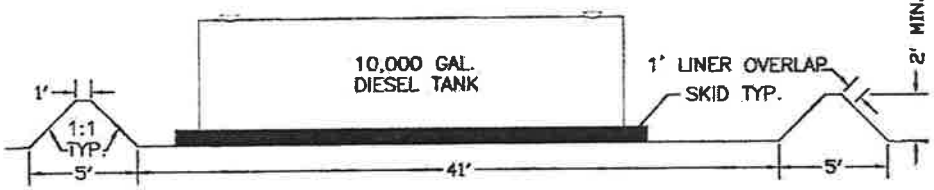
Safety Meetings Topics

The topics listed below are basic suggestions for safety discussions that can be presented at safety meetings. However, additional topics may be introduced at any time during the safety meeting. Each Superintendent/Foreman shall conduct the Field Safety Meeting in a manner that invites input and participation from the crew.

1. Trenching Operations and Hazards
2. Blasting Operations and Hazards
3. Machinery Operations and Hazards
4. Personal Protective Equipment
5. Environment Factors and Hazards
6. Insects, dogs, and snakes
7. Heat stress
8. Snow, rain, ice and dust
9. Accident and Injury Reporting
10. First Aid
11. Confined spaces
12. Use of Scaffolding and ladders
13. Use of seat belts
14. Sandblasting and painting
15. Welding and grinding
16. Employee responsibilities
17. Safety belts and lifelines
18. Hand tools
19. Machine guards
20. Housekeeping
21. Flagging and signing
22. Lifting and carrying
23. Crane safety
24. Electrical safety
25. Fire prevention
26. Spill Prevention Control Countermeasure Plan (SPCCP)
27. Drug and Alcohol free work place.



PLAN VIEW



SECTION B

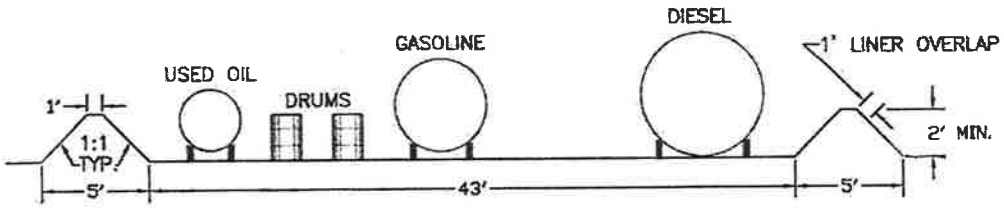
REQ'D. WARNING SIGNS TYP.

APPROVED FIRE EXTINGUISHERS 20BC (MIN.) TYP.

EMERGENCY SPILL CONTAINMENT SUPPLY (SHAGSORB)

SAMPLE

NOTES:
1. STORAGE AREA TO HAVE 50' MIN. DISTANCE FROM ANY BLDG.
2. THE TANKS TO HAVE APPROX. 10 FT. CLEARANCE BETWEEN THEM.
3. SPILL CAPACITY EXCEEDS THE VOLUME OF THE 10,000 GAL. FUEL TANK WITH FREEBOARD FOR PRECIPITATION.
4. ALL DIMENSIONS AND NOTES MAY VARY DUE TO FIELD CONDITIONS.
5. MAX. TANK CAPACITY 10,000 GAL. DIESEL, 2,000 GAL. GASOLINE AND STORAGE DRUMS.
6. SPILL CAPACITY 29,006 GAL.



