Storm Water Pollution Prevention Plan For Construction Activities (SWPPP)

Lowe's Market #99 Dock and Storage Addition

4701 4th St. NW

Albuquerque, NM 87107

Wooten Engineering
PO Box 15814
Rio Rancho, N.M. 87174
Phone: (505) 980-3560

Stormwater Pollution Prevention Plan (SWPPP)

For Construction Activities At:

Lowe's Market #99
4701 4th St. NW
Albuquerque, NM 87107

SWPPP Prepared For:

JDMA Architects
2720 82nd St
Lubbock, TX 79453
806-744-4490

SWPPP Prepared By:

Wooten Engineering
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SWPPP Preparation Date:

7/9/2021

Estimated Project Dates:

Project Start Date: 07/26/2021
Project Completion Date: 12/17/2021

Contents

SECTION 1: CONTACT INFORMATION/RESPONSIBLE PARTIES

1.1 Operator(s)

Owner/Operator(s):

Pay & Save Inc. c/o TMar Architects LLC
Todd Martin
1804 Hall Ave
Littlefield, TX 79339-5439
806-441-7507
TMartin@dtm-architect.com
Controls site plans and specifications

Contractor/Operator(s):

Company Name: Borrego Construction
Contact Person: James Borrego
Physical Address: 3056 Agua Fria St
City/State/Zip: Santa Fe, NM 87507
Phone Number: 505-473-0348
Email Address: james@borregoconstruction.com
Controls daily site activities

Emergency 24-Hour Contact:

Company Name: Borrego Construction
Contact Person: Jamess Borrego
Physical Address: 3056 Agua Fria St
City/State/Zip: Santa Fe, NM 87507
Mobile Phone Number: 505-473-0348
Email Address: james@borregoconstruction.com

1.2 Stormwater Team

Role or Responsibility: Controls site plans and specifications

Pay & Save Inc. c/o TMar Architects LLC
Todd Martin
1804 Hall Ave
Littlefield, TX 79339-5439
806-441-7507
tmartin@dtm-architect.com

Role or Responsibility: Controls daily site activities

Contractor
Borrego Construction
Contact Person: James Borrego
Address: 3056 Agua Fria St
City/State/Zip: Santa Fe, NM 87507
Phone: 505-473-0348
Email: cbaca@ebnm.com

Role or Responsibility: SWPPP Preparer

Wooten Engineering
Jeffrey T. Wooten, P.E.
PO Box 15814
Rio Rancho, NM 87174
505 980-3560
jeffwooten.pe@gmail.com

Role or Responsibility: Compliance Inspections and SWPPP Maintenance

Company: _____
Contact Person: _____
Address: _____
_____
Phone Number: _____
Email Address: _____

SECTION 2: SITE EVALUATION, ASSESSMENT, AND PLANNING

2.1 Project/Site Information

Project Name, Address, and Hours of Operation

Project/Site Name: Lowe's Market #99, Dock and Storage Addition
Project Street/Location: 4701 4th St. NW
City: Albuquerque
State: NM
ZIP Code: 87107
County or Similar Subdivision: Bernalillo County
Hours of Operation: Construction Activities Generally Occur between 6am and 5pm Daily

Project Latitude/Longitude

(Use **one** of three possible formats, and specify method)

Latitude:	Longitude:
1. 35° 7' 53.74" N (degrees, minutes, seconds)	1. 106° 38' 39.20" W (degrees, minutes, seconds)
2. _ _ ° _ _. _ _' N (degrees, minutes, decimal)	2. _ _ ° _ _. _ _' W (degrees, minutes, decimal)
3. _ _ . _ _ _ _ ° N (decimal)	3. _ _ _ . _ _ _ _ ° W (decimal)

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

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

If you used 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 name of the Indian tribe associated with the property:

If you are conducting earth-disturbing activities in response to a public emergency, document the cause of the public emergency *(e.g., natural disaster, extreme flooding conditions)*, information substantiating its occurrence *(e.g., state disaster declaration)*, and a description of the construction necessary to reestablish effective public services:

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

2.2 Discharge Information

Does your 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

Table 1 – Names of Receiving Waters

Name(s) of the first surface water that receives stormwater directly from your site and/or from the MS4 (note: multiple rows provided where your site has more than one point of discharge that flows to different surface waters)
1. Rio Grande River
2.
3.
4.
5.
6.

Table 2 – Impaired Waters / TMDLs (Answer the following for each surface water listed in Table 1 above)

	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	**Disolved Oxygen, PCB, Temp**	☐ YES ☒ NO		**Aluminum, E. Coli**
2.	☐ YES ☐ NO		☐ YES ☐ NO		
3.	☐ YES ☐ NO		☐ YES ☐ NO		
4.	☐ YES ☐ NO		☐ YES ☐ NO		
5.	☐ YES ☐ NO		☐ YES ☐ NO		
6.	☐ YES ☐ NO		☐ YES ☐ NO		

Describe the method(s) you used to determine whether or not your project/site discharges to an impaired water:
NM 303d List of Impaired waters from the NM Environmental Dept Website

Table 3 – Tier 2, 2.5, or 3 Waters

	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.	☐ YES ☐ NO	
3.	☐ YES ☐ NO	
4.	☐ YES ☐ NO	
5.	☐ YES ☐ NO	
6.	☐ YES ☐ NO	

2.3 Nature of the Construction Activity

General Description of Project

Provide a general description of the construction project:

The project will require demolition, grubbing, mass grading, underground drainage systems, Stormwater Quality Ponding, building construction, wet and dry utilities connections and paving. General building construction practices will include concrete, wood, masonry, stucco and other typical methods.

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?

Site will consist of 1.4 acres total disturbed. The areas will need to be permanently or temporarily stabilized as work is completed.

Construction Support Activities

Describe any construction support activities for the project (e.g., concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, borrow areas)

Material storage area is to be located onsite. All offsite borrow or disposal areas are to be covered under a separate current NOI permit. All concrete or asphalt batch plants are also to be covered under a separate current NOI permit.

2.4 Sequence and Estimated Dates of Construction Activities

Phase I

- Prepare temporary parking and storage areas
- Install temporary site fencing and silt fences
- Installation of other perimeter stormwater controls
- Cut grades as needed for temporary ponding.
- Grubbing and Mass grading
- Installation of secondary stormwater controls.
- Start construction of building pad and structures

Phase II

- Building construction and infrastructure work.
- Install Utilities
- Prepare site for paving
- Pave site
- Install landscape fabric, landscape gravel, and rip rap
- Completion of earth disturbing activities.
- Removal of temporary stormwater controls.
- Permanent site stabilization.

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 flushings	☒ 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 flushings	☒ 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	
Foundation or footing drains	☐ YES ☒ NO
Construction dewatering water	☐ YES ☒ NO
Other	☐ YES ☒ NO

2.6 Site Maps

Temporary Erosion and Sedimentation Plan Located in Appendix A

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

Provide documentation for the applicable eligibility criterion you select in Appendix D, as follows:

For criterion A, indicate the basis for your 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.
- ☐ Publicly available species list.
- ☐ Other source:

For criterion B, provide the Tracking Number from the other operator's notification of permit authorization:

Provide a brief summary of the basis used by the other operator for selecting criterion A, B, C, D, E, or F:

For criterion C, provide the following information:

- US F&S Listed Sensitive Species in Bernalillo County
- 2.13 Miles

Also, provide a brief summary of the basis used for determining that your site's discharges and discharge-related activities are not likely to adversely affect listed species or critical habitat:

Site runoff, Sediment and Pollutants will be controlled on site.

For criterion D, E, or F, attach copies of any letters or other communication between you and the U.S. Fish & Wildlife Service or National Marine Fisheries Service concluding consultation or coordination activities.

3.2 Historic Preservation

Appendix E, Step 1

Do you plan on installing any of the following stormwater controls at your site? 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: Underground drainage system

Appendix E, Step 2

If you 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

- If yes, no further documentation is required for Section 3.2 of the Template.
- If no, proceed to Appendix E, Step 3.

Appendix E, Step 3

If you 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

If yes, provide documentation of the basis for your determination.

If no, proceed to Appendix E, Step 4.

Appendix E, Step 4

If you answered no in Step 3, did the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Office (THPO), or other tribal representative (whichever applies) respond to you within 15 calendar days to indicate whether the subsurface earth disturbances caused by the installation of stormwater controls affect historic properties? ☐ YES ☒ NO

If no, no further documentation is required for Section 3.2 of the Template.

If yes, describe the nature of their response:

☐ 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:

3.3 Safe Drinking Water Act Underground Injection Control Requirements

Do you plan to install any of the following controls? Check all that apply below.
None of the below are expected to be used.

☐ 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

Construction Entrances

Minimum Measure: Construction Site Stormwater Runoff Control

Subcategory: Sediment Control

Description

The purpose of stabilizing entrances to a construction site is to minimize the amount of sediment leaving the area as mud and sediment attached to vehicles. Installing a pad of gravel over filter cloth where construction traffic leaves a site can help stabilize a construction entrance. As a vehicle drives over the pad, the pad removes mud and sediment from the wheels and reduces soil transport off the site. The filter cloth separates the gravel from the soil below, keeping the gravel from being ground into the soil. The fabric also reduces the amount of rutting caused by vehicle tires. It spreads the vehicle's weight over a soil area larger than the tire width.

In addition to using a gravel pad, a vehicle washing station can be established at the site entrance. Using wash stations routinely can remove a lot of sediment from vehicles before they leave the site. Diverting runoff from vehicle washing stations into a sediment trap helps to make sure the sediment from vehicles stays onsite and is handled properly.

Applicability

Typically, stabilized construction entrances are installed where construction traffic leaves or enters an existing paved road. But site entrance stabilization should be extended to any roadway or entrance where vehicles enter or leave the site. From a public relations point of view, stabilizing construction site entrances can be worth the effort. If the site entrance is the most noticeable part of a construction site, stabilizing the entrance can improve both the appearance and the public perception of the construction project.

Siting and Design Considerations

Stabilize all entrances to a site before construction and further site disturbance begin. Make sure the stabilized site entrances are long and wide enough to allow the largest construction vehicle that will enter the site to fit through with room to spare. If many vehicles are expected to use an entrance in any one day, make the site entrance wide enough for two vehicles to pass at the same time with room on either side of each vehicle. If a site entrance leads to a paved road, make the end of the entrance flared so that long vehicles do not leave the stabilized area when they turn onto or off the paved roadway. If a construction site entrance crosses a stream, swale, or other depression, provide a bridge or culvert to prevent erosion from unprotected banks. Make sure stone and gravel used to stabilize the construction site entrance are large enough so that they are not carried offsite by vehicles. Avoid sharp-edged stone to reduce the possibility of puncturing tires. Install stone or gravel at a depth of at least 6 inches for the entire length and width of the stabilized construction entrance.

Limitations

Although stabilizing a construction entrance reduces the amount of sediment leaving a site, some soil might still be deposited from vehicle tires onto paved surfaces. To further reduce the chance of these sediments polluting

stormwater runoff, sweep the paved area adjacent to the stabilized site entrance. For sites that use wash stations, a reliable water source to wash vehicles before leaving the site might not be initially available. Water might have to be trucked to the site at additional cost.

Maintenance Considerations

Maintain stabilization of the site entrances until the rest of the construction site has been fully stabilized. You might need to add stone and gravel periodically to each stabilized construction site entrance to keep the entrance effective. Sweep up soil tracked offsite immediately for proper disposal. For sites with wash racks at each site entrance, construct sediment traps and maintain them for the life of the project. Periodically remove sediment from the traps to make sure they keep working.

Effectiveness

Stabilizing construction entrances to prevent sediment transport offsite is effective only if all the entrances to the site are stabilized and maintained. Stabilizing the site entrances might not be very effective unless a wash rack is installed and routinely used (Corish, 1995). This can be problematic for sites with multiple entrances and high vehicle traffic.

Cost Considerations

Without a wash rack, construction site entrance stabilization costs range from $1,000 to $4,000. On average, the initial construction cost is around $2,000 per entrance. Including maintenance costs for a 2-year period, the average total annual cost is approximately $1,500. If a wash rack is included in the construction site entrance stabilization, the initial construction costs range from $1,000 to $5,000, and the average initial cost is $3,000 per entrance. The total cost, including maintenance for an estimated 2-year life span, is approximately $2,200 per year (USEPA, 1993).

References

Corish, K. 1995. *Clearing and Grading Strategies for Urban Watersheds*. Metropolitan Washington Council of Governments, Washington, DC.

USEPA (U.S. Environmental Protection Agency). 1992. *Stormwater Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices*. EPA 832-R-92-005. U.S. Environmental Protection Agency, Office of Water, Washington, DC.

USEPA (U.S. Environmental Protection Agency). 1993. *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters*. EPA 840-B-92-002. U.S. Environmental Protection Agency, Office of Water,

Sediment Traps

Minimum Measure: Construction Site Stormwater Runoff Control

Subcategory: Sediment Control

Description

Sediment traps are small impoundments that allow sediment to settle out of construction runoff. They are usually installed in a drainage way or other point of discharge from a disturbed area. Temporary diversions can be used to direct runoff to the sediment trap (USEPA, 1993). Sediment traps detain sediments in stormwater runoff to protect receiving streams, lakes, drainage systems, and the surrounding area. The traps are formed by excavating an area or by placing an earthen embankment across a low area or drainage swale. An outlet or spillway is often constructed using large stones or aggregate to slow the release of runoff (USEPA, 1992).

Applicability

Sediment traps are commonly used at the outlets of stormwater diversion structures, channels, slope drains, construction site entrance wash racks, or any other runoff conveyance that discharges waters containing sediment and debris.

Siting and Design Considerations

Sediment traps can simplify stormwater management on a construction site by trapping small amounts of sediment at multiple spots (USEPA, 1992). Note the natural drainage patterns, and place the traps in areas with the highest erosion potential. Design alternative diversion pathways to accommodate potential overflows.

Design a sediment trap to maximize the surface area for infiltration and sediment settling. This increases the effectiveness of the trap and decreases the likelihood of backup during and after periods of high runoff intensity. Site conditions dictate specific design criteria, but the minimum storage capacity should be 1,800 ft^3 per acre of total drainage area (Smolen et al., 1988). The volume of a natural sediment trap can be approximated using the following equation (Smolen et al., 1988):

$$\text{Volume } (ft^3) = 0.4 \times \text{surface area } (ft^2) \times \text{maximum pool depth (ft)}$$

In the siting and design phase, take care to situate sediment traps for easy access by maintenance crews. This allows for periodic inspection and maintenance. When excavating an area for a sediment trap, make sure the side slopes are no steeper than 2:1 and the embankment height no more than 5 feet from the original ground surface. Machine-compact all embankments to ensure stability. To reduce flow rate from the trap, line the outlet with well-graded stone.

The spillway weir for each temporary sediment trap should be at least 4 feet long for a 1-acre drainage area and increase by 2 feet for each additional drainage acre added, up to a maximum drainage area of 5 acres.

Limitations

Do not use sediment traps for drainage areas greater than 5 acres (USEPA, 1993). The effective life span of these structures is usually limited to 24 months (Smolen et al., 1988). Although sediment traps allow eroded soils to settle, their detention periods are too short for removing fine particles like silts and clays.

Maintenance Considerations

The primary maintenance consideration for temporary sediment traps is removing accumulated sediment. Do this periodically to ensure that the trap continues to operate effectively. Remove sediments when the basin reaches about 50 percent sediment capacity. Inspect the sediment trap after each rainfall event to ensure that the trap is draining properly. Also check the structure for damage from erosion. Check the depth of the spillway and maintain it at a minimum of 1.5 feet below the low point of the trap embankment.

Effectiveness

Sediment trapping efficiency is a function of surface area and peak inflow rate (Smolen et al., 1988). Traps that provide pools with large length-to-width ratios have a greater chance of success. Sediment traps have a useful life of about 18 to 24 months (USEPA, 1993), but their effectiveness depends on the amount and intensity of rainfall and erosion, and proper maintenance. USEPA (1993) estimates an average total suspended solids removal rate of 60 percent. An efficiency rate of 75 percent can be obtained for most Coastal Plain and Piedmont soils by using the following equation (Barfield and Clar, in Smolen et al., 1988):

Surface area at design flow (acres) = (0.01) peak inflow rate (cfs)

Cost Considerations

The cost of installing temporary sediment traps ranges from $0.20 to $2.00 per cubic foot of storage (about $1,100 per acre of drainage). The average cost is sbout $0.60 per cubic foot of storage (USEPA, 1993).

References

Smolen, M.D., D.W. Miller, L.C. Wyatt, J. Lichthardt, and A.L. Lanier. 1988. *Erosion and Sediment Control Planning and Design Manual*. North Carolina Sedimentation Control Commission; North Carolina Department of Environment, Health, and Natural Resources; and Division of Land Resources, Land Quality Section, Raleigh, NC.

USEPA (U.S. Environmental Protection Agency). 1992. *Stormwater Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices*. EPA 832-R-92-005. U.S. Environmental Protection Agency, Office of Water, Washington, DC.

USEPA (U.S. Environmental Protection Agency). 1993. *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters*. EPA 840-B-92-002. U.S. Environmental Protection Agency, Office of Water, Washington, DC.

ashington, DC.

Temporary Diversion Dikes

Minimum Measure: Construction Site Stormwater Runoff Control

Subcategory: Runoff Control

Description

An earthen perimeter control usually consists of a dike or a combination dike and channel constructed along the perimeter of and within the disturbed part of a site. An earthen perimeter control is a ridge of compacted soil, often accompanied by a ditch or swale with a vegetated lining, at the top or base of a sloping disturbed area. Depending on its location and the topography of the landscape, an earthen perimeter control can achieve one of two goals.

When on the upslope side of a site, earthen perimeter controls help to prevent surface runoff from entering a disturbed construction site. An earthen structure located upslope can improve working conditions on a construction site. It can prevent an increase in the total amount of sheet flow runoff traveling across the disturbed area and thereby lessen erosion on the site.

Earthen perimeter control structures also can be located on the downslope side of a site. They divert sediment-laden runoff created onsite to onsite sediment-trapping devices, preventing soil loss from the disturbed area.

These control practices are called temporary diversion dikes, earth dikes, and interceptor dikes. No matter what they are called,, all earthen perimeter controls are constructed in a similar way with a similar objective--to control the velocity or route (or both) of sediment-laden stormwater runoff.

Applicability

Temporary diversion dikes apply where it is desirable to divert flows away from disturbed areas such as cut or fill slopes and to divert runoff to a stabilized outlet (USEPA, 1992). The dikes can be erected at the top of a sloping area or in the middle of a slope to divert stormwater runoff around a disturbed construction site. In this way, earth dikes can be used to reduce the length of the slope across which runoff travels, reducing the erosion potential of the flow. If diversion dikes are placed at the bottom of a sloping disturbed area, they can divert flow to a sediment-trapping device. Temporary diversion dikes are usually appropriate for drainage basins smaller than 5 acres. With modifications they can service areas as large as 10 acres. With regular maintenance, earthen diversion dikes have a useful life span of about 18 months.

To prevent stormwater runoff from entering a site, earthen perimeter controls can be used to divert runoff from areas upslope around the disturbed construction site. A continuous, compacted earthen mound is constructed along the upslope perimeter of the site. As an additional control measure, a shallow ditch can accompany the earthen mound.

Siting and Design Considerations

The siting of earthen perimeter controls depends on the topography of the area surrounding the construction site. Another factor is whether the goal is to prevent sediment-laden runoff from entering the site or to keep stormwater runoff from leaving the site. When determining the appropriate size and design of earthen perimeter controls, consider the shape and drainage patterns of the surrounding landscape. Also consider the amount of

runoff to be diverted, the velocity of runoff in the diversion, and the erodibility of soils on the slope and in the diversion channel or swales (WA State Dept. of Ecology, 2005).

Construct diversion dikes and fully stabilize them before any major land disturbance begins. This approach makes the diversion measure effective as an erosion and sediment control device.

The top of earthen perimeter controls designed as temporary flow diversion measures should be at least 2 feet wide. The bottom width at ground level is typically 6 feet. The minimum height for earth dikes should be 18 inches, with side slopes no steeper than 2:1. At points where vehicles will cross the dike, make sure the slope is no steeper than 3:1 and make the mound gravel rather than soil. This design makes the dike last longer and strengthens the point of vehicle crossing.

If a channel is excavated along the dike, its shape can be parabolic, trapezoidal, or V-shaped. Before any excavating or mound-building, remove all trees, brush, stumps, and other objects in the path of the diversion structure. Till the base of the dike before laying the fill. The maximum design flow velocity should range from 1.5 to 5.0 feet per second, depending on the vegetative cover and soil texture.

Most earthen perimeter structures are designed for short-term, temporary use. If the expected life span of the structure is more than 15 days, seed the earthen dike and the accompanying ditchwith vegetation immediately after construction. This increases the stability of the perimeter control and can decrease the need for frequent repairs and maintenance.

