MDS Storage

5500 Turing Drive SE, Albuquerque, NM 87106

TEMPORARY EROSION AND SEDIMENT CONTROL PLAN

Page Index	
1	Title Page
2	SWPPP info / ESC Std. Notes
3	Owner/Operator - Nature of Construction
4-5	ESC Map and Legend
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GPS COORDINATES:

34.999764

-106.619138

CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL
CPESC®
James Tolman
No. 10631

CPESC STAMP

MDS Storage PROJECT TITLE	
AlBUQUERQUE, NM - BERNALILLO COUNTY CITY, COUNTY, STATE	
11/18/2024 DATE	INSPECTIONS PLUS
Doug Lewis/J. Tolman DRAWN BY	

STORMWATER POLLUTION PREVENTION PLAN INFORMATION

PERIMT NUMBER: NMR###### **NMR100000** STATE OF NEW MEXICO, EXCEPT INDIAN COUNTRY **NMR10I000** INDIAN COUNTRY WITHIN THE STATE OF NEW MEXICO, EXCEPT NAVAJO RESERVATION LANDS THAT ARE COVERED UNDER ARIZONA PERMIT AZR10I000 AND UTE MOUNTAIN RESERVATION LANDS THAT ARE COVERED UNDER COLORADO PERMIT COR10I000.	
OWNER NAME: MDS Storage	
OWNER POINT OF CONTACT: Kegan Stephens	
NOI PREPARED BY: Inspections Plus	
PROJECT/SITE NAME: MDS Storage	
PROJECT/SITE ADDRESS: 5500 Turing Drive SE, Albuquerque, NM 87106	
LATITUDE	34.999764
LONGITUDE	-106.619138
ESTIMATED PROJECT START DATE	12/01/2024
ESTIMATED PROJECT COMPLETION DATE	12/01/2025
ESTIMATED AREA TO BE DISTURBED	5.0 acres
TYPE OF CONSTRUCTION	Commercial
DEMOLITION OF ANY STRUCTURES, 10,000 SQ FT OF GREATER BUILT OR RENOVATED BEFORE JANUARY 1, 1980?	No
WAS THE PREDEVELOPMENT LAND USED FOR AGRICULTURE?	No
COMMENCED EARTH DISTURBING ACTIVITIES?	No
DISCHARGED TO MS4? MS4 NAME?	Albuquerque
SURFACE WATERS WITHIN 50FT?	No
RECEIVING WATER?	Tijeras Arroyo; 4398' west
IS RECEIVING WATER IMPAIRED? TIER DESIGNATION	No
WHAT ARE THE IMPAIRMENTS, IF ANY?	N/A
SWPPP CONTACT INFORMATION:	Kegan Stephens, 505-290-9837, kegan@stopabq.com
ENDANGERED SPECIES CRITERIA:	CRITERION “A”; NO CRITICAL HABITATS CRITERION “A”
HISTORIC PRESRVATION CRITERIA:	PREEXISTING DEVELOPMENT

ESC Plan Standard Notes (2023-06-16)

1. All Erosion and Sediment Control (ESC) work on these plans, except as otherwise stated or provided hereon shall be permitted, constructed, inspected, and maintained in accordance with:
   a. The City Ordinance § 14-5-2-11, the ESC Ordinance,
   b. The EPA’s 2022 Construction General Permit (CGP), and
   c. The City Of Albuquerque Construction BMP Manual.
2. All BMP’s must be installed prior to beginning any earth moving activities except as specified hereon in the Phasing Plan. Construction of earthen BMP’s such as sediment traps, sediment basins, and diversion berms shall be completed and inspected prior to any other construction or earthwork. Self-inspection is required after installation of the BMPs and prior to beginning construction.
3. Self-inspections - In accordance with City Ordinance § 14-5-2-11(C)(1), “at a minimum a routine self-inspection is required to review the project for compliance with the Construction General Permit once every 14 days and after any precipitation event of 1/4 inch or greater until the site construction has been completed and the site determined as stabilized by the city. Reports of these inspections shall be kept by the person or entity authorized to direct the construction activities on the site and made available upon request.
4. Corrective action reports must be kept by the person or entity authorized to direct the construction activities on the site and made available upon request.
5. Final Stabilization and Notice of Termination (NOT) - In accordance with City Ordinance § 14-5-2-11(C)(1), self-inspections must continue until the site is “determined as stabilized by the city.” The property owner/operator is responsible for determining when the “Conditions for Terminating CGP Coverage” per CGP Part 8.2 are satisfied and then for filing their Notice of Termination (NOT) with the EPA. Each operator may terminate CGP coverage only if one or more of the conditions in Part 8.2.1, 8.2.2, or 8.2.3 has occurred. After filing the NOT with the EPA, the property owner is responsible for requesting a Determination of Stabilization from the City.
6. When doing work in the City right-of-way (e.g. sidewalk, drive pads, utilities, etc.) prevent dirt from getting into the street. If dirt is present in the street, the street should be swept daily or prior to a rain event or contractor induced water event (e.g. curb cut or water test).
7. When installing utilities behind the curb, the excavated dirt should not be placed in the street.
8. When cutting the street for utilities the dirt shall be placed on the uphill side of the street cut and the area swept after the work is complete. A wattle or mulch sock may be placed at the toe of the excavated dirt pile if site constraints do not allow placing the excavated dirt on the uphill side of the street cut.
9. ESC Plans must show longitudinal street slope and street names. On streets where the longitudinal slope is steeper than 2.5%, wattles/mulch socks or j-hood silt fence shall be shown in the front yard swale or on the side of the street.