SECTION A

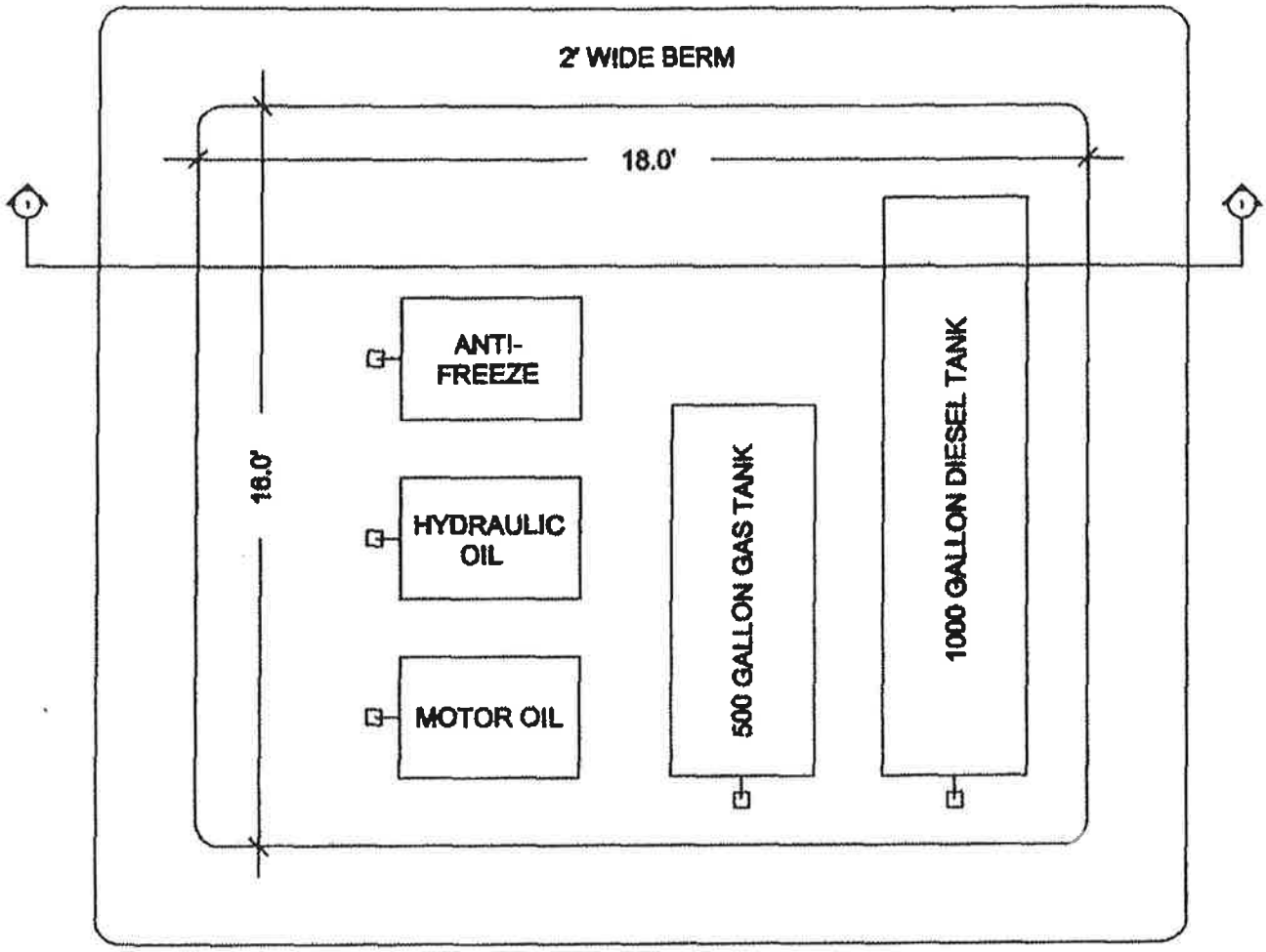
FUEL STORAGE COMPOUND

Navajo Nation Municipal Pipeline
Solicitation No. 08-NA-40-8075
FRUITLAND REACH

NECA Project No. 1367

DRAWN BY: BRETT GRUBBS	
REVIEWED BY: DANNY LEE	
Date 1-21-09rev not to scale	
DWG. NO. 1367-FUEL-001	