Limitations

Earth dikes are an effective means of diverting sediment-laden stormwater runoff around a disturbed area. But the concentrated runoff in the channel or ditch has increased erosion potential. Direct diversion dikes to sediment-trapping devices, where sediment can settle out of the runoff before it is discharged to surface waters. Sediment-trapping devices that work with temporary diversion structures include sediment basins, sediment chambers/filters, and any other structures designed to allow sediment to be collected for proper disposal.

If a diversion dike crosses a vehicle roadway or entrance, its effectiveness can be reduced. When possible, design diversion dikes to avoid crossing vehicle pathways.

Maintenance Considerations

Inspect earthen diversion dikes after each rainfall to ensure continued effectiveness. Maintain dikes at their original height. Repair any decrease in height due to settling or erosion immediately. To remain effective, earth dikes must be compacted at all times. Regardless of rainfall frequency, inspect dikes at least once every 2 weeks for evidence of erosion or deterioration.

Effectiveness

When properly placed and maintained, earth dikes used as temporary diversions can control the velocity and direction of stormwater runoff. Used by themselves, they do not have any pollutant removal capability. They must be used with an appropriate sediment-trapping device at the outfall of the diversion channel.

Cost Considerations

The cost of constructing an earth dike can be broken down into two components: (1) site preparation (including excavation, placement, and compacting of fill) and grading, and (2) site development, including topsoiling and

seeding for vegetative cover. The Southeastern Wisconsin Regional Planning Commission (1991) estimated the total cost of site preparation to be $46.33 to $124.81 for a 100-foot dike with 1.5-foot-deep, 3:1 side slopes. The cost of site development was estimated at $115.52 to $375.44. The total cost was between $162 and $500. The cost for constructinig diversion berms range from $15 to $55 per ft for both earthwork and stabilization and depends on the availability of suitable material, site location, and access. Small dikes range from $2.50 to $6.50 per linear ft and large dikes cost about $2.50 per cubic yard of earth (CASQA, 2003).

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Construction Sequencing

Minimum Measure: Construction Site Stormwater Runoff Control

Subcategory: Construction Site Planning and Management

Description

Construction sequencing is a specified work schedule that coordinates the timing of land-disturbing activities and the installation of erosion and sediment control measures. The goal of a construction sequence schedule is to reduce on-site erosion and off-site sedimentation by performing land-disturbing activities and installing erosion and sediment control practices in accordance with a planned schedule (Smolen et al., 1988).

Construction site phasing involves disturbing only part of a site at a time to prevent erosion from dormant parts. Grading activities and construction are completed and soils are effectively stabilized on one part of the site before grading and construction commence at another part. A key consideration of grading activities should be the coordination of cuts and fills to minimize the movement and storage of soils on, off, and around the site. This differs from the more traditional practice of construction site sequencing, in which site-disturbing activities are performed initially for all or a large section of the site, leaving portions of the disturbed site vulnerable to erosion. To be effective, construction site phasing needs to be incorporated into the overall site plan early on. Elements to consider when phasing construction activities include the following:

Managing runoff separately in each phase
Determining whether water and sewer connections and extensions can be accommodated
Determining the fate of already completed downhill phases
Providing separate construction and residential accesses to prevent conflicts between residents living in completed stages of the site and construction equipment working on later stages (USEPA, 2004).

Applicability

Construction sequencing can be used to plan earthwork and erosion and sediment control activities at sites where land disturbances might affect water quality in a receiving waterbody.

Siting and Design Considerations

Construction sequencing schedules should, at a minimum, include the following: Design and Installation Criteria

The ESC practices that are to be installed
Principal development activities
Which measures should be installed before other activities are started
Compatibility with the general contract construction schedule

Table 1 summarizes other important scheduling considerations in addition to those listed above.

Table 1. Scheduling considerations for construction activities.

Construction activity	Schedule consideration
Construction access, entrance to site, construction routes, areas designated for equipment parking	This is the first land-disturbing activity. As soon as construction begins, stabilize any bare areas with gravel and temporary vegetation.
Sediment traps and barriers, basin traps, sediment fences, outlet protection	After the construction site is accessed, install principal basins. Add more traps and barriers as needed during grading.
Runoff control diversions, perimeter dikes, water bars, outlet protection	Install key practices after installing principal sediment traps and before land grading. Install additional runoff control measures during grading.
Runoff conveyance system, stabilize stream banks, storm drains, channels, inlet and outlet protection, slope drains	If necessary, stabilize stream banks as soon as possible, and install a principal runoff conveyance system with runoff control measures. Install the remainder of the systems after grading.
Land clearing and grading, site preparation (cutting, filling, and grading, sediment traps, barriers, diversions, drains, surface roughening)	Implement major clearing and grading after installing principal sediment and key runoff-control measures, and install additional control measures as grading continues. Clear borrow and disposal areas as needed, and mark trees and buffer areas for preservation.
Surface stabilization, temporary and permanent seeding, mulching, sodding, riprap	Apply temporary or permanent stabilizing measures immediately to any disturbed areas where work has been either completed or delayed.
Building construction, buildings, utilities, paving	During construction, install any erosion and sedimentation control measures that are needed.
Landscaping and final stabilization, topsoiling, trees and shrubs, permanent seeding, mulching, sodding, riprap	This is the last construction phase. Stabilize all open areas, including borrow and spoil areas, and remove and stabilize all temporary control measures.

Limitations

Weather and other unpredictable variables might affect construction sequence schedules. However, the ESC plan should plainly state the proposed schedule and a protocol for making changes due to unforeseen problems.

Maintenance Considerations

Follow the construction sequence throughout the project and the modify the written plan before any changes in construction activities are executed. Update the plan if a site inspection indicates the need for additional erosion and sediment control.

Effectiveness

Construction sequencing can be an effective tool for erosion and sediment control because it ensures that management practices are installed where necessary and when appropriate. Follow the plan and, if needed, update it to maximize the effectiveness of ESC BMPs under changing conditions. A comparison of sediment loss from a typical development and from a comparable phased project showed a 42 percent reduction in sediment export in the phased project (Claytor, 1997).

Cost Considerations

Construction sequencing is a low-cost measure because it requires a limited amount of a contractor's time to provide a written plan for coordinating construction activities and management practices. It might take additional time to update the sequencing plan if the current plan is not providing sufficient erosion and sediment control.

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Land Grading

Minimum Measure: Construction Site Stormwater Runoff Control

Subcategory: Construction Site Planning and Management

Description

Land grading involves reshaping the ground surface to planned grades as determined by an engineering survey, evaluation, and layout. Land grading provides more suitable topography for buildings, facilities, and other land uses and helps to control surface runoff, soil erosion, and sedimentation during and after construction.

Applicability

Land grading is applicable to sites with uneven or steep topography or easily erodible soils, because it stabilizes slopes and decreases runoff velocity. Grading activities should maintain existing drainage patterns as much as possible.

Siting and Design Considerations

Before grading activities begin, a construction site operator must make decisions regarding the steepness of cut-and-fill slopes and how the slopes will be

Protected from runoff
Stabilized
Maintained

Prepare a grading plan that establishes which areas of the site will be graded, how drainage patterns will be directed, and how runoff velocities will affect receiving waters. Also in the grading plan, include information about when earthwork will start and stop, establish the degree and length of finished slopes, and dictate where and how excess material will be disposed of (or where borrow materials will be obtained if needed). Land grading should be a key consideration for Construction Sequencing. Try to minimize exposed soils at any given time during construction. Incorporate in the plan any berms, diversions, and other stormwater practices that require excavation and filling.

Care should be taken if blasting agents or explosives are used. These products may contain perchlorates, which are water soluble chemicals. If explosives containing perchlorate must be used, then good housekeeping practices should be employed to ensure that any debris is properly disposed.

A low-impact development BMP that a site operator can incorporate into a grading plan is *site fingerprinting*, which involves clearing and grading only those areas necessary for building activities and equipment traffic. Maintaining undisturbed temporary or permanent buffer zones in the grading operation provides a low-cost sediment control measure that will help reduce runoff and offsite sedimentation. Let the lowest elevation of the site remain undisturbed to provide a protected stormwater outlet before storm drains or other construction outlets are installed.

Limitations

Improper grading practices that disrupt natural stormwater patterns might lead to poor drainage, high-runoff velocities, and increased peak flows during storm events. Clearing and grading the entire site without vegetated buffers promotes offsite transport of sediments and other pollutants. Design the grading plan with erosion and sediment control and stormwater management goals in mind; to ensure that the plan is implemented as intended, carefully supervise grading crews.

Maintenance Considerations

Check all graded areas and supporting erosion and sediment control practices periodically, especially after heavy rainfalls. Promptly remove all sediment from diversions or other stormwater conveyances, and if washouts or breaks occur, repair them immediately. To prevent small-scale eroded areas from becoming significant gullies, maintain them promptly.

Effectiveness

Land grading is an effective way to reduce steep slopes and stabilize highly erodible soils when properly implemented with stormwater management and erosion and sediment control practices. Land grading is not effective when drainage patterns are altered or when vegetated areas on the perimeter of the site are destroyed (USEPA, 2004).

Cost Considerations

Land grading is practiced at virtually all construction sites. It can take a certified engineer or landscape architect several hours of work to incorporate stormwater and erosion and sediment controls in the grading plan. It might take extra time to excavate diversions and construct berms. Also, fill materials might be needed to build up low-lying areas or fill depressions. Where grading is performed to manage on-site stormwater, the cost of fine grading, soil treatment, and grassing is approximately $2 per square yard of earth surface area and shallow excavation/trenching (1 to 4 feet deep) with a backhoe in areas not requiring dewatering can be performed for $4 to $5 per cubic yard of removed material (R. S. Means, 2000). Larger scale grading requires a site-specific assessment of an alternative grading apparatus and a detailed fill/excavation material balance to retain as much soil on site as possible.

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Dust Control

Minimum Measure: Construction Site Stormwater Runoff Control

Subcategory: Erosion Control

Description

Dust control BMPs reduce surface activities and air movement that causes dust to be generated from disturbed soil surfaces. Construction sites can generate large areas of soil disturbance and open space for wind to pick up dust particles. Limited research at construction sites has established an average dust emission rate of 1.2 tons/acre/month for active construction (WA Dept. of Ecology, 1992). Airborne particles pose a dual threat to the environment and human health. First, dust can be carried offsite, thereby increasing soil loss from the construction area and increasing the likelihood of sedimentation and water pollution. Second, blowing dust particles can contribute to respiratory health problems and create an inhospitable working environment.

Applicability

Dust control measures are applicable to any construction site where there is the potential for air and water pollution from dust traveling across the landscape or through the air. Dust control measures are especially important in arid or semiarid regions, where soil can become extremely dry and vulnerable to transport by high winds. Implement dust control measures on all construction sites where there will be major soil disturbances or heavy equipment construction activity such as clearing, excavation, demolition, or excessive vehicle traffic. Earthmoving activities are the major source of dust from construction sites, but traffic and general disturbances can also be major contributors (WA Dept. of Ecology, 1992). The dust control measures that are implemented at a site will depend on the topography and land cover of the site and its soil characteristics and expected rainfall.

Siting and Design Considerations

When designing a dust control plan for a site, the amount of soil exposed will dictate the quantity of dust generation and transport. Therefore, construction sequencing and disturbing only small areas at a time can greatly reduce problematic dust from a site. If land must be disturbed, consider using temporary stabilization measures before disturbance. A number of methods can be used to control dust from a site; not all will be applicable to a site. The owner, operator, and contractors responsible for dust control at a site will have to determine which practices accommodate their needs according to specific site and weather conditions. The following is a brief list of some control measures and design criteria.

Sprinkling/Irrigation. Sprinkling the ground surface with water until it is moist is an effective dust control method for haul roads and other traffic routes (Smolen et al., 1988). This practice can be applied to almost any site.

Vegetative Cover. In areas not expected to handle vehicle traffic, vegetative stabilization of disturbed soil is often desirable. Vegetative cover provides coverage to surface soils and slows wind velocity at the ground surface, thus reducing the potential for dust to become airborne.
Mulch. Mulching can be a quick and effective means of dust control for a recently disturbed area (Smolen et al., 1988).
Wind Breaks. Wind breaks are barriers (either natural or constructed) that reduce wind velocity through a site and, therefore, reduce the possibility of suspended particles. Wind breaks can be trees or shrubs left in place during site clearing or constructed barriers such as a wind fence, snow fence, tarp curtain, hay bale, crate wall, or sediment wall (USEPA, 1992).
Tillage. Deep tillage in large open areas brings soil clods to the surface where they rest on top of dust, preventing it from becoming airborne.
Stone. Stone can be an effective dust deterrent for construction roads and entrances or as a mulch in areas where vegetation cannot be established.

Dust Control and Stabilizing Chemicals Must Be Approved by EPA prior to use.

Spray-on Chemical Soil Treatments (palliatives). Examples of chemical adhesives include anionic asphalt emulsion, latex emulsion, resin-water emulsions, and calcium chloride. Chemical palliatives should be used only on mineral soils. When considering chemical application to suppress dust, determine whether the chemical is biodegradable or water-soluble and what effect its application could have on the surrounding environment, including waterbodies and wildlife.

Table 1 shows application rates for some common spray-on adhesives, as recommended by Smolen et al. (1988).

Table 1. Application rates for spray-on adhesives (Source: Smolen et al., 1988)

Spray-on adhesive	Water dilution	Type of nozzle	Application (gal/acre)
Anionic asphalt emulsion	7:1	Coarse spray	1,200
Latex emulsion	12.5:1	Fine spray	235
Resin in water	4:1	Fine spray	300

Limitations

Applying water to exposed soils can be time intensive, and if done to excess, could result in excess runoff from the site or vehicles tracking mud onto public roads. Use chemical applications sparingly and only on mineral soils (not muck soils) because their misuse can create additional surface water pollution from runoff or contaminate ground water. Chemical applications might also present a health risk if excessive amounts are used.

Maintenance Considerations

Because dust controls are dependent on specific site and weather conditions, inspection and maintenance requirements are unique for each site. Generally, however, dust control measures involving application of either water or chemicals require more monitoring than structural or vegetative controls to remain effective. If structural

controls are used, inspect them regularly for deterioration to ensure that they are still achieving their intended purpose.

Effectiveness

Mulch. Can reduce wind erosion by up to 80 percent.
Wind Breaks/Barriers. For each foot of vertical height, an 8- to 10-foot deposition zone develops on the leeward side of the barrier. The permeability of the barrier will change its effectiveness at capturing windborne sediment.
Tillage. Roughening the soil can reduce soil losses by approximately 80 percent in some situations.
Stone. The size of the stones can affect the amount of erosion to take place. In areas of high wind, small stones are not as effective as 20 cm stones.
Spray-on Chemical Soil Treatments (palliatives). Effectiveness of polymer stabilization methods range from 70 percent to 90 percent, according to limited research.

Cost Considerations

Costs for chemical dust control measures can vary widely depending on specific needs of the site and the level of dust control desired.

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Storm Drain Inlet Protection

Minimum Measure: Construction Site Stormwater Runoff Control

Subcategory: Sediment Control

Description

Storm drain inlet protection measures prevent soil and debris from entering storm drain drop inlets. These measures are usually temporary and are implemented before a site is disturbed.

There are several types of inlet protection:

Excavation around the perimeter of the drop inlet: Excavating a small area around an inlet creates a settling pool that removes sediments as water is released slowly into the inlet through small holes protected by gravel and filter fabric.

Fabric barriers around inlet entrances: Erecting a barrier made of porous fabric around an inlet creates a shield against sediment while allowing water to flow into the drain. This barrier slows runoff while catching soil and other debris at the drain inlet.

Block and gravel protection: Standard concrete blocks and gravel can be used to form a barrier to sediments that permits water runoff to flow through select blocks laid sideways.

Sandbags can also be used to create temporary sediment barriers at inlets. For permanent inlet protection after the surrounding area has been stabilized, sod can be installed. This permanent measure is an aesthetically pleasing way to slow stormwater near drop inlet entrances and to remove sediments and other pollutants from runoff.

Applicability

All temporary inlet protection should have a drainage area no greater than 1 acre per inlet. Temporary controls should be constructed before the surrounding landscape is disturbed. Excavated drop inlet protection and block and gravel inlet protection are applicable to areas of high flow, where drain overflow is expected. Fabric barriers are recommended for smaller, flatter drainage areas (slopes less than 5 percent leading to the drain). Temporary drop inlet control measures are often used in sequence or with other erosion control techniques.

Siting and Design Considerations

With the exception of sod drop inlet protection, install these controls before any soil disturbance in the drainage area. Excavate around drop inlets at least 1 foot deep (2 feet maximum), excavating a volume of at least 35 yd^3 per acre disturbed. Side slopes leading to the inlet should be no steeper than 2:1. Design the shape of the excavated area such that the dimensions fit the area from which stormwater is expected to drain. For example, the longest side of an excavated area should be along the side of the inlet expected to drain the largest area.

Stake fabric inlet protection close to the inlet to prevent overflow onto unprotected soils. Stakes should be at least 3 feet long and spaced no more than 3 feet apart. Construct a frame for fabric support during overflow periods, and bury it at least 1 foot below the soil surface. It should rise to a height no greater than 1.5 feet above the

ground. The top of the frame and fabric should be below the downslope ground elevation to keep runoff from bypassing the inlet.

Block and gravel inlet barriers should be at least 1 foot high (2 feet maximum). Do not use mortar. Lay the bottom row of blocks at least 2 inches below the soil surface, flush against the drain for stability. Place one block in the bottom row on each side of the inlet on its side to allow drainage. Place 1/2-inch wire mesh over all block openings to prevent gravel from entering the inlet. Place gravel (3/4 to 1/2 inch in diameter) outside the block structure at a slope no greater than 2:1.

Do not consider sod inlet protection until the entire surrounding drainage area is stabilized. Lay the sod so that it extends at least 4 feet from the inlet in each direction to form a continuous mat around the inlet. Lay the sod strips perpendicular to the direction of flows. Stagger them so that the strip ends are not aligned. The slope of the sodded area should not be steeper than 4:1 approaching the drop inlet.

Limitations

To increase the effectiveness of these practices, use them with other measures, such as small impoundments or sediment traps (USEPA, 1992). In general, stormwater inlet protection measures are practical for areas receiving relatively clean runoff that is not heavily laden with sediment. They are designed to handle drainage from areas less than 1 acre (CASQA, 2003). To prevent clogging, storm drain control structures must be maintained frequently. If sediment and other debris clog the water intake, drop inlet control measures can actually cause erosion in unprotected areas.

Maintenance Considerations

Check all temporary control measures after each storm event. To maintain the capacity of the settling pools, remove accumulated sediment from the area around the drop inlet (excavated area, area around fabric barrier or block structure) when the capacity is reduced by half. Remove additional debris from the shallow pools periodically. The weep holes in excavated areas around inlets can become clogged, preventing water from draining out of the pools. If that happens, it might be difficult and costly to unclog the intake.

Effectiveness

Excavated drop inlet protection can be used to improve the effectiveness and reliability of other sediment traps and barriers, such as fabric or block and gravel inlet protection. The effectiveness of inlet protection alone is low for erosion and sediment control, long-term pollutant removal, and habitat and stream protection.

Cost Considerations

The cost of implementing storm drain inlet protection measures varies depending on the control measure used. Initial installation costs range from $50 to $150 per inlet depending on the materials used, with an average cost of $100 (USEPA, 1993). Maintenance costs can be high (up to 100 percent of the initial construction cost annually) because of the frequent inspection and repair needs. The Southeastern Wisconsin Regional Planning Commission has estimated the cost of installing inlet protection devices at $106 to $154 per inlet (SEWRPC, 1991).

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Mulching

Minimum Measure: Construction Site Stormwater Runoff Control

Subcategory: Erosion Control

Description

Mulching is an erosion control practice that uses materials such as grass, hay, wood chips, wood fibers, straw, or gravel to stabilize exposed or recently planted soil surfaces. Mulching is highly recommended and is most effective when used in conjunction with vegetation. In addition to stabilizing soils, mulching can reduce stormwater velocity and improve the infiltration of runoff. Mulching can also aid plant growth by holding seeds, fertilizers, and topsoil in place, preventing birds from eating seeds, retaining moisture, and insulating plant roots against extreme temperatures.

Mulch matting is made from materials such as jute or other wood fibers that are formed into sheets and are more stable than loose mulch. Use jute and other wood fibers, plastic, paper, or cotton individually or combine them into mats to hold mulch to the ground. Use netting to stabilize soils while plants are growing; although, netting does not retain moisture or insulate against extreme temperatures. Mulch tackifiers made of asphalt or synthetic materials are sometimes used instead of netting to bind loose mulches.