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MDS Storage	PROJECT TITLE
AlBUQUERQUE, NM - BERNALILLO COUNTY	CITY, COUNTY, STATE
11/18/2024	DATE
Doug Lewis/J. Tolman	DRAWN BY

INSPECTIONS PLUS

Operator:

Bottom Line Construction Management
513 5th Street NE
Rio Rancho, NM 87124
505-269-7481

Todd Coleman
Project Manager
505-269-7481
todd@blcm.pro

Owner:

MDS Storage, LLC
5620 Venice Avenue NE, Suite J
Albuquerque, NM 87113

Kegan Stephens
505-290-9837
kegan@stopabq.com

Nature of Construction Activities

Start: 12/01/2024 - End: 12/01/2025
(Dates are estimates and may be adjusted based on external factors or unexpected events)
5.25 acres total property, **5.25 acres** total and maximum area to be disturbed at any one time.

- The **Operator, Bottom Line Construction Management, under the direction of the Owner, MDS Storage, LLC** will be responsible for the development and building of the **MDS Storage**. Site work will be stepped but not phased. Below are the stages of work and the approximate dates of the start/stop and the overlapping of work.
- No temporary cessation of construction activities is anticipated during this project.
- BMPs to use throughout all stages of work: Stabilized Construction Entrance/Exit, Street Sweeping, Silt Fence, Mulch Socks for inlet protection, Wetting with Water for dust control.
- Site preparation, perimeter and inlet protection BMP placement: 12/2024 – 12/2024
- Clearing, Grading, and Excavation to Prepare for Construction Activities including excavation of detention/retention basins, and drain pipe and outlet in retention basin in property to the east: 12/2024 – 01/2025
- Development: Start of utility and drainage installation (to continue into vertical construction stage), completion of detention basins, rip rap, curbs & gutters, sidewalks, and other concrete work, including foundations of new buildings, asphalt paving of parking lot and drives, placement of additional BMPs such as Cutback Curbs, Rip Rap. The detention ponds will be stabilized immediately upon its completion within the Development stage timeline.: 01/2025 – 04/2025
- Vertical: Construction of building extensions and new stand-alone buildings: 04/2025 – 12/2025
- Construction and cessation of construction activity will take place after site clean-up and removal of all BMPs: 11/2025 – 12/2025

  NOTE: The site will not be stabilized, as landscaping as final stabilization will commence within 14 days of the cessation of all construction activity, in accordance with CGP 2.2.14. If for some reason, the landscaping/ final stabilization does not begin within 14 days after site activity concludes, open soil areas with slopes greater than 5% will be Hydroseeded.
- Landscaping to be done by **another contractor, yet to be named**.

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Doug Lewis /J. Tolman DRAWN BY	

XREF INDEX:

POND N5
A=4317 SF

POND S8
A=3772 SF

FUTURE BUILD OUT

TRACT OS-3
REGIONAL POND IMPROVEMENTS BY FUTURE BUILD-OUT TO INCLUDE POND IMPROVEMENTS AND LANDSCAPING (BY OTHERS)

FUTURE PHASE STORM DRAIN

DETENTION POND
DETENTION/DETENTION POND

INV:5292.00

TOP OF POND 5301.5
INV: 5300.8

TOP OF WALL 5297.0
BOTTOM OF WALL 5294.0

TOP OF WALL 5298.5
BOTTOM OF WALL 5297.0

TOP OF WALL 5297.97
BOTTOM OF WALL 5296.93

TOP OF WALL 5301.5
BOTTOM OF WALL 5299.0

12"SD

KEYNOTES:

1. INSTALL 24" NYLOPLAST DRAIN BASIN WITH 12" HDPE PIPE & END SECTION INV: 5292.00. SEE TABLES ON SHEET C-501 FOR DRAIN BASIN GRATE & INVERTS.
2. INSTALL 12" NYLOPLAST DRAIN BASIN WITH 12" HDPE STORM DRAIN LINE. SEE TABLES ON SHEET C-501 FOR GRATE ELEVATIONS & INVERTS.
3. INSTALL 12" NYLOPLAST DRAIN BASIN WITH 12" HDPE STORM DRAIN LINE CONNECTING TO NEW STORM DRAIN MANHOLE. SEE TABLES ON SHEET C-501 FOR GRATE ELEVATIONS AND INVERTS.
4. INSTALL 18" NYLOPLAST DRAIN BASIN WITH 12" HDPE PIPE CONNECTING TO NEW STORMDRAIN MANHOLE. INV : IN=5288.35. SEE TABLE FOR GRATE ELEVATIONS & INVERTS.
5. CONSTURCT 4' DIAMETER MANHOLE AT TERMINUS OF EXISTING 24" RCP STORM DRAIN. INVERT: IN =5285.93 OUT = 5285.83 RIM= 5302.5
6. TYPICAL MEDIAN POND CROSS SECTIONS PER SHEET C-501.
7. TYPICAL POND S8 CROSS SECTION ON SHEET C-501.
8. TYPICAL POND N5 CROSS SECTION ON SHEET C-501.
9. CONSTRUCT 5' WIDE STORM DRAIN RUNDOWN, 6" THICK RIP RAP INLET STRUCTURE.
10. BUILD RETAINING WALL. SEE STRUCTURAL PLAN FOR DETAILS.
11. BUILD GARDEN WALL, UP TO 24" VERTICAL SPLIT. SEE LANDSCAPING PLAN FOR DETAIL.
12. VALLEY GUTTER, SEE PAVING PLAN FOR DETAIL.
13. SIDEWALK PLAN, SEE PAVING PLAN FOR DETAIL.

LEGEND:

- STEPPED FOOTING (PER DETAIL 2.3 SHEET C-2.0)
- 5185 EXISTING CONTOURS
- SD SD PROPOSED STORM DRAIN PIPE
- PROPOSED RETAINING WALL
- PROPOSED GARDEN WALL
- PROPOSED INLETS
- FLOW DIRECTION
- FLOW DIRECTION TO PONDS
- STORM DRAIN RUNDOWN
- FF3.1 FINISHED FLOOR ELEVATION 5303.1

SCALE
30 0 15 30 60
(FEET)
1 INCH = 30 FT.

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ALBUQUERQUE, NM - BERNALILLO COUNTY
CITY, COUNTY, STATE

11/18/2024
DATE

D. Lewis / J. Tolman
DRAWN BY

INSPECTIONS PLUS
CROSS SECTION

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED
DATE: 11/04/2024
BY:
HydroTrans #: R16UA1004

APPROVAL OF GRADING & DRAINAGE PLAN(S) SHALL EXPIRE TWO (2) YEARS AFTER THE APPROAL DATE BY THE CITY IF NO BUILDING PERMIT HAS BEEN PULLED ON THE DEVELOPMENT.

WHPacific

MINXUAN LIN
NEW MEXICO
20088
10-30-2024
PROFESSIONAL ENGINEER

REVISIONS			
NO	BY	DATE	REMARKS

SHEET INFO	
DRAWN	
CHECKED	
APPROVED	
LAST EDIT	10/30/2024
PLOT DATE	10/30/2024
SUBMITTAL	

NOT FOR CONSTRUCTION

GRADING AND DRAINAGE PLAN

MESA DEL SOL SELF STORAGE

PROJECT NUMBER | DRAWING FILE NAME

SCALE 1:30

SHEET NUMBER
C-1.0

[DATE: 10/30/2024 3:24 PM] [AUTHOR: alex.villa] [PLOTTER: _DWG To PDF.pc3] [STYLE: WHP-Standard.ctb]
[PATH: P:\MDS Storage, LLC\229024-A000325.00\Execution\Drawings\Civil\MDS STORAGE, LLC PLAN SET\A000325-CX-G000_9-18-24.dwg] [LAYOUT: GRADING AND DRAINAGE PLAN]