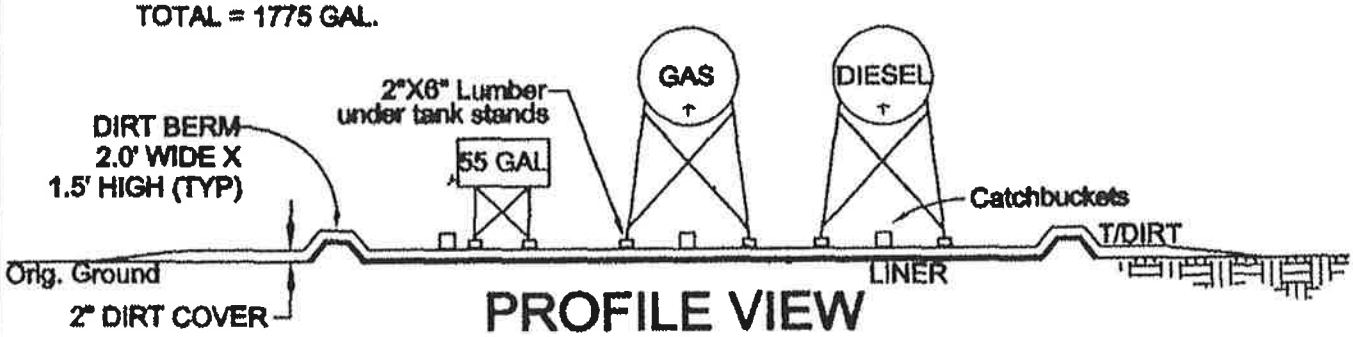
PLAN VIEW



TOTAL LINER SIZE = 27' X 25'

DIESEL = 1000
GASOLINE = 500
OILS = 275
TOTAL = 1775 GAL.

TOTAL BERM CAPACITY: 3,230 GAL.
TOTAL TANK CAPACITY: 1,775 GAL.



PROFILE VIEW

SECTION

STANDARD DETAIL FUEL STORAGE LOCATION: NECA YARDS	Designed by: W. Begay	Checked by: W. Begay
	Not to Scale: Use plan dimensions.	
	DATE: September 9, 1998 (Original Design)	
	REVISION: 2 10-30-98	SHEET 1 OF 1
NAVAJO ENGINEERING AND CONSTRUCTION AUTHORITY PDH	CONTAINMENT PLAN	

Subpart A—Applicability, Definitions, and General Requirements for All Facilities and All Types of Oils

12.1 General applicability.

(a)(1) This part establishes procedures, methods, equipment, and other requirements to prevent the discharge of oil from non-transportation-related onshore and offshore facilities into or upon the navigable waters of the United States or adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act).

(2) As used in this part, words in the singular also include the plural and words in the masculine gender also include the feminine and vice versa, as the case may require.

(b) Except as provided in paragraph (d) of this section, this part applies to any owner or operator of a non-transportation-related onshore or offshore facility engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil and oil products, which due to its location, could reasonably be expected to discharge oil in quantities that may be harmful, as described in part 110 of this chapter, into or upon the navigable waters of the United States or adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act) that has oil in:

(1) Any aboveground container;

(2) Any completely buried tank as defined in §112.2;

(3) Any container that is used for standby storage, for seasonal storage, or for temporary storage, or not otherwise "permanently closed" as defined in §112.2;

(4) Any "bunkered tank" or "partially buried tank" as defined in §112.2, or any container in a vault, each of which is considered an aboveground storage container for purposes of this part.

(c) As provided in section 313 of the Clean Water Act (CWA), departments, agencies, and instrumentalities of the Federal government are subject to this part to the same extent as any person.

(d) Except as provided in paragraph (f) of this section, this part does not apply to:

(1) The owner or operator of any facility, equipment, or operation that is not subject to the jurisdiction of the Environmental Protection Agency (EPA) under section 311(j)(1)(C) of the CWA, as follows:

(i) Any onshore or offshore facility, that due to its location, could not reasonably be expected to have a discharge as described in paragraph (b) of this section. This determination must be based solely upon consideration of the geographical and location aspects of the facility (such as proximity to navigable waters or adjoining shorelines, land contour, drainage, etc.) and must exclude consideration of manmade features such as dikes, equipment or other structures, which may serve to restrain, hinder, contain, or otherwise prevent a discharge as described in paragraph (b) of this section.