Applicability

Mulching is often used in areas where vegetation cannot be established. Mulching can provide immediate and inexpensive erosion control. On steep slopes and critical areas, such as those near waterways, use mulch matting with netting or anchoring to hold it in place. Use mulches on seeded and planted areas where slopes are steeper than 2:1 or where sensitive seedlings require insulation from extreme temperatures or moisture retention.

Siting and Design Considerations

When possible, natural mulches should be used for erosion control and plant material establishment. Suggested materials include loose straw, netting, wood cellulose, or agricultural silage. All materials should be free of seed. Anchor loose hay or straw by applying tackifier, stapling netting over the top, or crimping with a mulch crimping tool. Materials that are heavy enough to stay in place (for example, gravel or bark or wood chips on flat slopes) do not need anchoring. Other examples of organic mulches include hydraulic mulch products with 100 percent post-consumer paper content, yard trimming composts, and wood mulch from recycled stumps and tree parts. Use inorganic mulches such as pea gravel or crushed granite in unvegetated areas.

Mulches may or may not require a binder, netting, or tacking. To ensure effective use of netting and matting material, keep firm, continuous contact between the materials and the soil. If there is no contact, the material will not hold the soil and erosion will occur underneath the material. Grading is not necessary before mulching. Use biodegradable netting, if possible.

There must be adequate coverage to prevent erosion, washout, and poor plant establishment. If an appropriate tacking agent is not applied, or is applied in insufficient amounts, mulch will be lost to wind and runoff. The channel grade and liner must be appropriate for the amount of runoff, or the channel bottom will erode. Also, apply hydromulch in spring, summer, or fall to prevent deterioration of mulch before plants can become established. Table 1 presents guidelines for installing mulches.

Table 1. Typical mulching materials and application rates

Material	Rate per acre	Requirements	Notes
Organic Mulches			
Straw	1 - 2 tons	Dry, unchopped, unweathered; avoid weeds	Spread by hand or machine; must be tacked or tied down
Wood fiber or wood cellulose	½ - 1 ton		Use with hydroseeder; may be used to tack straw; do not use in hot, dry weather
Wood chips	5 - 6 tons	Air dry; add fertilizer N, 12 lb/ton	Apply with blower, chip handler, or by hand; not for fine turf areas
Bark	35 yd^3	Air dry, shredded, or hammermilled, or chips	Apply with mulch blower, chip handler, or by hand; do not use asphalt tack
Nets and mats			
Jute net	Cover area	Heavy, uniform; woven of single jute yarn; use with organic mulch	Withstands water flow
Excelsior (wood fiber) mat	Cover area		
Fiberglass roving	½ - 1 ton	Continuous fibers of drawn glass bound together with a non-toxic agent	Apply with compressed air ejector; tack with emulsified asphalt at a rate of 25 - 35 gal/1000 ft^2

Limitations

Mulching, matting, and netting might delay seed germination because the cover changes soil surface temperatures. The mulches themselves are subject to erosion and may be washed away in a large storm. Maintenance is necessary to ensure that mulches provide effective erosion control.

Maintenance Considerations

Anchor mulches to resist wind displacement. When protection is no longer needed, remove netting and compost it or dispose of it in a landfill. Inspect mulched areas frequently to identify areas where it has loosened or been removed, especially after rainstorms. Reseed these areas, if necessary, and replace the mulch cover immediately. Apply mulch binders at rates recommended by the manufacturer. If washout, breakage, or erosion

occurs, repair, reseed and remulch surfaces, and install new netting. Continue inspections until vegetation is firmly established.

Effectiveness

Mulching effectiveness varies according to the type of mulch used. Soil loss reduction for different mulches ranges from 53 to 99.8 percent. Water velocity reductions range from 24 to 78 percent. Table 2 shows soil loss and water velocity reductions for different mulch treatments.

Table 2. Measured reductions in soil loss for different mulch treatments (Source: Harding, 1990, as cited in USEPA, 1993)

Mulch characteristics	Soil loss reduction (%)	Water velocity reduction (% relative to bare soil)
100% wheat straw/top net	97.5	73
100% wheat straw/two nets	98.6	56
70% wheat straw/30% coconut fiber	98.7	71
70% wheat straw/30% coconut fiber	99.5	78
100% coconut fiber	98.4	77
Nylon monofilament/two nets	99.8	74
Nylon monofilament/rigid/bonded	53.0	24
Vinyl monofilament/flexible/bonded	89.6	32
Curled wood fibers/top net	90.4	47
Curled wood fibers/two nets	93.5	59
Antiwash netting(jute)	91.8	59
Interwoven paper and thread	93.0	53
Uncrimped wheat straw, 2,242 kg/ha	84.0	45
Uncrimped wheat straw, 4,484 kg/ha	89.3	59

Cost Considerations

Costs of seed and mulch average $1,500 per acre and range from $800 to $3,500 per acre (USEPA, 1993).

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Soil Retention

Minimum Measure: Construction Site Stormwater Runoff Control

Subcategory: Erosion Control

Description

Soil retention measures are structures or practices that hold soil in place or keep it contained within a site boundary. They include grading or reshaping the ground to lessen steep slopes or shoring excavated areas with wood, concrete, or steel structures. Some soil-retaining measures are used only for erosion control, while others are also used to protect workers during excavation projects.

Applicability

Assess site conditions before breaking ground and, where possible, reduce steep slopes by grading. When sites have very steep slopes or loose, highly erodible soils that cause other methods, such as chemical or vegetative stabilization or regrading, to be ineffective, use reinforced soil-retaining structures. As much as possible, maintain the preconstruction drainage pattern.

Siting and Design Considerations

Examples of reinforced soil retaining structures include:

Skeleton sheeting. An inexpensive soil bracing system that consists of construction grade lumber used to support the excavated face of a slope. This method requires the soil to be cohesive.
Continuous sheeting. Involves using a material, such as face-steel, concrete, or wood, to cover the entire slope continuously, with struts and boards placed along the slope to support it.
Permanent retaining walls. Walls of concrete masonry or wood that are left in place after construction is complete to provide continued support of the slope.

The proper design of reinforced soil-retaining structures is crucial for erosion control and safety. To ensure safety of the retaining structure, have a qualified engineer design it--one who understands all the design considerations, such as the nature of the soil, location of the ground water table, and the expected loads. Ensure that hydraulic pressure does not build up behind the retaining structure and cause it to fail.

Limitations

To be effective, design soil-retention structures to handle expected loads. Heavy rains can damage or destroy these structures and result in sediment inputs to waterbodies. The structures must be properly installed and maintained to avoid failure.

Maintenance Considerations

Inspect soil-stabilization structures periodically, especially after rainstorms, to check for erosion, damage, or other signs of deterioration. Repair any damage to the actual slope or ditch, such as washouts or breakage, before reinstalling materials for the soil-stabilization structure.

Effectiveness

Soil-retention structures, if properly designed and installed, can effectively prevent erosion in areas with steep slopes and erodible soils. The potential for failure depends on the design, installation, and maintenance of the structures, and the likelihood of catastrophic events such as heavy rains, earthquakes, and landslides.

Cost Considerations

If planned appropriately, slope reduction can be accomplished during site development with minimal additional cost. Soil stabilization structures can be expensive because they require a professional engineer to develop a design (estimated to be 25 to 30 percent of construction costs [Ferguson et al., 1997]). Depending on the size of the proposed structure and the relief of the surrounding area, excavation and installation costs can be high. Capital costs include mobilization, grading, grooving, tracking and compacting fill, and installing the structures. Labor costs for regular inspection and repairs are also a consideration.

References

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USEPA (U.S. Environmental Protection Agency). 1992. *Stormwater Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.* EPA 832-R-92-005. U.S. Environmental Protection Agency, Office of Water, Washington, DC.

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Compost Filter Socks

Minimum Measure: Construction Site Stormwater Runoff Control

Subcategory: Sediment Control

Description

A compost filter sock is a type of contained compost filter berm. It is a mesh tube filled with composted material that is placed perpendicular to sheet-flow runoff to control erosion and retain sediment in disturbed areas. The compost filter sock, which is oval to round in cross section, provides a three-dimensional filter that retains sediment and other pollutants (e.g., suspended solids, nutrients, and motor oil) while allowing the cleaned water to flow through (Tyler and Faucette, 2005). The filter sock can be used in place of a traditional sediment and erosion control tool such as a silt fence or straw bale barrier. Composts used in filter socks are made from a variety of feedstocks, including municipal yard trimmings, food residuals, separated municipal solid waste, biosolids, and manure.

Compost filter socks are generally placed along the perimeter of a site, or at intervals along a slope, to capture and treat stormwater that runs off as sheet flow. Filter socks are flexible and can be filled in place or filled and moved into position, making them especially useful on steep or rocky slopes where installation of other erosion control tools is not feasible. There is greater surface area contact with soil than typical sediment control devices, thereby reducing the potential for runoff to create rills under the device and/or create channels carrying unfiltered sediment.

Additionally, they can be laid adjacent to each other, perpendicular to stormwater flow, to reduce flow velocity and soil erosion. Filter socks can also be used on pavement as inlet protection for storm drains and to slow water flow in small ditches. Filter socks used for erosion control are usually 12 inches in diameter, although 8 inch, 18 inch, and 24 inch– diameter socks are used in some applications. The smaller, 8 inch–diameter filter socks are commonly used as stormwater inlet protection.

Compost filter socks can be vegetated or unvegetated. Vegetated filter socks can be left in place to provide long-term filtration of stormwater as a post-construction best management practice (BMP). The vegetation grows into the slope, further anchoring the filter sock. Unvegetated filter socks are often cut open when the project is completed, and the compost is spread around the site as soil amendment or mulch. The mesh sock is then disposed of unless it is biodegradable. Three advantages the filter sock has over traditional sediment control tools, such as a silt fence, are:

Installation does not require disturbing the soil surface, which reduces erosion
It is easily removed
The operator must dispose of only a relatively small volume of material (the mesh)
These advantages lead to cost savings, either through reduced labor or disposal costs. The use of compost in this BMP provides additional benefits, include the following:

The compost retains a large volume of water, which helps prevent or reduce rill erosion and aids in establishing vegetation on the filter sock.
The mix of particle sizes in the compost filter material retains as much or more sediment than traditional perimeter controls, such as silt fences or hay bale barriers, while allowing a larger volume of clear water to

pass through. Silt fences often become clogged with sediment and form a dam that retains stormwater, rather than letting the filtered stormwater pass through.
In addition to retaining sediment, compost can retain pollutants such as heavy metals, nitrogen, phosphorus, oil and grease, fuels, herbicides, pesticides, and other potentially hazardous substances—improving the downstream water quality (USEPA, 1998).
Nutrients and hydrocarbons adsorbed and/or trapped by the compost filter can be naturally cycled and decomposed through bioremediation by microorganisms commonly found in the compost matrix (USEPA, 1998).

Applicability

Compost filter socks are applicable to construction sites or other disturbed areas where stormwater runoff occurs as sheet flow. Common industry practice for compost filter devices is that drainage areas do not exceed 0.25 acre per 100 feet of device length and flow does not exceed one cubic foot per second (see Siting and Design Considerations). Compost filter socks can be used on steeper slopes with faster flows if they are spaced more closely, stacked beside and/or on top of each other, made in larger diameters, or used in combination with other stormwater BMPs such as compost blankets.

Siting and Design Considerations

Compost Quality: Compost quality is an important consideration when designing a compost filter sock. Use of sanitized, mature compost will ensure that the compost filter sock performs as designed and has no identifiable feedstock constituents or offensive odors. The compost used in filter socks should meet all local, state, and Federal quality requirements. Biosolids compost must meet the Standards for Class A biosolids outlined in 40 Code of Federal Regulations (CFR) Part 503. The U.S. Composting Council (USCC) certifies compost products under its Seal of Testing Assurance (STA) Program. Compost producers whose products have been certified through the STA Program provide customers with a standard product label that allows comparison between compost products. The current STA Program requirements and testing methods are posted on the USCC EXIT Disclaimer website.

The nutrient and metal content of some composts are higher than some topsoils. This, however, does not necessarily translate into higher metals and nutrient concentrations or loads in stormwater runoff. A recent study by Glanville, et al. (2003) compared the stormwater runoff water quality from compost- and topsoil-treated plots. They found that although the composts used in the study contained statistically higher metal and nutrient concentrations than the topsoils used, the total masses of nutrients and metals in the runoff from the compost-treated plots were significantly less than plots treated with topsoil. Likewise, Faucette et al. (2005) found that nitrogen and phosphorus loads from hydroseed and silt fence treated plots were significantly greater than plots treated with compost blankets and filter berms. In areas where the receiving waters contain high nutrient levels, the site operator should choose a mature, stable compost that is compatible with the nutrient and pH requirements of the selected vegetation. This will ensure that the nutrients in the composted material are in organic form and are therefore less soluble and less likely to migrate into receiving waters.

The American Association of State Highway Transportation Officers (AASHTO) and many individual State Departments of Transportation (DOTs) have issued quality and particle size specifications for the compost to be used in filter berms (USCC, 2001; AASHTO, 2003). The compost specifications for vegetated filter berms developed for AASHTO Specification MP 9-03 (Alexander, 2003) are also applicable to vegetated compost filter socks (personal communication, B. Faucette, R. Tyler, and N. Goldstein, 2005). These specifications are provided as an example in Table 1. Installations of unvegetated compost filter socks, however, have shown that they require a coarser compost than unvegetated filter berms. The Minnesota DOT erosion control compost specifications for “compost logs” recommend 30 to 40 percent weed-free compost and 60 to 70 percent partially decomposed wood chips. They recommend that 100 percent of the compost passes the 2-

inch (51 mm) sieve and 30 percent passes the 3/8-inch (10 mm) sieve. Research on these parameters continues to evolve; therefore, the unvegetated filter sock parameters shown in Table 1 are a compilation of those that are currently in use by industry practitioners (personal communication, B. Faucette, R. Tyler, R. Alexander, and N. Goldstein, 2005). The DOT or Department of Environmental Quality (or similar designation) for the state where the filter sock will be installed should be contacted to obtain any applicable specifications or compost testing recommendations.

Design: Filter socks are round to oval in cross section; they are assembled by tying a knot in one end of the mesh sock, filling the sock with the composted material (usually using a pneumatic blower), then knotting the other end once the desired length is reached. A filter sock the length of the slope is normally used to ensure that stormwater does not break through at the intersection of socks placed end-to-end. In cases where this is not possible, the socks are placed end-to-end along a slope and the ends are interlocked. The diameter of the filter sock used will vary depending upon the steepness and length of the slope; example slopes and slope lengths used with different diameter filter socks are presented in Table 2.

Siting: Although compost filter socks are usually placed along a contour perpendicular to sheet flow, in areas of concentrated flow they are sometimes placed in an inverted V going up the slope, to reduce the velocity of water running down the slope. The project engineer may also consider placing compost filter socks at the top and base of the slope or placing a series of filter socks every 15 to 25 feet along the vertical profile of the slope. These slope interruption devices slow down sheet flow on a slope or in a watershed. Larger diameter filter socks are recommended for areas prone to high rainfall or sites with severe grades or long slopes. Coarser compost products are generally used in regions subject to high rainfall and runoff conditions.

Table 1. Example Compost Filter Parameters

Parameters [a,1,4]	Units of Measure[a]	Vegetated Filter Berm/Sock[a]	Unvegetated Filter Sock[b]
pH[2]	pH units	5.0 – 8.5	6 – 8
Soluble salt concentration[2](electrical conductivity)	dS/m (mmhos/cm)	Maximum 5	Not applicable
Moisture content	%, wet weight basis	30 – 60	30 – 60
Organic matter content	%, dry weight basis	25 – 65	25 – 65
Particle size	% passing a selected mesh size, dry weight basis	- 3 in. (75 mm), 100% passing - 1 in. (25 mm), 90 – 100% passing - 0.75 in. (19 mm), 70 – 100% passing - 0.25 in. (6.4 mm), 30 – 75% passing	- 2 in. (51 mm), 100% passing - 0.375 in. (10 mm), 10% – 30% passing

		Maximum particle size length of 6 in. (152 mm) Avoid compost with less than 30% fine particle (1 mm) to achieve optimum reduction of total suspended solids No more than 60% passing 0.25 in. (6.4 mm) in high rainfall/flow rate situations	
Stability[3] Carbon dioxide evolution rate	mg CO_2-C per gram of organic matter per day	<8	(same as vegetated)
Physical contaminants (manmade inerts)	%, dry weight basis	<1	<1

Sources: [a]Alexander, 2003; [b]Personal communication, B. Faucette, R. Tyler, N. Goldstein, R. Alexander, 2005

Notes:

[1] Recommended test methodologies are provided in [Test Methods for the Evaluation of Composting and Compost EXIT Disclaimer].
[2] Each plant species requires a specific pH range and has a salinity tolerance rating.
[3] Stability/maturity rating is an area of compost science that is still evolving, and other test methods should be considered. Compost quality decisions should be based on more than one stability/maturity test.
[4] Landscape architects and project engineers may modify the above compost specification ranges based on specific field conditions and plant requirements.

Table 2. Example Compost Filter Sock Slopes, Slope Lengths, and Sock Diameters

Slope	Slope Length (feet)	Sock Diameter (inches)
<50:1	250	12
50:1–10:1	125	12
10:1–5:1	100	12
3:1–2:1	50	18
>2:1	25	18

Source: Oregon Department of Environmental Quality (ODEQ), 2004

Installation: No trenching is required; therefore, soil is not disturbed upon installation. Once the filter sock is filled and put in place, it should be anchored to the slope. The preferred anchoring method is to drive stakes through the center of the sock at regular intervals; alternatively, stakes can be placed on the downstream side

of the sock. The ends of the filter sock should be directed upslope, to prevent stormwater from running around the end of the sock. The filter sock may be vegetated by incorporating seed into the compost prior to placement in the filter sock. Since compost filter socks do not have to be trenched into the ground, they can be installed on frozen ground or even cement.

Limitations

Compost filter socks offer a large degree of flexibility for various applications. To ensure optimum performance, h eavy vegetation should be cut down or removed, and extremely uneven surfaces should be leveled to ensure that the compost filter sock uniformly contacts the ground surface. Filter socks can be installed perpendicular to flow in areas where a large volume of stormwater runoff is likely, but should not be installed perpendicular to flow in perennial waterways and large streams.

Maintenance Considerations

Compost filter socks should be inspected regularly, as well as after each rainfall event, to ensure that they are intact and the area behind the sock is not filled with sediment. If there is excessive ponding behind the filter sock or accumulated sediments reach the top of the sock, an additional sock should be added on top or in front of the existing filter sock in these areas, without disturbing the soil or accumulated sediment. If the filter sock was overtopped during a storm event, the operator should consider installing an additional filter sock on top of the original, placing an additional filter sock further up the slope, or using an additional BMP, such as a compost blanket in conjunction with the sock(s).

Effectiveness

A large number of qualitative studies have reported the effectiveness of compost filter socks in removing settleable solids and total suspended solids from stormwater (McCoy, 2005; Tyler and Faucette, 2005). These studies have consistently shown that compost filter socks are at least as effective as traditional erosion and sediment control BMPs and often are more effective. Compost filter socks are often used in conjunction with compost blankets to form a stormwater management system. Together, these two BMPs retain a very high volume of stormwater, sediment, and other pollutants.

The compost in the filter sock can also improve water quality by absorbing various organic and inorganic contaminants from stormwater, including motor oil. Tyler and Faucette (2005) conducted a laboratory test using 13 types of compost in filter socks. They found that half of the compost filter socks removed 100 percent of the motor oil introduced into the simulated stormwater (at concentrations of 1,000 – 10,000 milligrams per liter [mg/L]) and the remaining compost filter socks removed over 85 percent of the motor oil from the stormwater.

Cost Considerations

The Texas Commission on Environmental Quality reports that the cost of a 12-inch diameter compost filter sock ranges from $1.40 to $1.75 per linear foot when used as a perimeter control (McCoy, 2005). The costs for an 18-inch diameter sock used as a check dam range from $2.75 to $4.75 per linear foot (McCoy, 2005). These costs do not include the cost of removing the compost filter sock and disposing of the mesh once construction activities are completed; however, filter socks are often left on site to provide slope stability and post-construction stormwater control. The cost to install a compost filter sock will vary, depending upon the availability of the required quality and quantity of compost and the availability of an experienced installer.

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ODEQ. 2004. *Best Management Practices for Stormwater Discharges Associated with Construction Activity, Guidance for Eliminating or Reducing Pollutants in Stormwater Discharges,* Oregon Department of Environmental Quality, Northwest Region.

Personal communications, 2005. Industry representatives were interviewed regarding the particle size and composition of composts currently used in vegetated and unvegetated filter socks. These representatives included Britt Faucette and Rod Tyler of Filtrexx, International, LLC; Nora Goldstein of BioCycle, Journal of Composting & Organics Recycling; and Ron Alexander of R. Alexander Associates, Inc.

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USEPA. 1998. *An Analysis of Composting as an Environmental Remediation Technology*. U.S. Environmental Protection Agency, Solid Waste and Emergency Response (5305W), EPA530-R-98-008, April 1998.

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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

Check the compliance alternative that you have chosen: N/A

☐ I will provide and maintain a 50-foot undisturbed natural buffer.

☐ I will provide and maintain an undisturbed natural buffer that is less than 50 feet and is supplemented by additional erosion and sediment controls, which in combination achieves the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

☐ It is infeasible to provide and maintain an undisturbed natural buffer of any size, therefore I will implement erosion and sediment controls that achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

☐ I qualify for one of the exceptions in Part 2.1.2.1.e.

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.

☐ No natural buffer exists due to preexisting development disturbances that occurred prior to the initiation of planning for this project.

☐ For a "linear project" (defined in Appendix A), site constraints (e.g., limited right-of-way) make it infeasible for me to meet any of the CGP Part 2.1.2.1.a compliance alternatives.

☐ The project qualifies as "small residential lot" construction (defined in Part 2.1.2.1.e.iv and in Appendix A).

For Alternative 1 (see Appendix G, Part G.2.3.2.a):

For Alternative 2 (see Appendix G, Part G.2.3.2.b):

☐ Buffer disturbances are authorized under a CWA Section 404 permit.

☐ Buffer disturbances will occur for the construction of a water-dependent structure or water access area (e.g., pier, boat ramp, and trail).

4.2 Perimeter Controls

General

- Silt fencing will be installed at the perimeter of the site to control wind blown dust. Temporary sediment and water quality ponds will intercept runoff prior to silt fencing. Perimeter controls are required for dust control. 12" Diameter wattles canl be used to slow flow velocities at key discharge points.

Specific Perimeter Controls

Perimeter Control

Perimeter Control Description

- Silt fencing per detail

Installation

- Prior to any earth disturbing activities
- Refer to Erosion and Sediment control plan for location

Maintenance Requirements

- Remove sediment when accumulation is at 50%.

4.3 Sediment Track-Out

General

- Install Stabilized construction entrance to site per detail. Expand rock length to provide multiple rotations of vehicle tires. Sweep offsite if accumulation occurs.
- Limit all access to stabilized entrance by barriers and signage.

Specific Track-Out Controls

Track-Out Control

Track-Out Control Description

- Stabilized construction entrance
- Sweep roadways and adjacent parking lot
- Refer to Erosion and Sediment control plan for location

Installation

- Prior to any earth disturbing activities

Maintenance Requirements
Replace or shake up rock (screed) if inadequate control of track out

4.4 Stockpiled Sediment or Soil

General

- Provide base controls if stockpile remains on site for more than 14 days.

Specific Stockpile Controls

Stockpile Control
Stockpiled Sediment/Soil Control Description

- Provide base control of temporary cover or stabilization.
- Limit Stockpile height to 15'.

Installation

- When stockpile is inactive for 14 days.

Maintenance Requirements
Cover Stockpile and provide perimeter base control. Remove stockpile when feasible.

4.5 Minimize Dust

General

- Wet exposed soils (wet suppression) as may be required to prevent blowing dust.

Specific Dust Controls

Dust Control
Dust Control Description

-

Installation

- Prior to any earth disturbing activities

Maintenance Requirements

4.6 Minimize the Disturbance of Steep Slopes

General

- Provide slope blanket or textile type fabric to control steep slopes

Specific Steep Slope Controls

Steep Slope Control
Steep Slope Control Description

- Slope Blanket/ Textile fabric

- Provide seed or gravel/rock mulch

Installation
- If needed

Maintenance Requirements
- Monitor slope controls for effectiveness

4.7 Topsoil

General
- Retain all suitable topsoil on site.

Specific Topsoil Controls

Topsoil Control
Topsoil Control Description
- Use wet suppression to limit loss of top soil.

Installation
- Daily wet suppression

Maintenance Requirements
Monitor soil loss, increase when warranted

4.8 Soil Compaction

General
- Restrict vehicle access after final grading to areas planned for planting.

Specific Soil Compaction Controls

Soil Compaction Control
Soil Compaction Control Description
- Aerate soil prior to planting
- Provide topsoil bedding for landscape plantings

Installation
- Prior to planting

Maintenance Requirements
Follow landscape specifications

4.9 Storm Drain Inlets

General
- All inlets are to be protected from sediment upon installation

Specific Storm Drain Inlet Controls

Storm Drain Inlet Control

Storm Drain Inlet Control Description
- Provide adequate controls
- Refer to Erosion and Sediment control plan for location

Installation
- Install at existing inlets. Install when constructed.

Maintenance Requirements
Remove sediment when by-pass occurs or become ineffective.

4.10 Constructed Stormwater Conveyance Channels

General
- Curb/gutters and valley gutters are to be constructed in the parking lot to convey stormwater. Rip-rap is to be installed where stormwater leaves the pavement and enters the stormwater quality pond.

4.11 Sediment Basins

General
- Sediment basins are to be installed at the downstream end of the site, around on-site catch basins, and at all perimeter areas of the site where stormwater discharge may leave the site.

Specific Sediment Basin Controls

Sediment Basin Control
Sediment Basin Control Description
- Earthen type
- Refer to Erosion and Sediment control plan for size and location

Installation
- Prior to any earth disturbing activities

Maintenance Requirements
Remove sediment when capacity is reduced 50%

4.12 Chemical Treatment

EPA APPROVAL MUST BE OBTAINED PRIOR TO USING CHEMICAL TREAMENT

4.13 Dewatering Practices

General
- There are no dewatering Practices associated with this project

4.14 Other Stormwater Controls

General

- Other stormwater controls must be approved prior to use.

4.15 Site Stabilization

Site Stabilization Practice (only use this if you are not located in an arid, semi-arid, or drought-stricken area)
☐ *Vegetative* ☐ *Non-Vegetative*
☐ *Temporary* ☐ *Permanent*

Description of Practice

- N/A

Installation

- N/A

Maintenance Requirements
N/A

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

- Install Rock gravel mulch and Riprap
- Stabilize areas upon final grading
- Refer to landscape plan

Installation

- Site is located within arid climate.
- Prior to filling NOT

Maintenance Requirements
All stabilization must meet EPA Region 6 and NMED standards

Site Stabilization Practice (only use this if uncontrollable circumstances have delayed the initiation or completion of stabilization)
Operator to make revisions and modify SWPPP if needed

☐ *Vegetative* ☐ *Non-Vegetative*
☐ *Temporary* ☐ *Permanent*

Justification

-

Description of Practice

-

Installation

-

Maintenance Requirements

SECTION 5: POLLUTION PREVENTION STANDARDS

5.1 Potential Sources of Pollution

A list of the Possible Potential sources of pollution for this site are identified with the source and minimum controls required to comply with SWPPP is attached.

Possible Potential sources of pollution:

Pollutant	Source	Control
Portable Toilets chemicals & Sewage	Portable Toilets, maintenance and sewer piping	Portable Toilets to be maintained, containment provided, located away from storm drain system. Provide staking to prevent tip over and spillage. Demolition of abandoned sewer pipe to be properly disposed of.
Solvents	Plumbing and Paint Contractors	Solvents to be kept in original closed containers and removed from the site by contractor.
Stains, Paints& Wood Preservatives	Painting Contractors	Stains, paints & wood preservatives to be kept in original closed containers and waste paint to be removed from the site by contractor.
Roofing Tar	Roofer-sealing flashing and shingles	Tar to be kept in a original closed containers and removed from the site by the contractor.
Joint Compound	Drywall Contractor	Unused joint compound will be removed from the site by contractor and empty containers allowed to dry and then properly disposed of
Glue Adhesives	Framers & Flooring Contractors	Empty containers to be properly disposed of
Waste concrete and concrete clean-up water	Concrete trucks & Concrete contractors	Use designated concrete washout area for trucks and other large amounts of material and washout water.

Stucco, Mortar and clean-up water	Stucco and Masonry Contractors	Use designated concrete washout area for clean-up of tools and provide containment at wet cutting areas.
Concrete curing compound	Concrete Contractor	Curing compound to be kept in a covered container and removed from the site by the removed from the site by the contractor.
Construction debris and trash	All contractors and workers	Use good housekeeping habits. Schedule regular pickup of construction debris. Provide hazardous waste containers for proper offsite disposal. Provide trash receptacles for employee food waste.
Vehicle Tracking	Delivery and employee vehicles	Install and maintain stabilized exit. Consider to provide tire wash off station.
Gasoline, Diesel fuel	Equipment fueling	Provide maintenance area. Locate all fueling in designated area. Designate fueling area offsite.
Fertilizer	Newly planted areas	Avoid overwatering and proper storage
Dust	Blowing dust from wind and construction activity.	Provide water truck for dust control. Consider chemical controls for long term and reduced water use.
Sediment/Total suspended solids	Disturbed soil	Install and maintain appropriate sediment and erosion BMP's as outlined in the SWPPP.
Oils and cutting fluids	All contractors and workers	Clean up any spills immediately and properly disposed of cleaning materials. Report quantities of spills to site superintendant. Use of Drip pans for leaks and during maintenance.
Pesticides	Termite and other pest controls	Use Pesticides according to the manufacture's specifications. Do not apply before an anticipated rain event. Excess chemical will be removed from the site.

5.2 Spill Prevention and Response

Hazardous Material Management and Spill Reporting Plan
Any hazardous or potentially hazardous material that is brought onto the construction site will be handled properly in order to reduce the potential for storm water pollution. All materials used on this construction site will be properly stored, handled, dispensed and disposed of following all applicable label directions. Flammable and combustible liquids will be stored and handled according to 29 CFR 1926.152. Only approved containers and portable tanks shall be used for storage and handling of flammable and combustible liquids.

Material Safety Data Sheets (MSDS) information will be kept on site for any and all applicable materials. MSDS information shall be made readily available.

In the event of an accidental spill, immediate action will be undertaken by the Operator to contain and remove the spilled material. All hazardous materials will be disposed of by the Operator in the manner specified by federal, state and local regulations and by the manufacturer of such products. As soon as possible, the spill will be reported to the appropriate agencies. As required under the provisions of the Clean Water Act, any spill or discharge entering waters of the United States will be properly reported. The Operator will prepare a written record of any spill and associated clean-up activities of petroleum products or hazardous materials in excess of 1 gallon or reportable quantities, whichever is less. The Operator will provide notice to the (CCIS) Certified Compliance Inspector of Stormwater, immediately upon identification of a reportable spill.

5.3 Fueling and Maintenance of Equipment or Vehicles

Dedicated Fueling Areas
Absorbent spill cleanup materials and spill kits should be available in fueling areas and on fueling trucks, and should be disposed of properly after use.
Drip pans or absorbent pads should be used during vehicle and equipment fueling, unless the fueling is performed over an impermeable surface in a dedicated fueling area. Use absorbent materials on small spills. Do not hose down or bury the spill. Remove the adsorbent materials promptly and dispose of properly.
Avoid mobile fueling of mobile construction equipment around the site; rather, transport the equipment to designated fueling areas. With the exception of tracked equipment such as bulldozers and large excavators, most vehicles should be able to travel to a designated area with little lost time.
Train employees and subcontractors in proper fueling and cleanup procedures.
When fueling must take place onsite, designate an area away from drainage courses to be used. Fueling areas should be identified in the Site Plan.
Dedicated fueling areas should be protected from storm water runoff, and should be located at least 50 ft away from downstream drainage facilities and watercourses. Fueling must be performed on level-grade areas.
Protect fueling areas with berms and dikes to prevent runoff, and to contain spills.

Nozzles used in vehicle and equipment fueling should be equipped with an automatic shutoff to control drips. Fueling operations should not be left unattended.

5.4 Washing of Equipment and Vehicles

General

- N/A

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

General Construction Site Waste Management

Minimum Measure: Construction Site Stormwater Runoff Control

Subcategory: Good Houskeeping/Materials Management

Description

Building materials and other construction site wastes must be properly managed and disposed of to reduce the risk of pollution from materials such as surplus or refuse building materials or hazardous wastes. Practices such as trash disposal, recycling, proper material handling, and spill prevention and cleanup measures can reduce the potential for stormwater runoff to mobilize construction site wastes and contaminate surface or ground water.

Applicability

The proper management and disposal of wastes should be practiced at every construction site to reduce stormwater runoff. Use waste management practices to properly locate refuse piles, to cover materials that might be displaced by rainfall or stormwater runoff, and to prevent spills and leaks from hazardous materials that were improperly stored.

Siting and Design Considerations

Solid Wastes:

Designate a waste collection area on the site that does not receive a substantial amount of runoff from upland areas and does not drain directly to a waterbody.
Ensure that containers have lids so they can be covered before periods of rain, and keep containers in a covered area whenever possible.
Schedule waste collection to prevent the containers from overfilling.
Clean up spills immediately. For hazardous materials, follow cleanup instructions on the package. Use an absorbent material such as sawdust or kitty litter to contain the spill.
During the demolition phase of construction, provide extra containers and schedule more frequent pickups.

Collect, remove, and dispose of all construction site wastes at authorized disposal areas. Contact a local environmental agency to identify these disposal sites.

Hazardous Materials and Wastes:

Consult with local waste management authorities about the requirements for disposing of hazardous materials.
To prevent leaks, empty and clean hazardous waste containers before disposing of them.
Never remove the original product label from the container because it contains important safety information.
Follow the manufacturer's recommended method of disposal, which should be printed on the label.
Never mix excess products when disposing of them, unless specifically recommended by the manufacturer.

To ensure the proper disposal of contaminated soils that have been exposed to and still contain hazardous substances, consult with state or local solid waste regulatory agencies or private firms. Some landfills might accept contaminated soils, but they require laboratory tests first.

Paint and dirt are often removed from surfaces by sandblasting. Sandblasting grits are the byproducts of this procedure and consist of the sand used and the paint and dirt particles that are removed from the surface. These materials are considered hazardous if they are removed from older structures because they are more likely to contain lead-, cadmium-, or chrome-based paints. To ensure proper disposal of sandblasting grits, contract with a licensed waste management or transport and disposal firm.

Pesticides and fertilizers:

Follow all federal, state, and local regulations that apply to the use, handling, or disposal of pesticides and fertilizers.
Do not handle the materials any more than necessary.
Store pesticides and fertilizers in a dry, covered area.
Construct berms or dikes to contain stored pesticides and fertilizers in case of spillage.
Follow the recommended application rates and methods.
Have equipment and absorbent materials available in storage and application areas to contain and clean up any spills that occur.

Petroleum Products:

Store new and used petroleum products for vehicles in covered areas with berms or dikes in place to contain any spills.
Immediately contain and clean up any spills with absorbent materials.
Have equipment available in fuel storage areas and in vehicles to contain and clean up any spills that occur.

Detergents:

Phosphorous- and nitrogen-containing detergents are used in wash water for cleaning vehicles. Excesses of these nutrients can be a major source of water pollution. Use detergents only as recommended, and limit their use on the site. Do not dump wash water containing detergents into the storm drain system; direct it to a sanitary sewer or contain it so that it can be treated at a wastewater treatment plant.

Limitations

An effective waste management system requires training and signage to promote awareness of the hazards of improper storage, handling, and disposal of wastes. The only way to be sure that waste management practices are

being followed is to be aware of worker habits and to inspect storage areas regularly. Extra management time may be required to ensure that all workers are following the proper procedures.

Maintenance Considerations

Inspect storage and use areas and identify containers or equipment that could malfunction and cause leaks or spills. Check equipment and containers for leaks, corrosion, support or foundation failure, or other signs of deterioration, and test them for soundness. Immediately repair or replace any that are found to be defective.

Effectiveness

Waste management practices are effective only when they are regularly practiced at a construction site. In storage and use areas, post the guidelines for proper handling, storage, and disposal of construction site wastes; train workers in these practices to ensure that everyone is knowledgeable enough to participate.

Cost Considerations

The costs associated with construction site waste management are mainly attributed to purchasing and posting signs, increased management time for oversight, additional labor required for special handling of wastes, transportation costs for waste hauling, and fees charged by disposal facilities to take the wastes.

5.5.1 Building Products

General

- All Building material shall be covered to prevent material chemicals from entering stormwater controls
- Remove materials from site as are no longer required for use.

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

General

- Cover all materials
- Remove materials from site as are no longer required for use.

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

General

Vehicle Maintenance and Washing Areas at Construction Sites

Minimum Measure: Construction Site Stormwater Runoff Control

Subcategory: Good Houskeeping/Materials Management

Description

Ideally, vehicle maintenance and washing occurs in garages and wash facilities, not on active construction sites. However, if these activities must occur onsite, operators should follow appropriate BMPs to prevent untreated nutrient-enriched wastewater or hazardous wastes from being discharged to surface or ground waters. For information on washing down truck tires, see the Construction Entrances fact sheet.

Applicability

Vehicle maintenance and washing BMPs prevent construction site spills of wash water, fuel, or coolant from contaminating surface or ground water. They apply to all construction sites. Appropriate BMPs include the following:

Using a covered, paved area dedicated to vehicle maintenance and washing
Ensuring that the areas are properly connected to a storm drain system
Developing a spill prevention and cleanup plan
Preventing hazardous chemical leaks by properly maintaining vehicles and equipment
Properly covering and providing secondary containment for fuel drums and toxic materials
Properly handling and disposing of vehicle wastes and wash water

Implementation

Inspect construction vehicles daily, and repair any leaks immediately. Dispose of all used oil, antifreeze, solvents and other automotive-related chemicals according to manufacturer instructions. These wastes require special handling and disposal. Used oil, antifreeze, and some solvents can be recycled at designated facilities, but other chemicals must be disposed of at a hazardous waste disposal site. Local government agencies can help identify such facilities.

Designate special paved areas for vehicle repair. To direct washwater to sanitary sewer systems or other treatment facilities, ensure that vehicle washing areas are impervious and are bermed. Use blowers or vacuums instead of water to remove dry materials from vehicles if possible. Because water alone can remove most dirt adequately, use high-pressure water spray without detergents at vehicle washing areas. If you must use detergents, avoid phosphate- or organic-based cleansers to reduce nutrient enrichment and biological oxygen demand in wastewater. Use only biodegradable products that are free of halogenated solvents. Clearly mark all washing areas, and inform workers that all washing must occur in this area. Do not perform other activities, such as vehicle repairs, in the wash area.

Limitations

Vehicle maintenance area limitations include connection costs to sanitary sewers; disposal costs for wash water (fees charged by hazardous waste disposal facilities); construction costs for an enclosed maintenance area; and

labor costs for hazardous waste storage, handling, and disposal. Depending on the volume of wastewater created and the type of detergents used, vehicle wash areas may also require permits.

Maintenance Considerations

Vehicle maintenance operations produce substantial amounts of hazardous and other wastes that require regular disposal. Clean up spills and dispose of cleanup materials immediately. Inspect equipment and storage containers regularly to identify leaks or signs of deterioration. Maintenance of vehicle wash areas is minimal, usually involving repairs to berms and drainage to the sanitary sewer system.

Effectiveness

These techniques effectively reduce discharges of untreated automotive wastes and wash water to receiving waters. Their effectiveness highly depends on personnel's training and level of commitment to follow procedures.

Cost Considerations

Costs associated with vehicle maintenance and wash areas include building enclosed structures, establishing connections to the sanitary sewer system, grading wash areas to drain only to sanitary sewers, and increased labor associated with special handling of hazardous wastes.

References

NJDEPE (New Jersey Department of Environmental Protection and Energy). 1992. *Ground Water Protection Practices for Motor Vehicle Services*. New Jersey Department of Environmental Protection and Energy, Trenton, NJ.

Santa Clara Valley NPS Control Program. *Best Management Practices for Industrial Stormwater Pollution Control*. Santa Clara Valley Nonpoint Source Pollution Control Program, San Jose, CA.

USEPA (U.S. Environmental Protection Agency). 1992a. *Stormwater Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.* EPA 832-R-92-005. U.S. Environmental Protection Agency, Office of Water, Washington, DC. September 1992.

USEPA (U.S. Environmental Protection Agency). 1992b. *Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices.*EPA 832-R-92-006. U.S. Environmental Protection Agency, Office of Water, Washington, DC. September 1992.

5.5.4 Hazardous or Toxic Waste

(Note: Examples include paints, solvents, petroleum-based products, wood preservatives, additives, curing compounds, acids.)

General

- All hazardous or toxic material shall be covered to prevent material chemicals from entering stormwater controls.
- All hazardous or toxic material shall be stored in the original containers
- Remove materials from site as are no longer required for use.

5.5.5 Construction and Domestic Waste

General

General Construction Site Waste Management

Minimum Measure: Construction Site Stormwater Runoff Control

Subcategory: Good Houskeeping/Materials Management

Description

Building materials and other construction site wastes must be properly managed and disposed of to reduce the risk of pollution from materials such as surplus or refuse building materials or hazardous wastes. Practices such as trash disposal, recycling, proper material handling, and spill prevention and cleanup measures can reduce the potential for stormwater runoff to mobilize construction site wastes and contaminate surface or ground water.