(ii) Any equipment, or operation of a vessel or transportation-related onshore or offshore facility which is subject to the authority and control of the U.S. Department of Transportation, as defined in the Memorandum of Understanding between the Secretary of Transportation and the Administrator of EPA, dated November 24, 1971 (Appendix A of this part).

(iii) Any equipment, or operation of a vessel or onshore or offshore facility which is subject to the authority and control of the U.S. Department of Transportation or the U.S. Department of the Interior, as defined in the Memorandum of Understanding between the Secretary of Transportation, the Secretary of the Interior, and the Administrator of EPA, dated November 8, 1993 (Appendix B of this part).

(2) Any facility which, although otherwise subject to the jurisdiction of EPA, meets both of the following requirements:

(i) The completely buried storage capacity of the facility is 42,000 gallons or less of oil. For purposes of this exemption, the completely buried storage capacity of a facility excludes the capacity of a completely buried tank, as defined in §112.2, and connected underground piping, underground ancillary equipment, and containment systems, that is currently subject to all of the technical requirements of part 280 of this chapter or all of the technical requirements of a State program approved under part 281 of this chapter. The completely buried storage capacity of a facility also excludes the capacity of a container that is "permanently closed," as defined in §112.2.

(ii) The aggregate aboveground storage capacity of the facility is 1,320 gallons or less of oil. For the purposes of this exemption, only containers with a capacity of 55 gallons or greater are counted. The aggregate aboveground storage capacity of a facility excludes the capacity of a container that is "permanently closed," and the capacity of a "motive power container" as defined in §112.2.

(3) Any offshore oil drilling, production, or workover facility that is subject to the notices and regulations of the Minerals Management Service, as specified in the Memorandum of Understanding between the Secretary of Transportation, the Secretary of the Interior, and the Administrator of EPA, dated November 8, 1993 (Appendix B of this part).

(4) Any completely buried storage tank, as defined in §112.2, and connected underground piping, underground ancillary equipment, and containment systems, at any facility, that is subject to all of the technical requirements of part 280 of this chapter or a State program approved under part 281 of this chapter, except that such a tank must be marked on the facility diagram as provided in §112.7(a)(3), if the facility is otherwise subject to this part.

(5) Any container with a storage capacity of less than 55 gallons of oil.

(6) Any facility or part thereof used exclusively for wastewater treatment and not used to satisfy any requirement of this part. The production, recovery, or recycling of oil is not wastewater treatment for purposes of this paragraph.

(7) Any "motive power container," as defined in §112.2. The transfer of fuel or other oil into a motive power container at an otherwise regulated facility is not eligible for this exemption.

(e) This part establishes requirements for the preparation and implementation of Spill Prevention, Control, and Countermeasure (SPCC) Plans. SPCC Plans are designed to complement existing laws, regulations, rules, standards, policies, and procedures pertaining to safety standards, fire prevention, and pollution prevention rules. The purpose of an SPCC Plan is to form a comprehensive Federal/State spill prevention program that minimizes the potential for discharges. The SPCC Plan must address all relevant spill prevention, control, and countermeasures necessary at the specific facility. Compliance with this part does not in any way relieve the owner or operator of an onshore or an offshore facility from compliance with other Federal, State, or local laws.

(f) Notwithstanding paragraph (d) of this section, the Regional Administrator may require that the owner or operator of any facility subject to the jurisdiction of EPA under section 311(j) of the CWA prepare and implement an SPCC Plan, or any applicable part, to carry out the purposes of the CWA.

(1) Following a preliminary determination, the Regional Administrator must provide a written notice to the owner or operator stating the reasons why he must prepare an SPCC Plan, or applicable part. The Regional Administrator must send such notice to the owner or operator by certified mail or by personal delivery. If the owner or operator is a corporation, the Regional Administrator must also mail a copy of such notice to the registered agent, if any and if known, of the corporation in the State where the facility is located.