Applicability

The proper management and disposal of wastes should be practiced at every construction site to reduce stormwater runoff. Use waste management practices to properly locate refuse piles, to cover materials that might be displaced by rainfall or stormwater runoff, and to prevent spills and leaks from hazardous materials that were improperly stored.

Siting and Design Considerations

Solid Wastes:

Designate a waste collection area on the site that does not receive a substantial amount of runoff from upland areas and does not drain directly to a waterbody.
Ensure that containers have lids so they can be covered before periods of rain, and keep containers in a covered area whenever possible.
Schedule waste collection to prevent the containers from overfilling.
Clean up spills immediately. For hazardous materials, follow cleanup instructions on the package. Use an absorbent material such as sawdust or kitty litter to contain the spill.
During the demolition phase of construction, provide extra containers and schedule more frequent pickups.
Collect, remove, and dispose of all construction site wastes at authorized disposal areas. Contact a local environmental agency to identify these disposal sites.

Hazardous Materials and Wastes:

Consult with local waste management authorities about the requirements for disposing of hazardous materials.
To prevent leaks, empty and clean hazardous waste containers before disposing of them.
Never remove the original product label from the container because it contains important safety information.
Follow the manufacturer's recommended method of disposal, which should be printed on the label.
Never mix excess products when disposing of them, unless specifically recommended by the manufacturer.

To ensure the proper disposal of contaminated soils that have been exposed to and still contain hazardous substances, consult with state or local solid waste regulatory agencies or private firms. Some landfills might accept contaminated soils, but they require laboratory tests first.

Paint and dirt are often removed from surfaces by sandblasting. Sandblasting grits are the byproducts of this procedure and consist of the sand used and the paint and dirt particles that are removed from the surface. These materials are considered hazardous if they are removed from older structures because they are more likely to contain lead-, cadmium-, or chrome-based paints. To ensure proper disposal of sandblasting grits, contract with a licensed waste management or transport and disposal firm.

Pesticides and fertilizers:

Follow all federal, state, and local regulations that apply to the use, handling, or disposal of pesticides and fertilizers.
Do not handle the materials any more than necessary.
Store pesticides and fertilizers in a dry, covered area.
Construct berms or dikes to contain stored pesticides and fertilizers in case of spillage.
Follow the recommended application rates and methods.
Have equipment and absorbent materials available in storage and application areas to contain and clean up any spills that occur.

Petroleum Products:

Store new and used petroleum products for vehicles in covered areas with berms or dikes in place to contain any spills.
Immediately contain and clean up any spills with absorbent materials.
Have equipment available in fuel storage areas and in vehicles to contain and clean up any spills that occur.

Detergents:

Phosphorous- and nitrogen-containing detergents are used in wash water for cleaning vehicles. Excesses of these nutrients can be a major source of water pollution. Use detergents only as recommended, and limit their use on the site. Do not dump wash water containing detergents into the storm drain system; direct it to a sanitary sewer or contain it so that it can be treated at a wastewater treatment plant.

Limitations

An effective waste management system requires training and signage to promote awareness of the hazards of improper storage, handling, and disposal of wastes. The only way to be sure that waste management practices are being followed is to be aware of worker habits and to inspect storage areas regularly. Extra management time may be required to ensure that all workers are following the proper procedures.

Maintenance Considerations

Inspect storage and use areas and identify containers or equipment that could malfunction and cause leaks or spills. Check equipment and containers for leaks, corrosion, support or foundation failure, or other signs of deterioration, and test them for soundness. Immediately repair or replace any that are found to be defective.

Effectiveness

Waste management practices are effective only when they are regularly practiced at a construction site. In storage and use areas, post the guidelines for proper handling, storage, and disposal of construction site wastes; train workers in these practices to ensure that everyone is knowledgeable enough to participate.

Cost Considerations

The costs associated with construction site waste management are mainly attributed to purchasing and posting signs, increased management time for oversight, additional labor required for special handling of wastes, transportation costs for waste hauling, and fees charged by disposal facilities to take the wastes.

5.5.6 Sanitary Waste

General

- Provide disposal per vendor
- Keep facilities 50' away from stormwater discharge or inlet
- Contain clean-up residue

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

General

- Provide vendor supplied concrete wash out container.
- Provide alternative wash containment
- Remove per vendor requirements
- Dispose of properly when capacity is 50%

5.7 Fertilizers

General

- Must be Certified applicator
- Limit onsite storage to minimum
- Protect from run off and rainfall

5.8 Other Pollution Prevention Practices

General

- There are no other site specific pollution prevention practice associated with this project
- Any other controls must be approved by SWPPP Preparer or Engineer prior to use

SECTION 6: INSPECTION AND CORRECTIVE ACTION

6.1 Inspection Personnel and Procedures

Personnel Responsible for Inspections

Onsite Operator is responsible to complete daily site inspections, make repairs and determine if any other controls are needed.
As contracted SWPPP Compliance inspector is to provide monthly inspection and within 24hrs of a rain event of .25" or greater.

6.2 Corrective Action

Personnel Responsible for Corrective Actions

Corrective Action Forms Are Located In Appendix E

6.3 Delegation of Authority

Insert Signed copies of Letters on Company Letterhead for each operator

SECTION 7: TRAINING

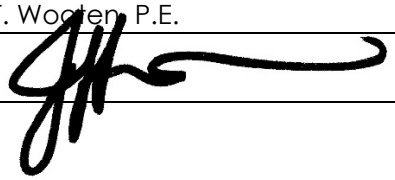
Table 7-1: Documentation for Completion of Training

Name	Date Training Completed

SECTION 8: CERTIFICATION AND NOTIFICATION

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: Jeffrey T. Wooten, P.E. Title: Owner, Wooten Engineering

Signature:  Date: July 9, 2021

SWPPP APPENDICES

Attach the following documentation to the SWPPP:

Appendix A – Site Maps

Appendix B – Copy of 2017 CGP

Appendix C – NOI and EPA Authorization Email

Appendix D – Inspection Form

Appendix E – Corrective Action Form

Appendix F – SWPPP Amendment Log

Appendix G – Subcontractor Certifications/Agreements

Appendix H – Grading and Stabilization Activities Log

Appendix I – Training Log

Appendix J – Delegation of Authority

Appendix K – Endangered Species Documentation

Appendix L – Historic Preservation Documentation

Appendix M – NMDOT Spec Section 632 – Revegetation

Appendix A – Site Maps

Appendix B – Copy of 2017 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

CONTENTS

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;

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[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."

[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.

2 TECHNOLOGY-BASED EFFLUENT LIMITATIONS

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

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.

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

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]

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),*

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

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

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.

   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.

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

[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.

2.2.6 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).

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:

[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.

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

iii. 3,600 cubic feet per acre drained.

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

[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.

conditioned by your authorization to ensure that the use of such chemicals will not cause an exceedance of water quality standards.

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.

Total Amount of Land Disturbance Occurring At Any One Time[27]	Deadline
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 practicable, but no later than seven (7) calendar days after stabilization has been initiated.

[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.

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]

[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.

[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

[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.

standards. This includes situations where additional controls are necessary to comply with a wasteload allocation in an EPA-established or approved TMDL.

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://www.epa.gov/npdes/epas-stormwater-discharge-mapping-tools.

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

[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;

[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.

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

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.

[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.

6.2 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.

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.

[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.

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 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

[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.

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, 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;

[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.

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.

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

[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.

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 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.

[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.

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.

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).

[59] For state UIC program contacts, refer to the following EPA website: https://www.epa.gov/uic.

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]

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.

[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.

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&rgn=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 WIR10I000 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

[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.

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

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

[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.

Bad River Tribe's Natural Resources Department
Attn: Tribal Historic Preservation Officer (THPO)
P.O. Box 39
Odanah, WI 54861

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

[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.

P.O. Box 279
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. 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.**

Project Location Relative to a Source of Potential Groundwater Contamination	***Constituents likely to be required for testing***
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.*

iii. If dewatering activities are anticipated, information on flow and potential to encounter impacted groundwater must be provided directly to NMED at the following address:

Program Manager, Point Source Regulation Section
NMED Surface Water Quality Bureau
PO Box 5469, Santa Fe, NM 87502

Information may also be emailed - the contact information for the program manager is located on the website at: www.env.nm.gov/swqb/PSR.

iv. Permittee must test the quality of the water being considered for discharge. Permittees must contact the Point Source Regulation Section Program Manager for information on constituents that must be monitored.

v. 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.

vi. 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.

b. 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.)

i. 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.

c. 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.

   i. 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 the sediment yield levels and flow velocities from preconstruction, pre-development conditions.

   ii. 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.

d. 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.

e. NMED does not allow permittees to use the Equivalent Analysis Waiver.

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 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://www.epa.gov/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@puebloftesuque.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

Idaho State Communications Center: (800) 632-8000

[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).

Regional office	Toll Free Phone Number	Phone Number
Boise	888-800-3480	208-373-0550
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 IDR10I000 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 C – Copy of NOI and EPA Authorization email

Appendix D – Copy of Inspection Form

Stormwater Construction Site Inspection Report

General Information			
Project Name	International School at Mesa Del Sol		
Owners/Operators Name			
Date of Inspection **Date of next Required Inspection**		**Start Time**	
Inspector's Name(s)			
Inspector's Title(s)	**Certified Compliance Inspector of Stormwater (CCIS)**		
Inspector's Contact Information			
Inspector's Qualifications	**(CCIS)**		
Type of Inspection: ☐ Regular ☐ During storm event ☐ Post-storm event			
Weather Information			
Has there been a storm event since the last inspection? No, initial inspection **If yes, provide:** **Storm Start Date:** **Approximate Amount of Precipitation (in):**			
Weather at time of this inspection? ☐ Clear ☐ Cloudy ☐ Rain ☐ Sleet ☐ Fog ☐ Snowing ☐ High Winds ☐ Sunny ☐ Other:			
Have any discharges occurred since the last inspection? **If yes, describe:**			
Are there any discharges at the time of inspection? **If yes, describe:**			

SWPPP Location	
Is the SWPPP and Site plan available on site?	**The SWPPP book and Erosion Sedimentation Control Plan are located:**

Inspection Discussion Notes

Inspection Report Notes
1.
2.
3.

Construction Phasing		
Verify what stage of construction the project is in, and record dates when activities started and when completed.		
Activity	**Current Status**	**Activity Started / Completed**
Installed BMPs		Started: Completed:
Site Clearing and Grading		Started: Completed:
Installing Utilities		Started: Completed:
Building Structure		Started: Completed:

Paving and Walks		Started: Completed:
Final Grading/ Stabilize Site		Started: Completed:
Other		Started: Completed:

Site-specific BMPs				
	List of BMPs	**BMP Installed?**	**BMP Maintenance Required?**	**Notes**
1				
2				
3				
4				
5				
6				
7				
8				

SWPPP Documentation			
1	Are the BMPs as shown on the plan?		
2	Were there changes to the SWPPP?		
3	Has the SWPPP been updated?		
4	Have the changes to the SWPPP been implemented within 7 days?		

Additional BMP's needed				
	New BMPs needed	**BMP Installed?**	**BMP Maintenance Required?**	**Notes**
1				
2				
3				
4				

Overall Site Issues				
	BMP/activity	**Implemented?**	**Maintenance Required?**	**Corrective Action Needed and Notes.**
1	Are all slopes and disturbed areas not actively being worked properly stabilized?			
2	Are natural resource areas (e.g., streams, Arroyos, mature trees, etc.) protected with barriers or similar BMPs?			
3	Are perimeter controls and sediment barriers adequately installed (keyed into substrate) and maintained?			
4	Are discharge points and receiving waters free of any sediment deposits?			
5	Are storm drain inlets properly protected?			

6	Is the construction exit preventing sediment from being tracked into the street?			
7	Is trash/litter from work areas collected and placed in dumpsters?			
8	Are washout facilities (e.g., paint, stucco, concrete) available, clearly marked, and maintained?			
9	Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other deleterious material?			
10	Are materials that are potential stormwater contaminants stored inside or under cover?			
11	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?			
12	Has the Site map been updated to reflect current conditions?			
13	Is the NOI posted			
14	Are there any signs of hazardous materials being exposed to storm water runoff?			

15	Have there been any reportable spill quantities?			
16	Were previous corrections made within 7 days of last inspection or before the next storm event?			
17	(Other) Contractor is advised to consult SWPPP documentation and perform requirements to comply with the conditions set in the Construction General Permit and SWPPP			

Final Stabilization/Termination Checklist.			
1.	Are all soil-disturbing activities complete?		
2.	Have all areas of the site not covered by pavement or structure achieved a density of 70% coverage?		
3.	Date of Final Stabilization.		
If construction ceases on the site for more than 14 days, the site must be stabilized until construction resumes.			
Date Construction Stopped		**Date Construction Resumed**	
Measures Taken to Stabilize the Site.			

Inspection Discussion Notes

SWPPP COMPLIANCE

As a result of this inspection is compliance indicated?

"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."

Print name:_____Title:_____

Signature: _____Date:__

Corrective Action Log

Project Name: _____

Inspection Date	Inspector Name(s)	Description of BMP Deficiency	Corrective Action Needed (including planned date/responsible person)	Date Action Taken/Responsible person

Appendix F –SWPPP Amendment Log

- Create a log here of changes and updates to the SWPPP. You may use the table below to track these modifications.
- SWPPP modifications are required pursuant to CGP Part 7.4.1 in the following circumstances:
  - ✓ Whenever new operators become active in construction activities on your site, or you make changes to your construction plans, stormwater control measures, pollution prevention measures, or other activities at your site that are no longer accurately reflected in your SWPPP;
  - ✓ To reflect areas on your site map where operational control has been transferred (and the date of transfer) since initiating permit coverage;
  - ✓ If inspections or investigations determine that SWPPP modifications are necessary for compliance with this permit;
  - ✓ Where EPA determines it is necessary to impose additional requirements on your discharge; and
  - ✓ To reflect any revisions to applicable federal, state, tribal, or local requirements that affect the stormwater control measures implemented at the site.
- 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.

No.	Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and 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: _____

Date: _____

Appendix H –Grading and Stabilization Activities Log

Date Grading Activity Initiated	**Description of Grading Activity**	**Description of Stabilization Measure and Location**	**Date Grading Activity Ceased** (Indicate Temporary or Permanent)	**Date When Stabilization Measures Initiated**

Appendix H –Grading and Stabilization Activities Log

Date Grading Activity Initiated	**Description of Grading Activity**	**Description of Stabilization Measure and Location**	**Date Grading Activity Ceased** (Indicate Temporary or Permanent)	**Date When Stabilization Measures Initiated**

Appendix H –Grading and Stabilization Activities Log

Date Grading Activity Initiated	**Description of Grading Activity**	**Description of Stabilization Measure and Location**	**Date Grading Activity Ceased** (Indicate Temporary or Permanent)	**Date When Stabilization Measures Initiated**

Appendix J –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 K – Endangered Species Documentation

ECOS / Species Reports / Species County Report

Listed species believed to or known to occur in Bernalillo, New Mexico

The following report contains Species that are known to or are believed to occur in this county. Species with range unrefined past the state level are now excluded from this report. If you are looking for the Section 7 range (for Section 7 Consultations), please visit theIPaC application.

CSV

Search:

6 Species Listings

Group	Name	Population	Status	Lead Office	Recovery Plan	Recovery Plan Action Status
Birds	Yellow-billed Cuckoo (Coccyzus americanus)	Western DPS: U.S.A. (AZ, CA, CO (western), ID, MT (western), NM (western), NV, OR, TX (western), UT, WA, WY (western)); Canada (British Columbia (southwestern); Mexico (Baja California, Baja California Sur, Chihuahua, Durango (western), Sinaloa, Sonora)	Threatened	2		

Mammals	New Mexico meadow jumping mouse (Zapus hudsonius luteus)	Wherever found	Endangered	2	Recovery Outline: New Mexico meadow jumping mouse (Zapus hudsonius luteus)	Implementation Progress
Fishes	Rio Grande Silvery Minnow (Hybognathus amarus)	Wherever found, except where listed as an experimental population	Endangered	2	Rio Grande Silvery Minnow (Hybognathus amarus) Recovery Plan, First Revision	Implementation Progress
Birds	Southwestern willow flycatcher (Empidonax traillii extimus)	Wherever found	Endangered	2	Final Recovery Plan for the Southwestern Willow Flycatcher	Implementation Progress
Birds	Sprague's pipit (Anthus spragueii)	Wherever found	Resolved Taxon	6		
Birds	Mexican spotted owl (Strix occidentalis lucida)	Wherever found	Threatened	2	Final Recovery Plan for the Mexican Spotted Owl, First Revision (Strix occidentalis lucida)	Implementation Progress

Appendix L – Historic Properties Documentation

National Register of Historic Places listings in Bernalillo County, New Mexico

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Jump to navigationJump to search

Location of Bernalillo County in New Mexico

This is a list of the **National Register of Historic Places listings in Bernalillo County, New Mexico**.

This is intended to be a complete list of the properties and districts on the National Register of Historic Places in Bernalillo County, New Mexico, United States. Latitude and longitude coordinates are provided for many National Register properties and districts; these locations may be seen together in a map.[1]

There are 153 properties and districts listed on the National Register in the county, including 1 National Historic Landmark. Another 5 properties were once listed but have been removed.[2]

> *This National Park Service list is complete through NPS recent listings posted September 25, 2020.*[3]

Map all coordinates using: OpenStreetMap

Download coordinates as: KML · GPX

Contents: NRHP in New Mexico by county

Bernalillo – Catron – Chaves – Cibola – Colfax – Curry – De Baca – Doña Ana – Eddy – Grant – Guadalupe – Harding – Hidalgo – Lea – Lincoln – Los Alamos – Luna – McKinley – Mora – Otero – Quay – Rio Arriba – Roosevelt – San Juan – San Miguel – Sandoval – Santa Fe – Sierra – Socorro – Taos – Torrance – Union – Valencia

Current listings[edit]

[4]	Name on the Register[5]	Image	Date listed[6]	Location	City or town	Description
1	Old Albuquerque Municipal Airport Building		May 5, 1989 (#89000348)	2920 Yale Boulevard, SE. 35°02′52″N 106°37′14″W35.047778°N 106.620556°W	Albuquerque	
2	Albuquerque Veterans Administration Medical Center		August 19, 1983 (#83001614)	2100 Ridgecrest, SE. 35°03′18″N 106°35′02″W35.055°N 106.583889°W	Albuquerque	
3	Aldo Leopold Neighborhood Historic District		October 16, 2002 (#02001164)	105-135 14th St., SW. 35°05′15″N 106°39′45″W35.0875°N 106.6625°W	Albuquerque	
4	Gavino Anaya House		February 9, 1984 (#84002840)	2939 Duranes Rd., NW. 35°06′32″N 106°40′57″W35.108889°N 106.6825°W	Albuquerque	
5	Juan Cristobal Armijo Homestead	Upload image	September 30, 1982 (#82003309)	207 Griegos Rd., NE. 35°07′42″N 106°37′59″W35.128333°N 106.633056°W	Albuquerque	Hacienda hidden by shrubberies.
6	Salvador Armijo House		October 8, 1976 (#76001191)	618 Rio Grande Boulevard, NW. 35°05′58″N 106°40′10″W35.099444°N 106.669444°W	Albuquerque	
7	Art Annex		September 22, 1988 (#88001540)	Northeastern corner of Central Ave. and Terrace St., University of New Mexico 35°04′53″N 106°37′27″W35.081389°N 106.624167°W	Albuquerque	

[4]	Name on the Register[5]	Image	Date listed[6]	Location	City or town	Description
8	AT & SF Freight Office		December 24, 2013 (#13000971)	314 1st St. 35°04′54″N 106°38′54″W35.081612° N 106.648264°W	Albuquerque	Part of the Central Albuquerque MPS
9	Atchison, Topeka and Santa Fe Railway Locomotive Shops	 More images	October 15, 2014 (#14000859)	Roughly bounded by BNSF RR, 1st & 2nd Sts. 35°04′33″N 106°39′01″W35.0757°N 106.6502°W	Albuquerque	
10	ATSF Locomotive No. 2926		October 1, 2007 (#07000388)	1600 12th St., NW. 35°06′11″N 106°39′15″W35.103056° N 106.654167°W	Albuquerque	
11	Aztec Auto Court	 More images	November 22, 1993 (#93001217)	3821 Central Ave., NE. 35°04′46″N 106°36′03″W35.079444° N 106.600833°W	Albuquerque	Demolished in 2011
12	Adrian Barela House	Upload image	February 9, 1984 (#84002843)	7618 Guadalupe Trail, NW. 35°10′14″N 106°38′22″W35.170556° N 106.639444°W	Albuquerque	
13	Barela-Bledsoe House		March 12, 1979 (#79001534)	7017 Edith Boulevard, NE. 35°09′32″N 106°37′14″W35.158889° N 106.620556°W	Albuquerque	
14	Barelas-South Fourth Street Historic District	 More images	July 24, 1997 (#97000774)	4th St. from Stover Ave. to Bridge St. 35°04′26″N 106°39′10″W35.073889° N 106.652778°W	Albuquerque	
15	Charles A. Bottger House		March 7, 1983 (#83001615)	110 San Felipe, NW. 35°05′41″N 106°40′08″W35.094722° N 106.668889°W	Albuquerque	