(2) Within 30 days of receipt of such written notice, the owner or operator may provide information and data and may consult with the Agency about the need to prepare an SPCC Plan, or applicable part.

(3) Within 30 days following the time under paragraph (b)(2) of this section within which the owner or operator may provide information and data and consult with the Agency about the need to prepare an SPCC Plan, or applicable part, the Regional Administrator must make a final determination regarding whether the owner or operator is required to prepare and implement an SPCC Plan, or applicable part. The Regional Administrator must send the final determination to the owner or operator by certified mail or by personal delivery. If the owner or operator is a corporation, the Regional Administrator must also mail a copy of the final determination to the registered agent, if any and if known, of the corporation in the State where the facility is located.

(4) If the Regional Administrator makes a final determination that an SPCC Plan, or applicable part, is necessary, the owner or operator must prepare the Plan, or applicable part, within six months of that final determination and implement the Plan, or applicable part, as soon as possible, but not later than one year after the Regional Administrator has made a final determination.

(5) The owner or operator may appeal a final determination made by the Regional Administrator requiring preparation and implementation of an SPCC Plan, or applicable part, under this paragraph. The owner or operator must make the appeal to the ministrator of EPA within 30 days of receipt of the final determination under paragraph (b)(3) of this section from the Regional .ministrator requiring preparation and/or implementation of an SPCC Plan, or applicable part. The owner or operator must send a complete copy of the appeal to the Regional Administrator at the time he makes the appeal to the Administrator. The appeal must contain a clear and concise statement of the issues and points of fact in the case. In the appeal, the owner or operator may also provide additional information. The additional information may be from any person. The Administrator may request additional information from the owner or operator. The Administrator must render a decision within 60 days of receiving the appeal or additional information submitted by the owner or operator and must serve the owner or operator with the decision made in the appeal in the manner described in paragraph (f)(1) of this section.

[67 FR 47140, July 17, 2002, as amended at 71 FR 77290, Dec. 26, 2006]

§ 112.8 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities).

If you are the owner or operator of an onshore facility (excluding a production facility), you must:

(a) Meet the general requirements for the Plan listed under §112.7, and the specific discharge prevention and containment procedures listed in this section.

(b) *Facility drainage.* (1) Restrain drainage from diked storage areas by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. You may empty diked areas by pumps or ejectors; however, you must manually activate these pumps or ejectors and must inspect the condition of the accumulation before starting, to ensure no oil will be discharged.

(2) Use valves of manual, open-and-closed design, for the drainage of diked areas. You may not use flapper-type drain valves to drain ed areas. If your facility drainage drains directly into a watercourse and not into an on-site wastewater treatment plant, you must inspect and may drain uncontaminated retained stormwater, as provided in paragraphs (c)(3)(ii), (iii), and (iv) of this section.

(3) Design facility drainage systems from undiked areas with a potential for a discharge (such as where piping is located outside containment walls or where tank truck discharges may occur outside the loading area) to flow into ponds, lagoons, or catchment basins designed to retain oil or return it to the facility. You must not locate catchment basins in areas subject to periodic flooding.

(4) If facility drainage is not engineered as in paragraph (b)(3) of this section, equip the final discharge of all ditches inside the facility with a diversion system that would, in the event of an uncontrolled discharge, retain oil in the facility.

(5) Where drainage waters are treated in more than one treatment unit and such treatment is continuous, and pump transfer is needed, provide two "lift" pumps and permanently install at least one of the pumps. Whatever techniques you use, you must engineer facility drainage systems to prevent a discharge as described in §112.1(b) in case there is an equipment failure or human error at the facility.

(c) *Bulk storage containers.* (1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature.