[4]	Name on the Register[5]	Image	Date listed[6]	Location	City or town	Description
16	Building at 701 Roma NW		February 28, 1985 (#85000375)	701 Roma, NW. 35°05′23″N 106°39′14″W35.089722°N 106.653889°W	Albuquerque	
17	Carlisle Gymnasium		September 22, 1988 (#88001541)	University of New Mexico campus, west of Yale Boulevard 35°05′01″N 106°37′19″W35.083611°N 106.621944°W	Albuquerque	
18	Chester Carnes House		December 1, 1980 (#80002529)	701 13th St., NW. 35°05′38″N 106°39′36″W35.093889°N 106.66°W	Albuquerque	
19	Castle Apartments	 More images	February 13, 1986 (#86000219)	1410 Central, SW. 35°05′17″N 106°39′50″W35.088056°N 106.663889°W	Albuquerque	Demolished in 2010 after fire
20	Juan de Dios Chavez House		February 9, 1984 (#84002847)	205 Griegos Rd., NW. 35°07′42″N 106°37′58″W35.128333°N 106.632778°W	Albuquerque	
21	Juan Chavez House		February 9, 1984 (#84002849)	7809 4th St., NW. 35°09′46″N 106°38′04″W35.162778°N 106.634444°W	Albuquerque	
22	Rumaldo Chavez House		November 24, 1980 (#80002530)	10023 Edith Boulevard, NE. 35°11′35″N 106°36′11″W35.193056°N 106.603056°W	Albuquerque	
23	Congregation B'nai Israel		May 2, 2019 (#100003674)	4401 Indian School Rd. 35°06′07″N 106°35′41″W35.1020°N 106.5946°W	Albuquerque	
24	Coronado School		November 22, 1996 (#96001383)	601 4th St., SW. 35°04′44″N	Albuquerque	

[4]	Name on the Register[5]	Image	Date listed[6]	Location	City or town	Description
				106°39′08″W35.078889° N 106.652222°W		
25	Cottage Bakery		November 22, 1993 (#93001218)	2000 Central Ave., SE. 35°04′51″N 106°37′25″W35.080833° N 106.623611°W	Albuquerque	
26	Davis House		November 17, 1980 (#80002531)	704 Parkland Circle, SE. 35°04′11″N 106°36′10″W35.069722° N 106.602778°W	Albuquerque	
27	De Anza Motor Lodge		April 30, 2004 (#04000375)	4301 Central Ave., NE. 35°04′48″N 106°35′44″W35.08°N 106.595556°W	Albuquerque	Mostly demolished in 2018
28	Tomasa Griego De Garcia House	Upload image	June 19, 1979 (#79001535)	6939 Edith Boulevard, NE. 35°09′29″N 106°37′18″W35.158056° N 106.621667°W	Albuquerque	
29	Robert Dietz Farmhouse		February 9, 1984 (#84002852)	4117 Rio Grande Boulevard, NW. 35°08′23″N 106°40′04″W35.139722° N 106.667778°W	Albuquerque	
30	Eighth Street-Forrester District		December 1, 1980 (#80002532)	Roughly bounded by Mountain Rd., Lomas Boulevard, and Forrester and 7th Sts. 35°05′37″N 106°39′17″W35.093611° N 106.654722°W	Albuquerque	
31	El Campo Tourist Courts		January 13, 1994 (#93001465)	5800 Central Ave., SW. 35°04′52″N 106°42′10″W35.081111° N 106.702778°W	Albuquerque	
32	El Vado Auto Court		November 22, 1993 (#93001214)	2500 Central Ave., SW.	Albuquerque	

[4]	Name on the Register[5]	Image	Date listed[6]	Location	City or town	Description
				35°05′39″N 106°40′36″W35.094167° N 106.676667°W		
33	Eller Apartments		January 12, 1984 (#84002855)	113-127 8th St., SW. 35°05′04″N 106°39′22″W35.084444° N 106.656111°W	Albuquerque	
34	Employees' New Dormitory and Club		July 26, 1982 (#82003310)	Albuquerque Indian School campus 35°06′26″N 106°39′18″W35.107222° N 106.655°W	Albuquerque	
35	Enchanted Mesa Trading Post		January 9, 1998 (#97001595)	9612 Central Ave., SE. 35°04′15″N 106°32′25″W35.070833° N 106.540278°W	Albuquerque	
36	Estufa		September 22, 1988 (#88001542)	Southeastern corner of University Boulevard and Grand Ave., University of New Mexico 35°05′02″N 106°37′31″W35.083889° N 106.625278°W	Albuquerque	
37	Federal Building	 More images	November 22, 1980 (#80002533)	421 Gold Ave., SW. 35°05′02″N 106°39′08″W35.083889° N 106.652222°W	Albuquerque	
38	First Methodist Episcopal Church		November 7, 1976 (#76001192)	3rd St. and Lead Ave. 35°04′52″N 106°39′02″W35.081111° N 106.650556°W	Albuquerque	

[4]	Name on the Register[5]	Image	Date listed[6]	Location	City or town	Description
39	First National Bank Building	 More images	February 2, 1979 (#79003127)	217-233 Central Ave., NW. 35°05′05″N 106°38′58″W35.084722° N 106.649444°W	Albuquerque	
40	C. M. Foraker Farmhouse	Upload image	February 9, 1984 (#84002858)	905 Menaul Boulevard, NW. 35°06′46″N 106°39′12″W35.112778° N 106.653333°W	Albuquerque	Demolished c. 2009
41	Fourth Ward District		December 1, 1980 (#80002534)	Roughly bounded by Central Ave., Lomas Boulevard, and 8th and 15th Sts. 35°05′26″N 106°39′27″W35.090556° N 106.6575°W	Albuquerque	
42	Juan Antonio Garcia House		September 28, 1982 (#82003311)	7442 Edith Boulevard, NE. 35°09′48″N 106°37′05″W35.163333° N 106.618056°W	Albuquerque	
43	James N. Gladding House		November 17, 1980 (#80002535)	643 Cedar St., NE. 35°05′17″N 106°37′50″W35.088056° N 106.630556°W	Albuquerque	
44	Refugio Gomez House	Upload image	February 9, 1984 (#84002864)	7604 Guadalupe Trail, NW. 35°10′13″N 106°38′22″W35.170278° N 106.639444°W	Albuquerque	
45	Charles Grande House		February 9, 1984 (#84002866)	4317 Grande St., NW. 35°07′46″N 106°39′17″W35.129444° N 106.654722°W	Albuquerque	

[4]	Name on the Register[5]	Image	Date listed[6]	Location	City or town	Description
46	Delfina Gurule House		December 1, 1980 (#80002536)	306 16th St., NW. 35°05′32″N 106°39′48″W35.092222° N 106.663333°W	Albuquerque	
47	Harwood School		December 1, 1980 (#80002537)	1114 7th St., NW. 35°05′42″N 106°39′10″W35.095°N 106.652778°W	Albuquerque	
48	A. W. Hayden House		December 1, 1980 (#80002538)	609 Marble St., NW. 35°05′37″N 106°39′07″W35.093611° N 106.651944°W	Albuquerque	
49	Hendren Building		January 27, 2000 (#99001678)	3001 Monte Vista Boulevard, NE. 35°05′00″N 106°36′43″W35.083333° N 106.611944°W	Albuquerque	
50	Hilltop Lodge		January 9, 1998 (#97001597)	5410 Central Ave. SW. 35°04′56″N 106°41′47″W35.082222° N 106.696389°W	Albuquerque	Demolished in 2003
51	Hodgin Hall	 More images	January 30, 1978 (#78001803)	University of New Mexico campus 35°04′54″N 106°37′29″W35.081667° N 106.624722°W	Albuquerque	
52	Hoffmantown Baptist Church		October 25, 2019 (#100004492)	2335 Wyoming Blvd. NE 35°06′39″N 106°33′04″W35.1108°N 106.5510°W	Albuquerque	
53	Holy Child Church		March 8, 1978 (#78001810)	Off Interstate 40 35°04′47″N 106°23′23″W35.079722° N 106.389722°W	Tijeras	
54	Hope Building		August 29, 1980 (#80002539)	220 Gold St., SW. 35°04′27″N 106°38′58″W35.074167° N 106.649444°W	Albuquerque	

[4]	Name on the Register[5]	Image	Date listed[6]	Location	City or town	Description
55	James Lawrence and Juliana Gutierrez y Chavez Hubbell House		August 3, 2015 (#15000491)	6029 Isleta Blvd. SW. 34°59′21″N 106°41′45″W34.9892°N 106.6958°W	Albuquerque	
56	Hudson House		February 24, 1982 (#82003313)	817 Gold Ave., SW. 35°05′04″N 106°39′24″W35.084444°N 106.656667°W	Albuquerque	
57	Huning Highlands Conoco Service Station		July 19, 2006 (#06000633)	601 Coal Ave., SE. 35°04′52″N 106°38′30″W35.081111°N 106.641667°W	Albuquerque	
58	Huning Highlands Historic District		November 17, 1978 (#78001804)	Bounded by Grand Ave., Interstate 25, Iron Ave., and the former Santa Fe railroad line 35°04′51″N 106°38′31″W35.080833°N 106.641944°W	Albuquerque	
59	Immanuel Presbyterian Church		February 22, 2011 (#11000032)	114 Carlisle Boulevard SE 35°04′43″N 106°36′15″W35.078611°N 106.604167°W	Albuquerque	Buildings Designed by John Gaw Meem MPS
60	Isleta Pueblo	 More images	September 5, 1975 (#75001162)	U.S. Route 85 34°54′31″N 106°41′30″W34.908611°N 106.691667°W	Isleta Pueblo	
61	Jones Motor Company	 More images	November 22, 1993 (#93001219)	3226 Central Ave., SE. 35°04′38″N 106°37′09″W35.077222°N 106.619167°W	Albuquerque	
62	Jonson Gallery and House		February 22, 2002 (#02000050)	1909 Las Lomas Rd., NE. 35°05′13″N 106°37′15″W35.086944°N 106.620833°W	Albuquerque	

[4]	Name on the Register[5]	Image	Date listed[6]	Location	City or town	Description
63	Kimo Theater	 More images	May 2, 1977 (#77000920)	421 Central Ave. 35°05′06″N 106°39′07″W35.085°N 106.651944°W	Albuquerque	
64	S. H. Kress Building		April 19, 1984 (#84002871)	414-416 Central Ave., SW. 35°05′04″N 106°39′07″W35.084444°N 106.651944°W	Albuquerque	
65	Kromer House		October 4, 1982 (#82001048)	1024 El Pueblo Rd., NW. 35°10′44″N 106°38′27″W35.178889°N 106.640833°W	Albuquerque	
66	La Mesa Motel	Upload image	November 22, 1993 (#93001220)	7407 Central Ave., NE. 35°04′32″N 106°33′51″W35.075556°N 106.564167°W	Albuquerque	Demolished in 2003
67	La Puerta Lodge		January 9, 1998 (#97001596)	9710 Central Ave., SE. 35°04′09″N 106°32′22″W35.069167°N 106.539444°W	Albuquerque	
68	La Glorieta House		August 19, 1983 (#83001616)	1801 Central Ave., NW. 35°05′34″N 106°39′56″W35.092778°N 106.665556°W	Albuquerque	
69	Las Imagines Archeological District-Albuquerque West Mesa Escarpment	Upload image	November 19, 1986 (#86003142)	Address Restricted	Albuquerque	
70	Charles LeFeber House	Upload image	December 1, 1980 (#80002540)	313 15th St. NW 35°05′28″N 106°39′49″W35.09119°N 106.66369°W	Albuquerque	

[4]	Name on the Register[5]	Image	Date listed[6]	Location	City or town	Description
71	Lembke House		November 25, 1980 (#80002541)	312 Laguna Blvd. SW 35°05′18″N 106°40′05″W35.08825°N 106.668°W	Albuquerque	
72	William J. Leverett House		February 13, 1986 (#86000221)	301 Dartmouth, NE. 35°05′08″N 106°36′44″W35.085556°N 106.612222°W	Albuquerque	
73	Charles W. Lewis Building	 More images	July 3, 1979 (#79001533)	1405-1407 2nd St., SW. 35°04′18″N 106°39′05″W35.071667°N 106.651389°W	Albuquerque	
74	Hilario Lopez House		December 1, 1980 (#80002542)	208 16th St., NW. 35°05′28″N 106°39′48″W35.091111°N 106.663333°W	Albuquerque	
75	Los Candelarias Chapel-San Antonio Chapel	 More images	February 9, 1984 (#84002844)	1934 Candelaria Rd., NW. 35°07′17″N 106°40′00″W35.121389°N 106.666667°W	Albuquerque	
76	Los Duranes Chapel		February 9, 1984 (#84002854)	2601 Indian School Rd., NW. 35°06′39″N 106°40′28″W35.110833°N 106.674444°W	Albuquerque	
77	Los Griegos Historic District		February 9, 1984 (#84002874)	Griegos Rd. and Rio Grande Boulevard 35°08′09″N 106°39′46″W35.135833°N 106.662778°W	Albuquerque	
78	Los Poblanos Historic District		May 27, 1982 (#82003321)	State Road 194 35°08′46″N 106°40′05″W35.146111°N 106.668056°W	Los Ranchos de Albuquerque	

[4]	Name on the Register[5]	Image	Date listed[6]	Location	City or town	Description
79	Los Tomases Chapel		February 9, 1984 (#84002876)	3101 Los Tomases, NW. 35°06′56″N 106°38′55″W35.115556°N 106.648611°W	Albuquerque	
80	Francisco Lucero y Montoya House	Upload image	February 9, 1984 (#84002880)	9742 4th St., NW. 35°11′32″N 106°36′56″W35.192222°N 106.615556°W	Albuquerque	
81	Luna Lodge		June 11, 1998 (#98000600)	9119 Central Ave., NE. 35°04′25″N 106°32′43″W35.073611°N 106.545278°W	Albuquerque	
82	Main Library		June 13, 2019 (#100003217)	501 Copper Ave. NW. 35°05′09″N 106°39′12″W35.0858°N 106.6532°W	Albuquerque	
83	Maisel's Indian Trading Post		November 22, 1993 (#93001215)	510 Central Ave., SW. 35°05′04″N 106°39′10″W35.084444°N 106.652778°W	Albuquerque	
84	Henry Mann House		December 1, 1980 (#80002543)	723 14th St., NW. 35°05′44″N 106°39′38″W35.095556°N 106.660556°W	Albuquerque	
85	Manzano Court Addition Historic District		October 14, 2004 (#03001234)	1000-1025 Manzano Court, NW. 35°05′43″N 106°39′29″W35.095278°N 106.658056°W	Albuquerque	
86	McCanna-Hubbell Building		May 13, 1982 (#82003314)	418-424 Central, SW. 35°05′04″N 106°39′07″W35.084444°N 106.651944°W	Albuquerque	
87	Menaul School Historic District		February 14, 1983 (#83001617)	Roughly bounded by Broadway, Claremont, Edith, and Menaul Aves.,	Albuquerque	

[4]	Name on the Register[5]	Image	Date listed[6]	Location	City or town	Description
				and 301 Menaul Boulevard, NE. 35°06′44″N 106°38′14″W35.112222° N 106.637222°W		
88	John Milne House		February 13, 1986 (#86000223)	804 Park Ave., SW. 35°05′06″N 106°39′23″W35.085°N 106.656389°W	Albuquerque	
89	Modern Auto Court		November 22, 1993 (#93001221)	3712 Central Ave., SE. 35°04′44″N 106°36′08″W35.078889° N 106.602222°W	Albuquerque	
90	Monte Vista and College View Historic District		August 3, 2001 (#01000770)	Roughly bounded by Girard and Lomas Boulevards, Morningside Dr., Copper Ave., and Campus and Monte Vista Boulevards. 35°05′02″N 106°36′23″W35.083889° N 106.606389°W	Albuquerque	
91	Monte Vista Fire Station		March 19, 1987 (#87001121)	3201 Central Ave., NE. 35°04′51″N 106°36′31″W35.080833° N 106.608611°W	Albuquerque	
92	Monte Vista School		August 12, 1981 (#81000399)	3211 Monte Vista Boulevard, NE. 35°04′58″N 106°36′35″W35.082778° N 106.609722°W	Albuquerque	
93	National Humane Alliance Animal Fountain		September 30, 1986 (#86003120)	615 Virginia Ave., SE. 35°04′02″N 106°33′09″W35.067222° N 106.5525°W	Albuquerque	

[4]	Name on the Register[5]	Image	Date listed[6]	Location	City or town	Description
94	New Mexico Madonna of the Trail		March 21, 2006 (#06000151)	Junction of Marble Ave. and 4th St. 35°05′41″N 106°38′59″W35.094722° N 106.649722°W	Albuquerque	
95	New Mexico-Arizona Wool Warehouse	 More images	July 23, 1981 (#81000400)	520 1st St., NW. 35°05′19″N 106°38′48″W35.088611° N 106.646667°W	Albuquerque	
96	Newlander Apartments		January 27, 2000 (#99001677)	616 Coal Ave. SW 35°04′58″N 106°39′20″W35.082778° N 106.655556°W	Albuquerque	
97	Nob Hill Business Center		March 18, 1994 (#84004143)	3500 Central Ave., SE. 35°04′46″N 106°36′16″W35.079444° N 106.604444°W	Albuquerque	
98	Robert Nordhaus House		February 9, 1984 (#84002883)	6900 Rio Grande Boulevard, NW. 35°09′47″N 106°39′00″W35.163056° N 106.65°W	Albuquerque	
99	J. H. O'Rielly House		January 29, 1979 (#79003442)	220 9th St., NW. 35°05′13″N 106°39′23″W35.086944° N 106.656389°W	Albuquerque	

[4]	Name on the Register[5]	Image	Date listed[6]	Location	City or town	Description
100	Occidental Life Building	 More images	January 30, 1978 (#78001805)	119 3rd Ave., SW. 35°05′01″N 106°39′01″W35.083611°N 106.650278°W	Albuquerque	
101	Old Armijo School	 More images	September 16, 1982 (#82003315)	1021 Isleta Boulevard, SE. 35°03′22″N 106°40′11″W35.056111°N 106.669722°W	Albuquerque	
102	Old Hilton Hotel		March 2, 1984 (#84002868)	125 2nd St., NW. 35°05′06″N 106°38′56″W35.085°N 106.648889°W	Albuquerque	
103	Old Post Office	 More images	November 17, 1980 (#80002544)	123 4th St., SW. 35°05′01″N 106°39′08″W35.083611°N 106.652222°W	Albuquerque	
104	Our Lady of Mt. Carmel Church		February 9, 1984 (#84002884)	7813 Edith Boulevard, NE. 35°10′08″N 106°37′03″W35.168889°N 106.6175°W	Albuquerque	
105	Our Lady of the Angels School		November 29, 1984 (#84000426)	320 Romero St., NW. 35°05′49″N 106°40′11″W35.096944°N 106.669722°W	Albuquerque	
106	Pacific Desk Building		September 30, 1980 (#80002545)	213-215 Gold Ave., SW. 35°05′00″N 106°38′58″W35.083333°N 106.649444°W	Albuquerque	
107	Parkland Hills Historic District	Upload image	June 7, 2019 (#100004034)	Roughly bounded by Zuni Rd., Garfield and Smith Aves, Valverde Dr., and Carlisle Blvd. 35°04′16″N 106°36′00″W35.0711°N 106.6001°W	Albuquerque	

[4]	Name on the Register[5]	Image	Date listed[6]	Location	City or town	Description
108	John Pearce House		November 22, 1980 (#80002546)	718 Central Ave., SW. 35°05′05″N 106°39′18″W35.084722° N 106.655°W	Albuquerque	
109	Petroglyph National Monument	 More images	June 27, 1990 (#01000279)	6001 Unser Boulevard, NW. 35°09′46″N 106°43′18″W35.162778° N 106.721667°W	Albuquerque	
110	Piedras Marcadas Pueblo (LA 290)		March 2, 1990 (#90000160)	Address Restricted	Albuquerque	
111	Pig 'n Calf Lunch		February 15, 1994 (#93001222)	2106 Central Ave., SE. 35°04′51″N 106°37′21″W35.080833° N 106.6225°W	Albuquerque	
112	President's House		September 22, 1988 (#88001543)	Northeastern corner of Roma Ave. and Yale Boulevard, University of New Mexico 35°05′11″N 106°37′15″W35.086389° N 106.620833°W	Albuquerque	Now called University House.
113	Ernie Pyle House		September 22, 1997 (#97001103)	900 Girard Boulevard, SE. 35°04′13″N 106°36′45″W35.070278° N 106.6125°W	Albuquerque	
114	Rancho de Carnue Site	Upload image	May 4, 1977 (#77000921)	Address Restricted	Albuquerque	
115	Sara Raynolds Hall		September 22, 1988 (#88001544)	University of New Mexico campus on Terrace St., north of Central Ave. 35°04′53″N 106°37′24″W35.081389° N 106.623333°W	Albuquerque	

[4]	Name on the Register[5]	Image	Date listed[6]	Location	City or town	Description
116	Rio Puerco Bridge		July 15, 1997 (#97000735)	Interstate 40 over the Rio Puerco 35°02′00″N 106°56′29″W35.033333°N 106.941389°W	Albuquerque	
117	Felipe Romero House		February 9, 1984 (#84002885)	7522 Edith Boulevard, NE. 35°09′55″N 106°37′03″W35.165278°N 106.6175°W	Albuquerque	
118	Roosevelt Park		November 22, 1996 (#96001384)	Junction of Coal and Spruce Aves., SE. 35°04′35″N 106°37′49″W35.076389°N 106.630278°W	Albuquerque	
119	Rosenwald Building		June 29, 1978 (#78001806)	320 Central Ave., SW. 35°05′03″N 106°39′03″W35.084167°N 106.650833°W	Albuquerque	
120	Route 66, State maintained from Albuquerque to Rio Puerco		November 19, 1997 (#97001396)	Former U.S. Route 66 west central exit at Interstate 40 to the Rio Puerco bridge 35°02′55″N 106°52′04″W35.048611°N 106.867778°W	Albuquerque	
121	St. John's Cathedral	 More images	October 19, 2018 (#100003029)	318 Silver Ave. 35°04′56″N 106°39′06″W35.0823°N 106.6518°W	Albuquerque	
122	Saint Joseph 1930 Hospital		May 27, 1982 (#82003316)	715 Grand, NE. 35°05′09″N 106°38′18″W35.085833°N 106.638333°W	Albuquerque	

[4]	Name on the Register[5]	Image	Date listed[6]	Location	City or town	Description
123	San Antonito Church and Cemetery		January 16, 1997 (#96001607)	Northwestern corner of the junction of State Roads 14 and 536 35°09′50″N 106°20′46″W35.163889°N 106.346111°W	San Antonito	
124	San Felipe de Neri Church	 More images	October 1, 1969 (#69000140)	Old Town Plaza, NW. 35°05′47″N 106°40′09″W35.096389°N 106.669167°W	Albuquerque	
125	San Ignacio Church		August 21, 1979 (#79001536)	1300 Walter St., NE. 35°05′43″N 106°38′15″W35.095278°N 106.6375°W	Albuquerque	
126	Santa Barbara School		September 28, 1989 (#89001590)	1420 Edith Boulevard, NE. 35°05′51″N 106°38′17″W35.0975°N 106.638056°W	Albuquerque	
127	Scholes Hall		September 22, 1988 (#88001545)	University of New Mexico campus, south of Roma Ave. 35°05′08″N 106°37′23″W35.085556°N 106.623056°W	Albuquerque	
128	Second United Presbyterian Church		December 6, 1984 (#84000563)	812 Edith Boulevard, NE. 35°05′26″N 106°38′21″W35.090556°N 106.639167°W	Albuquerque	
129	Samuel Shalit House	Upload image	February 9, 1984 (#84002888)	5209 4th St., NW. 35°08′06″N 106°38′30″W35.135°N 106.641667°W	Albuquerque	

[4]	Name on the Register[5]	Image	Date listed[6]	Location	City or town	Description
130	Shoup Boardinghouse	Upload image	February 17, 1983 (#83001618)	707 1st St., SW. 35°04′40″N 106°38′56″W35.077778°N 106.648889°W	Albuquerque	Demolished
131	Silver Hill Historic District		September 18, 1986 (#86002414)	Roughly bounded by Central Ave., Yale Boulevard, Lead Ave., and Sycamore St. 35°04′46″N 106°37′33″W35.079444°N 106.625833°W	Albuquerque	
132	Simms Building	 More images	February 2, 1998 (#97001653)	400 Gold Ave., SW. 35°05′00″N 106°39′06″W35.083333°N 106.651667°W	Albuquerque	
133	Skinner Building		November 22, 1980 (#80004485)	722-724 Central Ave. and 108 8th St., SW. 35°05′06″N 106°39′20″W35.085°N 106.655556°W	Albuquerque	
134	Solar Building	 More images	October 10, 1989 (#89001589)	213 Truman St., NE. 35°04′51″N 106°35′13″W35.080833°N 106.586944°W	Albuquerque	
135	Southern Union Gas Company Building		March 31, 2004 (#04000252)	723 Silver Ave., SW. 35°05′06″N 106°39′23″W35.085°N 106.656389°W	Albuquerque	
136	Southwestern Brewery and Ice Company	 More images	March 30, 1978 (#78001807)	601 Commercial St., NE. 35°05′20″N 106°38′42″W35.088889°N 106.645°W	Albuquerque	

[4]	Name on the Register[5]	Image	Date listed[6]	Location	City or town	Description
137	Berthold Spitz House		December 22, 1977 (#77000922)	323 N. 10th St. 35°05′19″N 106°39′28″W35.088611°N 106.657778°W	Albuquerque	
138	Springer Building		November 18, 1980 (#80002547)	121 Tijeras Ave., NE. 35°05′09″N 106°38′43″W35.085833°N 106.645278°W	Albuquerque	
139	Spruce Park Historic District		July 6, 1982 (#82003317)	Roughly bounded by University Boulevard, Grand Ave., Las Lomas Rd., and Cedar St. 35°05′13″N 106°37′48″W35.086944°N 106.63°W	Albuquerque	
140	Superintendent's House, Atlantic & Pacific Railroad	 More images	January 20, 1978 (#78001808)	1023 2nd St. SW 35°04′29″N 106°39′03″W35.074722°N 106.650833°W	Albuquerque	
141	Domingo Tafoya House	Upload image	November 17, 1980 (#80002528)	10021 Edith Boulevard, NE. 35°11′35″N 106°36′12″W35.193056°N 106.603333°W	Alameda	
142	Tewa Lodge		June 11, 1998 (#98000599)	5715 Central Ave. NE. 35°04′40″N 106°34′53″W35.077778°N 106.581389°W	Albuquerque	
143	Tijeras Pueblo Archeological Site		November 17, 2005 (#05001294)	South of central Tijeras off State Road 337 35°04′30″N 106°23′00″W35.075°N 106.383333°W	Tijeras	
144	Tower Court		November 22, 1993 (#93001216)	2210 Central Ave., SW.	Albuquerque	

[4]	Name on the Register[5]	Image	Date listed[6]	Location	City or town	Description
				35°05′42″N 106°40′26″W35.095°N 106.673889°W		
145	Antonio Vigil House		May 5, 1978 (#78001809)	413 Romero St. 35°05′52″N 106°40′12″W35.097778°N 106.67°W	Albuquerque	
146	Vista Larga Residential Historic District	Upload image	April 12, 2016 (#16000160)	Roughly bounded by Indian School Rd., Columbia Dr., Hannett Ave., and University of New Mexico North Golf Course 35°06′02″N 106°37′09″W35.100421°N 106.619119°W	Albuquerque	
147	Washington Apartments		February 19, 1982 (#82003319)	1002-1008 Central Ave., SW. 35°05′11″N 106°39′31″W35.086389°N 106.658611°W	Albuquerque	
148	Werner-Gilchrist House		August 2, 1982 (#82003320)	202 Cornell, SE. 35°04′44″N 106°37′07″W35.078889°N 106.618611°W	Albuquerque	Demolished in 2011
149	West San Jose School	 More images	November 22, 1996 (#96001385)	1701 4th St., SW. 35°04′06″N 106°39′06″W35.068333°N 106.651667°W	Albuquerque	
150	Whitcomb Springs	Upload image	October 7, 2019 (#100004498)	82 Carlito Springs Rd. 35°05′15″N 106°24′01″W35.0876°N 106.4004°W	Tijeras	
151	J. R. Willis House and La Miradora Apartments	Upload image	September 1, 2005 (#05000942)	310 Rio Grande Boulevard, SW. 35°05′36″N 106°40′16″W35.093333°N 106.671111°W	Albuquerque	

[4]	Name on the Register[5]	Image	Date listed[6]	Location	City or town	Description
152	Charles Zeiger House	Upload image	April 27, 1984 (#84002889)	3200 Edith Boulevard, NE. 35°07′02″N 106°38′01″W35.117222°N 106.633611°W	Albuquerque	Demolished
153	Zimmerman Library		August 22, 2016 (#16000549)	1900 Roma Ave., NE. 35°05′09″N 106°37′17″W35.085878°N 106.621466°W	Albuquerque	

Former listings[edit]

[4]	Name on the Register	Image	Date listed	Date removed	Location	City or town	Summary
1	Alvarado Hotel Complex		March 3, 1970 (#70000902)	August 4, 1970	110 1st Street SW	Albuquerque	
2	Gymnasium-Auditorium Building	Upload image	July 26, 1982 (#82003312)	November 21, 1988	Albuquerque Indian School Campus	Albuquerque	
2	Charles Ilfeld Company Warehouse		June 10, 1975 (#75002130)	January 1, 1978	200 1st St. NW	Albuquerque	
3	Horn Oil Co. and Lodge	Upload image	January 9, 1998 (#97001591)	September 6, 2007	1720 Central Avenue	Albuquerque	Demolished in 2006.
4	University of New Mexico Lodge, Building 219	Upload image	July 26, 1982 (#82003318)	July 23, 1990	Albuquerque Indian School Campus	Albuquerque	

Appendix M – NMDOT Spec Section 632 - Revegetation

SECTION 632: REVEGETATION

632.1 DESCRIPTION

This revegetation Work consists of preparing the soil, seeding, mulching, crimping, and the application of tackifier to areas stripped of vegetation during construction operations and are required to be revegetated. For additional information refer to the US Clean Water Act as outlined in the Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) Storm Water Pollution Prevention Plan (SWPPP). Construction staking and digital submittals are included in the scope of the revegetation Work. The Department and Subcontractor shall each have at least one (1) Section 632, "REVEGETATION" TTCP-certified person on the Project at all times.

632.2 MATERIALS

The Contractor shall provide submittals as per Table 632.3.4:1, "Operations Sequence for Classes of Seeding," for all Materials to the Project Manager at a minimum of ten (10) working Days before revegetation Work commences. Submittals shall conform to the Specifications and the revegetation Plan, and shall be on the Approved Products List. After submittals have been approved as per procedures identified in Section 632.3.3, "Pre-Seeding Conference;" the Contractor may substitute products on the Approved Products List with prior approval as per the same process. Rock Mulch Material submittal shall be required and meet the Specification but does not need to be on the Approved Product List. Submittal shall be a full five (5) gallon bucket sample provided to the Project Manager for sieve analysis.

All bulk Materials delivered to the Project shall be accompanied by a certified weigh master ticket for Materials utilized per Project as per Section 109.1, "Measurement of Quantity." Split loads of fertilizer, seed, straw, tackifier, and bonded fiber matrix may be allowed with proper weigh master ticket and Contractor affidavit. Split loads shall not be allowed for compost mulch and rock mulch.

All packaged Materials delivered to the Project shall be wrapped or otherwise securely protected from weather which might affect their integrity. Materials in weather-damaged packaging shall be rejected for use on the Project.

Certification for bulk Materials shall comply with Section 106.4, "Certificates of Compliance." Notify Project Inspectors when bulk Materials are delivered so loads may be inspected and verified.

The Contractor shall ensure that straw bales stored on the Project shall not exceed 20% moisture content.

632.2.1 Temporary Soil Stabilant/Tackifiers for Class A Seeding

Temporary soil stabilant and tackifier shall be considered the same and the terms used interchangeably. Tackifiers shall have a blue or green dye lasting a minimum of 36 hours to aid in application and inspection, and be bio-degradable. When used as part of seeding operations it shall be applied at a rate of 200 pounds per acre.

Tackifiers shall be plant-derived and bio-degradable and be composed of either guar, psyllium (Plantago ovata), or starch.

Guar. Guar is a plant based product derived from the ground endosperm of the guar plant, treated with dispersant agents for easy mixing.

Psyllium. Psyllium is composed of the finely ground muciloid coating of Plantago ovata seeds that is applied as a dry powder or in a wet slurry to the surface of the soil. It dries to form a firm but re-wettable membrane that binds soil particles together but permits germination and growth of seed. Psyllium requires twelve (12) to eighteen (18) hours drying time.

Starch. Starch is non-ionic, cold-water soluble (pre-gelatinized) granular cornstarch. The Material is mixed with water. Approximate drying time is nine (9) to twelve (12) hours.

632.2.2 Seed for Class A and C Seeding

The Project seed list shall conform to the NMDOT Revegetation Zone and Seed List Maps at the NMDOT website or at the following link: https://arcg.is/2peB6Cc .

The list used shall be the year the Project was let. The Contract shall specify varieties of noxious weed-free seed in accordance with New Mexico Seed Law (NMSA 1978, § 76-10-11 et seq.).

Seed submittal shall be a list from a seed producer showing the common name, botanical name, pure live seed, total poundage, source locality (county and state), and NMDOT Project control number as per the revegetation/erosion control Plan.

All seed suppliers must be on the current Approved Products List and provide documentation that their regulating state agency belongs to the Association of Official Seed Certifying Agencies (AOSCA).

Seed mixtures shall be pre-mixed and bagged certifying the mixture quantity and percentage as noted in the Contract.

Substitutions for unavailable seeds shall be performed by adding the quantity of the unavailable seed to the quantity of the next seed species listed within that subcategory of the seed list. Before substitutions can be made the Contractor must provide proof of unavailability in letter form from three (3) seed suppliers listed on the NMDOT Approved Products List that the seed is not available.

All seed delivered to the Project shall be stored in a container protected from rodents and moisture and not subject to temperatures higher than 90°F.

632.2.2.1 Seed Labeling

The Contractor shall seal and label each bag in accordance with the Federal Seed Act (7 U.S.C. § 1551 et seq.) and NMDA seed labeling requirements (NMSA 1978, § 76-10-13). The Contractor shall provide the following information on each bag tag for each species:

1. Variety (specify if certified);
2. Kind of seed;
3. Lot number;
4. Purity;
5. Germination;
6. Percentage crop seed, percentage inert, percentage noxious weeds, in accordance with New Mexico Seed Law (NMSA 1978, § 76-10-11. et seq);
7. Origin;
8. Test date; and
9. Weight (in pounds) of this species or percentage of total lot.

The Contractor shall provide seed analysis results that are not older than twelve (12) months prior to use.

Seed suppliers shall provide one (1)-acre seed bags.

The Contractor shall provide to the Project Manager documentation of seed origin and pure live seed content from a certified testing Laboratory. Seed must arrive in the original sealed containers from the Supplier and the Revegetation Contractor must provide all tags and certifications to the Project Manager. Certification must be provided that the seed has been stored in appropriate conditions in the twelve (12) months before arriving at the Project. Each seed tag shall be affixed to the bag and have the project control number clearly identified. The certified seed Supplier shall maintain records of seed tag control numbers for a period of three (3) years.

632.2.3 Fertilizer for Class A and C Seeding

Fertilizer shall be organic, slow release with an N-P-K (nitrogen, phosphorous, potassium) analysis of either 3-6-3 or 3-7-2 and blended with endo-mycorhizza and humates. Application rate shall be 1,000 lbs. per acre. Humates must comprise a minimum of 15% by weight. Endo-mycorrhiza must be arbuscular with a minimum propagule of 1.33 propagules per gram. The Contractor shall provide fertilizer (specified type and formulation) and supplier's certification in accordance with the Contract. Each bag or tote of fertilizer shall have a visible, sealed, and un-altered analysis tag from the manufacturer that must be approved by an authorized Section 632, "Revegetation" certified Inspector prior to application of the Material. The tag must include the manufacturer's information, the N-P-K analysis of the product, and the weight of the bag or tote. NMDOT reserves the right to inspect any bill of ladings or packing slips from the supplier to verify quantity of Material on site.

632.2.4 Hydro-Mulch - Bonded Fiber Matrix (BFM) for Class C Seeding

Hydro-mulch shall be Bonded Fiber Matrix (BFM). BFM is a hydraulically-applied blanket that controls soil erosion and accelerates seed germination. BFM is a three (3)-dimensional composite of wood or paper fibers bonded by polymer tackifier that provides high performance erosion prevention on slopes. Dye and tackifier shall be included in the BFM formulation. BFM shall be applied at a rate of 2,000 lbs per acre. As a hydraulic erosion control product (HECP) as defined by the Erosion Control Technology Council, the BFM or its equivalent shall be Type 3 or higher in functional longevity as defined in Table 1 of the 2014 Standard Specifications for Hydraulic Erosion Control Products (HECPs) Part 2.01.

632.2.5 Rock Mulch for Class C Seeding

Rock Mulch shall be between one (1) inch and no greater than 1 ½ inches in size. Rock shall have a minimum of two (2) Fractured Faces. Rock which is black in color will not be Acceptable. Pumice rock is not Acceptable.

632.2.6 Composted Mulch for Class A Seeding

The Contractor shall furnish and place composted mulch as shown on the revegetation Plan and in accordance with the criteria as described below. Composted mulch provider must be registered with or permitted by the New Mexico Environment Department Solid Waste Bureau and must be in compliance with 20 NMAC 9.1.

Composted mulch is defined as the product of a controlled aerobic thermophilic biological decomposition process that meets the quality requirements in Table 632.2.6:1, "Requirements

of Compost Mulch." Raw Materials used in producing composted mulch may include green waste, animal manure, animal bedding, paper waste, food waste, biosolids or other non-toxic organic matter, but shall not include animal mortalities.

Table 632.2.6:1
Requirements of Compost Mulch

Material	Measure	Method	Criterion
All Composted Mulches	Moisture Content*	Evaporative loss at 105°C	Between 35 % and 60%
	Carbon/Nitrogen Ratio*	Nitrogen by AOAC 993.13, Carbon by ASTM D5373	Between 15:1 and 20:1
	Particle Size	Sieve	40% minimum to 100% maximum of Material may pass ¾ inch screen; 100% of pieces smaller than 4 inches in length and 2 inches in diameter
	Electrical Conductivity*	1:5 slurry (mass basis)	<10 mmho/cm
	pH*	1:5 slurry (mass basis)	pH 5.0 – pH 8.0
	Organic Matter*	Loss on ignition at 550°C	25% - 100% of dry weight
	Maturity	Germination test in 50:50 (volume basis) mixture of ¾ inch screened composted mulch and twice-rinsed nursery sand.	Minimum 50% germination to second set of leaves for marigold seeds
	Stability	By temperature and moisture content	Maximum core temperature of 110°F after 48 hours in 5 foot tall conical pile, with moisture adjusted to between 40% and 60%.
	Debris	By volume	Less than one percent (1%) inorganic debris, including but not limited to, glass, plastic, stones and metal.
Composted Mulches with Wastewater Biosolids	Trace Metals*	HNO_3 digestion	Complies with Table 3 of 40CFR503.13
	Fecal Coliforms*	MPN with A-1 broth	<1000 MPN/dry gram
*Tests marked with asterisks must be performed by a suitable analytical Laboratory; other tests may be performed by the composted mulch producer.			

632.2.6.1 Acceptance

Compost mulch suppliers on the Approved Products List are approved for Project use.

The NMDOT Landscape Architect shall review lab analysis and submittals from the compost producers every 180 Days and confirm their listing on the Approved Products List.

Before delivering composted mulch, provider shall furnish documentation that includes the following:

1. The raw Materials, by percentage of volume, used in the production of the delivered composted mulch;
2. Daily temperature records for at least 20% of the piles or batches used to produce the delivered composted mulch, illustrating attainment of at least 130°F for at least seven (7) consecutive Days;
3. A Laboratory analysis for criteria shown in Table 632.2.6:1, "Requirements of Compost Mulch" performed on composted mulch no more than 180 Days prior to delivery; and
4. An affidavit, signed by a corporate officer, confirming that the composted mulch meets each requirement shown in Table 632.2.6:1, "Requirements of Compost Mulch."