(2) Construct all bulk storage tank installations (except mobile refuelers) so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must ensure that diked areas are sufficiently impervious to contain discharged oil. Dikes, containment curbs, and pits are commonly employed for this purpose. You may also use an alternative system consisting of a drainage trench enclosure that must be arranged so that any discharge will terminate and be safely confined in a facility catchment basin or holding pond.

(3) Not allow drainage of uncontaminated rainwater from the diked area into a storm drain or discharge of an effluent into an open watercourse, lake, or pond, bypassing the facility treatment system unless you:

(i) Normally keep the bypass valve sealed closed.

(ii) Inspect the retained rainwater to ensure that its presence will not cause a discharge as described in §112.1(b).

Open the bypass valve and reseal it following drainage under responsible supervision; and

(iv) Keep adequate records of such events, for example, any records required under permits issued in accordance with §§122.41(j)(2) and 122.41(m)(3) of this chapter.

(4) Protect any completely buried metallic storage tank installed on or after January 10, 1974 from corrosion by coatings or cathodic protection compatible with local soil conditions. You must regularly leak test such completely buried metallic storage tanks.

(5) Not use partially buried or bunkered metallic tanks for the storage of oil, unless you protect the buried section of the tank from corrosion. You must protect partially buried and bunkered tanks from corrosion by coatings or cathodic protection compatible with local soil conditions.

(6) Test each aboveground container for integrity on a regular schedule, and whenever you make material repairs. The frequency of and type of testing must take into account container size and design (such as floating roof, skid-mounted, elevated, or partially buried). You must combine visual inspection with another testing technique such as hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or another system of non-destructive shell testing. You must keep comparison records and you must also inspect the container's supports and foundations. In addition, you must frequently inspect the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph.

(7) Control leakage through defective internal heating coils by monitoring the steam return and exhaust lines for contamination from internal heating coils that discharge into an open watercourse, or pass the steam return or exhaust lines through a settling tank, skimmer, or other separation or retention system.

(8) Engineer or update each container installation in accordance with good engineering practice to avoid discharges. You must provide at least one of the following devices:

High liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station. In smaller facilities an audible air vent may suffice.

(ii) High liquid level pump cutoff devices set to stop flow at a predetermined container content level.

(iii) Direct audible or code signal communication between the container gauger and the pumping station.

(iv) A fast response system for determining the liquid level of each bulk storage container such as digital computers, telepulse, or direct vision gauges. If you use this alternative, a person must be present to monitor gauges and the overall filling of bulk storage containers.

(v) You must regularly test liquid level sensing devices to ensure proper operation.

(9) Observe effluent treatment facilities frequently enough to detect possible system upsets that could cause a discharge as described in §112.1(b).

(10) Promptly correct visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts. You must promptly remove any accumulations of oil in diked areas.

(11) Position or locate mobile or portable oil storage containers to prevent a discharge as described in §112.1(b). Except for mobile refuelers, you must furnish a secondary means of containment, such as a dike or catchment basin, sufficient to contain the capacity of the largest single compartment or container with sufficient freeboard to contain precipitation.

(d) *Facility transfer operations, pumping, and facility process.* (1) Provide buried piping that is installed or replaced on or after August 16, 2002, with a protective wrapping and coating. You must also cathodically protect such buried piping installations or otherwise satisfy the corrosion protection standards for piping in part 280 of this chapter or a State program approved under part 281 of this chapter. If a section of buried line is exposed for any reason, you must carefully inspect it for deterioration. If you find corrosion damage, you must undertake additional examination and corrective action as indicated by the magnitude of the damage.

(2) Cap or blank-flange the terminal connection at the transfer point and mark it as to origin when piping is not in service or is in standby service for an extended time.

(3) Properly design pipe supports to minimize abrasion and corrosion and allow for expansion and contraction.

(4) Regularly inspect all aboveground valves, piping, and appurtenances. During the inspection you must assess the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. You must also conduct integrity and leak testing of buried piping at the time of installation, modification, construction, relocation, or replacement.

(5) Warn all vehicles entering the facility to be sure that no vehicle will endanger aboveground piping or other oil transfer operations.