632.2.6.2 Straw Mulch for Class A Seeding

The Contractor shall not use rotten or moldy straw. All straw mulch must be barley straw and is to be free of noxious weeds as certified by an industry-recognized forage certification authority. Certification twine must appear on all certified straw bales. The color of the certified twine for straw bales shall be listed on the certification submittal for identification purposes. The date on the straw certification provided to NMDOT may not be older than one (1) year from the date of purchase. Before Acceptance the Contractor shall provide to the Project Manager weigh tickets signed by a certified weighmaster as per Section 109.1, "Measurement of Quantity," which confirms that the amount of bulk Materials delivered to the Project equals tonnage required for the Project per the determined acreage.

632.3 CONSTRUCTION REQUIREMENTS

632.3.1 Equipment

All Equipment shall be inspected by the Contractor to confirm Equipment is in good working order prior to commencing Work. An Inspector shall witness the inspection and calibration.

To avoid the spread of noxious weeds, all revegetation Equipment (including but not limited to trucks, trailers, tractors, hydro-seeders, drill seeders, straw blasters, and disks) shall be pressure-washed to remove all visible mud, soil, and debris prior to entering the Project limits within the state right of way. If Equipment leaves the Project for any reason it shall be re-inspected when returned to the job site.

Disking attachments shall have a minimum six (6) foot carriage with front and rear discs.

Crimping Equipment shall have a minimum eight (8) foot wide carriage.

Skid steer attachments may only be used on confined areas for seeding operations.

Skid steers shall not be used for spreading compost unless in a confined area.

632.3.1.1 Drill Seeder

Drill seeding Equipment shall be inspected so that drill seed drop tubes are not torn or clogged. All seed loaded into Equipment shall be verified by an Inspector to confirm correct application rates. An Inspector must verify that the auger in the seed bin is rotating and that seed is dropping through drop tubes.

The drill seeder must be inspected daily to prevent loss of seed or to prevent over-seeding. Calibration is necessary to control rate and depth of seed distribution. Calibration procedure and demonstration shall be as per manufacturer's Specifications. The drill seeder shall be calibrated once per Project unless it is replaced on the Project. Drill seeders shall only be modified by manufacturer recommendation and documentation of the modification must be available.

The inspection shall ensure that the Equipment has the following:

1. Double disc openers with 'A' frames;
2. Depth bands;
3. Drop tubes;
4. Packer wheels or drag chains;
5. Rate control attachments;
6. Seed boxers with covers and agitators for trashy seed; and
7. Keyway holding auger to shaft.

632.3.1.2 Hydro-Seeder

The hydro-seeder cannons, hoses and agitators shall be in good working condition. The hydro-seeder shall be capable of applying Materials up to distances of 200 ft.

632.3.2 Materials and Sampling

Inspector must be present when Materials are to be loaded into Equipment or distributed on the areas to be seeded. Contractor shall provide all containers and bags to the Project Inspector for verification.

A one (1) quart sealed zip lock bag of seed Material labeled with the Material identification and the Project control number is to be provided to the NMDOT Landscape Architect for examination and testing. The Department may reject Materials not in accordance with the Contract.

632.3.3 Pre-Seeding Conference

A mandatory pre-seeding conference called by the Project Manager shall be held on the Project before revegetation Work begins. Attending will be the NMDOT Project Manager or representative, the NMDOT Landscape Architect or certified seeding Inspector, the General Contractor, and the Revegetation Contractor.

The purpose of the meeting is to inspect the Project, and off-site yards, pits, and borrow roads for confirmation of their revegetation requirements. The Project Manager shall have at the pre-seeding meeting documentation of all pits, Contractor yards, etc. approved for use on the Project. Per Section 632.3.12, "Seeding Operations for Class A and Class C Seeding," test strip location shall be verified following the Pre-seeding Conference. Construction staking must be completed and quantities must be verified by the Project Manager before test strip commences.

Submittals must be provided to the Project Manager and Landscape Architect ten (10) Days prior to the proposed start of revegetation Work. Any revegetation Work done prior to this inspection shall be rejected.

All areas to be revegetated shall be measured and confirmed for each class of seeding in accordance with Section 801, "Construction Staking by the Contractor." The Project Manager and the Contractor shall field verify and agree on the acreage for each Class of seeding, including Modified Class A, before any Materials are ordered or delivered to the Project.

Construction staking shall also identify all areas which have less than four (4) inches of soil cover and qualify for Modified Class A seeding.

The Prime Contractor shall provide minutes of this meeting for review and approval by the Project Manager and Landscape Architect or representative.

There will be no change in Materials or the scope of revegetation Work after the Contractor begins seeding operations.

For revegetation Work areas to be considered ready for revegetation they shall be accessible, free of Equipment, and no further construction processes occurring which would interfere with seeding operations. No further revegetation Work or Equipment access shall occur on areas which have been revegetated.

The Prime Contractor shall maintain a minimum twelve (12) foot wide Equipment access to all revegetated areas for use by revegetation Subcontractor until revegetation Work is complete.

632.3.3.1 Weather Limitations

Revegetation Work shall not be performed when the ground is frozen or when temperatures are below 32°F. No revegetation Work shall be performed when wind speed exceeds fifteen (15) miles per hour as measured with a wind meter by the Inspector.

632.3.4 Seeding Classes

The Contractor shall provide the various classes and the Material and operations for each class in accordance with Table 632.3.4:1, "Operations Sequence for Classes of Seeding."

Table 632.3.4:1
Operations Sequence for Classes of Seeding

Operation	Class		
	A	Mod A	C
Disk seed bed to four (4)"	X	X	--
Apply fertilizer by broadcast, then disk to four (4)"	X	X	--
Apply one (1) inch compost mulch, disk to four (4)"	X	X	--
Drill seed	X	X	--
Straw crimp; apply tackifier, dye	X	--	--
Track slopes with ridges horizontal and parallel to bottom of slope	X	--	X
Hand rake or chain harrow surface horizontally	--	--	X
Hydro apply seed, fertilizer, dye, tackifier	--	X	X

Table 632.3.4:1
Operations Sequence for Classes of Seeding

Operation	Class		
	A	Mod A	C
Scarify seeded areas horizontally to slope	--	X	X
Hydro mulch; apply tackifier, dye	--	--	X
Rock Mulch	--	X	X
Note: No seeding shall be applied on frozen ground Key: X = required; -- = not required			

632.3.5 Modified Class A Seeding for Narrow Areas or Areas Inaccessible to Drill Seeding Equipment

Any Project areas with slopes less than 3:1 requiring revegetation which are less than eight (8) ft wide, or are inaccessible to drill seeding Equipment, or are too rocky to disk to a four (4) inch depth, shall use the following procedure and payment is to be made at the Class A rate.

The Contractor shall disk soil to a four (4) inch depth with one (1) inch of incorporated compost mulch and fertilize as per Class A treatment. A skid steer with attachments may be used. If the seed bed is too rocky to disk to four (4) inches, the Contractor shall omit compost mulch and chain harrow or hand rake the entire area and proceed with Steps 1 and 2 below.

A hydro-seeder shall then be used to apply the seed, dye, tackifier, and hydro mulch in two (2) steps as described below.

Step 1. The Contractor shall apply seed and dye to the newly disked soil, rake or chain harrow so seed is covered with soil.

Step 2. The Contractor shall apply an approved bonded fiber mulch with tackifier applied in two (2) coats from opposing directions at rate of 2,000 lbs. per acre.

Seed in these areas shall be applied at twice the specified rates and no extra payment shall be made therefore.

632.3.6 Revegetation of Areas Outside the Project Limits

Revegetation of all disturbed off-site locations will be in accordance with Section 104.7, “Final Cleanup,” and the appropriate class of seeding will be used for the terrain. Section 632, “Revegetation,” procedures will be followed for all public lands and private lands that are required to be revegetated unless other seed lists and procedures are required in a resource agency permit. All revegetation Work done for permitted Contractor located activities shall be done at the Contractor’s expense.

The Contractor must provide as part of submittals a letter of intent from landowners for off-site locations to be used as per Section 104.7, “Final Cleanup.” The letter of intent must acknowledge the landowner’s right to have revegetation performed as per our Specifications and if that revegetation right is waived the owner acknowledges that neither the Contractor nor NMDOT shall be responsible for any claims, including but not limited to fugitive dust, noxious weeds, and siltation of waterways, related to the owner’s decision to forgo revegetation. When revegetation Work is being performed on private land, a right of access permit for

inspection of the revegetation Work for that private land must be provided by the Contractor to Project Management and shall be considered Incidental to the Work.

The Contractor shall provide documentation of the treatment used and notify Project Manager when the revegetation Work is being performed so Inspectors may be present.

Table 632.3.6:1
Schedule of Materials for Class A Seeding

CLASS A REVEGETATION MATERIALS PER ACRE				
TACKIFIER	**COMPOST MULCH**	**SEED**	**STRAW**	**FERTILIZER**
200 lbs	134 cubic yards	Per revegetation zone list	2 tons	1000 lbs.

Table 632.3.6.2
Schedule of Materials for Class A Modified Seeding

CLASS A MODIFIED REVEGETATION MATERIALS PER ACRE			
COMPOST MULCH	**SEED**	**HYDRO MULCH WITH TACKIFIER**	**FERTILIZER**
134 cubic yards	Per revegetation zone list X2	2,000 lbs	1000 lbs.

Table 632.3.6:3
Schedule of Materials for Class C Seeding

CLASS C REVEGETATION MATERIALS PER ACRE			
HYDRO MULCH WITH TACKIFIER	**SEED**	**ROCK MULCH**	**FERTILIZER**
2,000 lbs.	Per revegetation zone list X2	300 tons	1,000 lbs.

632.3.7 Materials Certifications

The Contractor shall provide all certifications for required Material to the Project Manager before the Project begins.

632.3.8 Seedbed Preparation for Class A Seeding

The Contractor shall till the seedbed with a disk, harrow, or chiseling tools to at least four (4) inches deep. Uproot competitive vegetation during seedbed preparation, and uniformly work the soil to a surface free of clods, large stones, or other Deleterious Material that would interfere with seeding Equipment. The Contractor shall ensure Inspector approves area that was disked before compost is added to the soil.

The Contractor shall add one (1) inch of compost mulch as specified by disc, harrow, or chisel to a depth of four (4) inches.

The same day as and preceding tilling compost mulch into the seedbed water shall be added to the compost mulch at a rate of 2,500 gallons per each 134 cubic yards. This is to aid

in the incorporation of the mulch into the seedbed. All compost mulch must be incorporated into the seedbed before adding fertilizer and commencing drill seeding. The Contractor shall add fertilizer by broadcast and disc, harrow, or chisel to a depth of four (4) inches.

The Contractor shall till across the slope, along the contour. The Contractor shall not till the seedbed if the moisture content of the soil is outside the limits recommended by the seed Supplier for planting, or the ground is in a non-tillable condition.

The Contractor shall not prepare more seedbed area on which the entire seeding operation can be applied before the surface crusts or loses seed and fertilizer to erosion. If erosion or crusting occurs, perform seedbed preparation again.

After seed bed preparation and before drill seeding commences all rocks larger than four (4) inches in diameter shall be removed from the seed bed and no payment shall be made therefore.

632.3.9 Tracking and Scarification for Class C Seeding

Areas designated as Class C treatment shall be track-walked as per Table 632.3.4:1, “Operations Sequence for Classes of Seeding” with tracks parallel to the toe of slope to compact and score the slopes within seven (7) working Days prior to the commencement of Class C operations.

Slopes which have eroded or otherwise degraded in the seven (7) working Day period before seeding may need to be re-graded before revegetation.

Competitive vegetation shall be uprooted before hydro-seeding so that seed has good adherence to the surface and soil cover and no payment shall be made therefore.

Following tracking slopes shall be scarified by hand raking or chain harrowing horizontally and parallel to the bottom of the slope.

Following tracking of the slopes all rocks larger than four (4) inches in diameter shall be removed from the hydro-seed bed and no payment shall be made therefore.

632.3.10 Fertilizer for Class A and Class C Seeding

Fertilizer bags shall be examined before use to confirm correct analysis and content. Notify Project Inspector when bags are to be loaded into machines and all bags shall be collected and counted confirming correct amounts used.

The Contractor shall apply the fertilizer uniformly to the prepared seedbed. Class A shall be broadcast and Class C shall be hydro-applied. The Contractor shall apply mix fertilizer in the hydro-seeder for a minimum of ten (10) minutes before applying.

632.3.11 Compost Mulch for Class A Seeding

The Contractor shall wet down compost mulch so that wind loss is kept to a minimum. Stockpiles shall be less than six (6) ft tall and oriented perpendicularly to the prevailing winds to prevent wind loss.

The compost mulch moisture content shall be indicated on the delivery ticket at the time of delivery and shall be within the 35 – 60 % range.

Regardless of the compost mulch moisture content, the Project Manager may require

further wetting of compost mulch at delivery to prevent loss through wind. No extra payment shall be made therefore.

The certified Inspector shall verify the load is full before unloading to confirm the Material is up to the front of the trailer. Indications of a short load are gaps at the front of the truck, overloading at the back of the truck, and slip staining of the Material from the original loading line.

632.3.12 Seeding Operations for Class A and Class C Seeding

The Contractor shall uniformly apply the seed mix at a rate in accordance with the Contract. The Contractor shall not drive vehicles or other Equipment on seeded areas. The Contractor is responsible for protecting revegetation Work until Acceptance.

A test strip of each class of seeding shall be provided by Contractor before commencing general seeding. Each test strip shall measure no less than one (1) acre in a configuration which works for the Equipment and the site, shall be at a location of the Contractor's choosing within the Project, and shall be done as per Specifications with a certified Inspector and the Landscape Architect or representative present. Equipment calibration and a test strip are not required for Projects less than one (1) acre in size. The test strip is to verify Equipment functionality, proper adjustment, application rate, and the Contractor's ability to perform the Work as per Specification.

Upon Acceptance of the test plot the Contractor may proceed with seeding operations. If the test strip is not Accepted, the Contractor shall establish a new one (1) acre strip location and re-verify. The Contractor shall not proceed to full seeding operation until an Acceptable test strip has been produced. Payment will only be made for Accepted test strips and shall be made under appropriate class of seeding.

The Contractor shall coordinate with the Project Manager prior to starting seeding operations to ensure than an Inspector is present at all times. No revegetation Work shall be performed without the presence of a certified Inspector.

Once seed is installed on a given Project area all operations to complete that class of seeding for that area must be completed the same Day.

If rainfall or some other factor prevents the Contractor from seeding to the specified depth on prepared surfaces, the Contractor shall prepare the seedbed and apply seed again, at no additional cost to the Department.

Class C areas are to be seeded at twice the standard rate and no extra payment is to be made therefore.

The Contractor shall not perform seeding operations when wind velocity exceeds fifteen (15) mph. Disking may still be performed with winds exceeding 15 mph.

632.3.13 Drill Seeding for Class A Seeding

The Contractor shall plant seed 1/2 inch deep unless otherwise specified in the Contract. The Contractor shall ensure that the distance between the drilled furrows is no more than eight (8) inches. If the furrow openers on the drill exceed eight (8) inches, the Contractor shall re-drill the area and no extra payment shall be made therefore.

632.3.14 Hydro-Seeding for Class C Seeding

Seed shall be applied in a slurry with fertilizer and dye. All Materials loaded into Equipment shall be verified by NMDOT Project Inspectors to confirm correct application rates. The Contractor shall mix all Materials for a minimum of ten (10) minutes before application.

632.3.15 Hydro-Mulching for Class C Seeding

Hydro-mulching shall be applied in two (2) sweeps from opposing directions to ensure coverage is complete. The BFM must contain a tackifier when applied. A dye capable of lasting 36 hours shall be included in slurry so that Project Inspectors can confirm coverage. Mulch must be applied the same Day as the seed to protect seed. All Materials loaded into Equipment shall be verified by NMDOT Project Inspectors to confirm correct application rates. The Contractor shall mix all Materials for a minimum of ten (10) minutes before application.

The Contractor shall provide the Project Manager a laminated color reference card from the BFM manufacturer showing a close-up reference photograph of their product installed at the rate of 2,000 lbs. per acre.

632.3.16 Straw Mulching for Class A Seeding

The Contractor shall anchor straw mulch using a crimper with flat serrated discs at least one (1) inch thick with dull edges, spaced no more than nine (9) inches apart. The Contractor shall ensure that the disc diameter is large enough to prevent the frame of the Equipment from dragging in mulch.

The Contractor shall ensure that straw mulch crimping is at least two (2) inches deep and do not cover it with excessive amounts of soil. The Contractor shall perform mulch anchoring across the slope where practical, with no more than two (2) passes of the anchoring Equipment. Straw shall be evenly distributed over entire bedding area with no bare areas showing or areas with straw deeper than four (4) inches in depth before crimping.

The Contractor shall ensure that the rate of application of straw mulch is at least two (2) tons of air-dry straw per acre. The Inspector shall verify the total tons per acre of straw required per acre.

The Contractor shall ensure that straw mulch has at least 50% of fibers exceeding ten (10) inches long on the ground after application.

The Contractor shall spread straw mulch following drill seeding with a mechanical mulch spreader or by hand. If spreading by hand, the Contractor shall tear apart the bales of mulch and fluff it before spreading.

The Contractor shall anchor straw following crimping with an approved tackifier with green dye at a rate of 200 lbs. per acre. The tackifier shall be Incidental to the seeding.

When crimping the straw is impractical due to rocky areas it may be spread and not crimped. Tackifier will be applied as per Specification. This method shall be approved by the Project Manager for rocky areas only.

When the revegetation Work is being done the Contractor shall verify straw bale moisture content with a straw bale moisture meter with an eight (8) inch minimum length probe for the duration of the Project. An Inspector must be present and record this test. The moisture meter shall remain the property of the Contractor following Project completion and the testing shall be considered Incidental to the Project. Each bale must be tested to confirm that the bale interior moisture content is no greater than 20%. Any bales with moisture above this level shall be rejected and removed from the Project. Higher levels of moisture may indicate the

presence of mold and the risk of spontaneous combustion.

632.3.17 Rock Mulch

The finished rock mulch surface must be smooth and uniform maintaining the original flow lines, slope gradients, and contours of the job. Rock mulch must be applied in a fashion not to tear up or damage the hydro-mulch when being placed. Methods and means of rock mulch installation are not specified and may vary as per access. Damaged hydro-mulch shall be replaced and no extra payment made therefore.

632.3.18 Class C Slopes with over 50' of Slope Length

Class C slopes in excess of 50' of slope length (measured along the slope face from toe to crest) shall have the following treatment.

Class G rip-rap shall be used for the lower portion of the slope from the toe upwards to the point where there will not be more than 50' of slope length covered with 3/4 inch to one (1) inch rock mulch described in 632.2.5, "Rock Mulch for Class C Seeding," and Table 632.3.4:1, "Operations Sequence for Classes of Seeding." The rip rap shall be placed over the hydro-seeded and mulched surface in a way that does not damage the applied mulch treatment, shall be installed from the toe of the slope upwards and shall be one (1) layer of Class G rip-rap in thickness.

632.4 METHOD OF MEASUREMENT

The Contractor shall digitally provide for approval of a to-scale printable revegetation Plan as part of the submittals before the mandatory pre-seeding meeting. The Plan shall identify each area by station, numerical order, Project left, Project right, and is to indicate the class of seeding as per Table 632.3.4:1, "Operations Sequence for Classes of Seeding." Quantities shall match those produced by construction staking and shall include all off-site areas.

The Contractor shall identify on the Plan all areas identified by Construction Staking which have less than four (4) inches of soil cover and qualify for Modified Class A treatment as per Section 632.3.5, "Modified Class A Seeding for Narrow Areas or Areas Inaccessible to Drill Seeding Equipment."

An accompanying table to the Plan shall be submitted showing the amount of each Material apportioned for each area on the Project and the acreage of that sub-area. Included in the Plan shall be all off-Project areas requiring revegetation as enumerated in Section 632.5, "Basis of Payment."

632.5 BASIS OF PAYMENT

Pay Item	Pay Unit
Class A Seeding	Acre
Class C Seeding	Acre

632.5.1 Revegetation Work Included in Payment

The following revegetation Work items shall be considered as included in payment for the main items and shall not be measured or paid for separately:

1. Tackifier for straw mulch;

2. All compost mulch, fertilizer Materials, and water added at tilling;
3. Rock for rock mulch;
4. Moisture probe for straw bales;
5. Weed removal and disposal prior to seed operations;
6. Revegetation Plan;
7. Right of access permit to be provided by Contractor for inspection of off-site locations located on private property;
8. Multiple mobilizations to meet NPDES requirements; and
9. Construction staking.

Disclaimer

Client recognizes that Wooten Engineering has no authority to force its clients to act on or to implement new BMPs or repair damaged existing BMPs.

Clients of Wooten Engineering understand that EPA regulations regarding the Clean Water Act or any other regulations associated with the storm water compliance can be open to the interpretations of the government enforcement officers.

For these reasons, Wooten Engineering cannot be held responsible for fines imposed by government regulators.

By entering into contract for SWWPPP and inspection services, the Owner/ Contractor accept this disclaimer and its conditions.