LEGEND

Latitude: 34.999764
Longitude: -106.619138

- Property Boundary & Limit of Disturbance (1)
- Limit of Disturbance (2)
- Retaining Wall (1)
- Extended Limit of Disturbance (1)
- Silt Fence (7)
- Cut-back Curbs/Sidewalks (2)
- Detention Basin (2)
- Material Storage (1)
- Stockpiles (1)
- Water Truck (1)
- Street Sweeping (1)
- Mulch Sock Inlet Protection (13)
- Protect grate inlet (1)
- Portable Toilet (1)
- Dumpster (1)
- Temporary Barricade (1)
- Spill Kit (1)
- NOI/Site Notice Posting (1)
- Outfall Point (1)
- Portable Concrete Washout Bin w/ Sign (1)
- Rip Rap (3)
- Stabilized Construction Entrance/Exit (1)

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A3-9 DETENTION BASIN

Image credit: Sites Southwest

A1 A2 A3

DESCRIPTION
A detention basin is an excavated basin with a restrictive outlet sized to slowly release collected stormwater runoff.

PRIMARY USE
Detention basins improve stormwater runoff quality by holding sediment laden runoff in an inactive state, allowing sediment and associated pollutants to settle out prior to discharge. Detention basins limit peak flow rate and velocities, provide a sedimentation area, and reduce downstream erosion. The basins are suitable for large scale projects where drainage can be channelized or otherwise conveyed into the basin.

APPLICATION
Detention basins can be utilized as a sediment control measure during construction phase and then modified to a permanent post-construction BMP. Strategies for successful detention basin design and construction are illustrated on the following pages.

LIMITATIONS
» *Not effective at removing liquid and dissolved pollutants.*
» *Requires appropriate topography for drainage consideration.*
» *Design must account for downstream and failure considerations.*
» *May become public welfare concern through vector concerns.*

MAINTENANCE REQUIREMENTS
» *Inspect bi-weekly and after major storm events.*

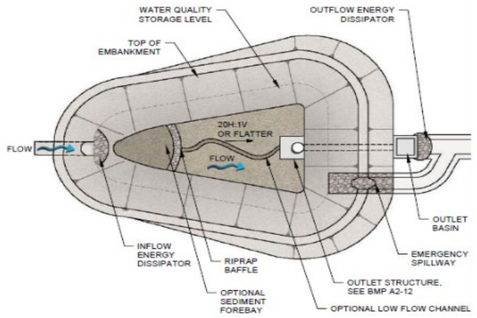
SEE ALSO

A2-11 *Sediment Basin*
A2-12 *Pond Outfall Structure*

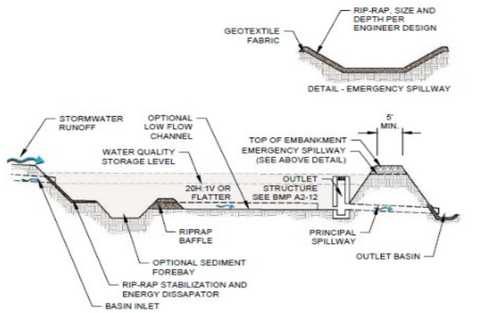
NMDOT TESCP
(TEMPORARY EROSION AND SEDIMENT CONTROL PLAN)
SYMBOL

DB

A3-9 DETENTION BASIN CONTINUED



Detention basin - PLAN VIEW.



Detention basin - SECTION VIEW.

A2-8 MULCH SOCKS

Image credit: NMDOT

A1 A2 A3

DESCRIPTION
Mulch socks are erosion and sediment control materials made typically of high density polyethylene (HDPE) or biodegradable plastic filament mesh tubes filled with compost or other organic media.

PRIMARY USE
Mulch socks are primarily used to filter and slow stormwater. Uses include:

» *Filter sediment and silts from sheet stormwater flowing from disturbed sites.*
» *Protect inlets from sediment.*
» *Create temporary ponding areas behind socks to facilitate the deposition of suspended solids.*
» *Slow stormwater runoff and reduce peak flows.*
» *Filter heavy metals, pollutants and oil from stormwater when socks are filled with adsorbent media.*
» *Provide temporary protection at drop inlets or culverts.*
» *Create check dams or sediment traps at concrete washout areas.*
» *Provide perimeter control, runoff diversion, and slope interruption.*
» *Reinforce stream banks and aid in the protection and establishment of stabilizing watercourse vegetation.*

APPLICATION
Strategies for successful use of mulch socks include:

» *Lay the sock upon the surface and stake the tube every 10 feet.*
» *Lay the tube along contours, vegetated channels, and outside of the toes of slopes.*

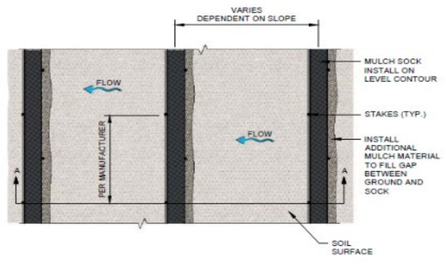
NMDOT TESCP
(TEMPORARY EROSION AND SEDIMENT CONTROL PLAN)
SYMBOL

MS
CMS

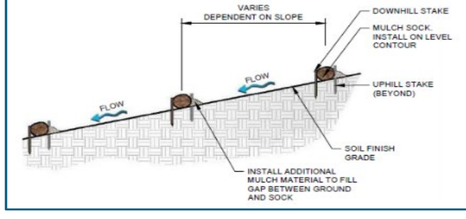
A2-8 MULCH SOCKS CONTINUED

LIMITATIONS
» *Mulch socks do not provide long-term solutions for stormwater storage.*
» *Mulch socks have limited usefulness in concentrated flow conditions.*
» *On NMDOT projects composted mulch socks (CMS) are used exclusively; wood chip mulch socks are not allowed.*

MAINTENANCE REQUIREMENTS
» *Inspect mulch socks periodically, especially after major storm events.*
» *Remove sediments from behind socks after accumulation is 1/3 sock height.*
» *Restake and overlap socks that are displaced due to storm events or construction disturbance.*



Mulch sock - PLAN VIEW.



Mulch sock - SECTION A-A.

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CITY, COUNTY, STATE

11/18/2024
DATE

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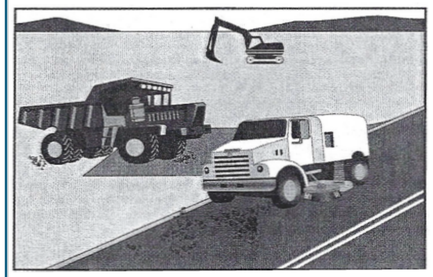
INSPECTIONS PLUS

Street Sweeping and Vacuuming SE-7



Objectives

EC Erosion Control
SE Sediment Control
TR Tracking Control
WE Wind Erosion Control
NS Non-Stormwater Management Control
WM Waste Managemenland Materias Pollution Control

Targeted Constituents

Sediment
Nutrients
Trash
Metals
Bacteria
Oil and Grease
Organics

Potential Alternatives

None

Description and Purpose

Street sweeping and vacuuming includes use of self-propelled and walk-behind equipment to remove sediment from streets and roadways, and to clean paved surfaces in preparation for final paving. Sweeping and vacuuming prevents sediment from the project site from entering storm drains or receiving waters.

Suitable Applications

Sweeping and vacuuming are suitable anywhere sediment is tracked from the project site onto public or private paved streets and roads, typically at points of egress. Sweeping and vacuuming are also applicable during preparation of paved surfaces for final paving.

Limitations

Sweeping and vacuuming may not be effective when sediment is wet or when tracked soil is caked (caked soil may need to be scraped loose).

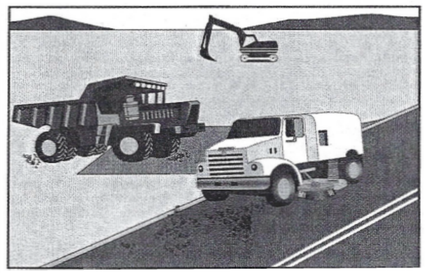
mplementation

- Controlling the number of points where vehicles can leave the site will allow sweeping and vacuuming effo ls to be focused, and perhaps save money.
- Inspect potential sediment tracking locations daily.
- Visible sediment tracking should be swept or vacuumed on a daily basis.

January 2003

1 of 2

Street Sweeping and Vacuuming SE-7



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- Inspect potential sediment tracking locations daily.
- Visible sediment tracking should be swept or vacuumed on a daily basis.

A1-10 CONCRETE WASTE MANAGEMENT

A1 A2 A3

Image credit: SoCal Sandbags

DESCRIPTION

Concrete waste management reduces or prevents the discharge of pollutants to stormwater by implementing management measures.

PRIMARY USE

Concrete waste products can negatively affect the pH of water, harm aquatic life, and contribute to total suspended solids in stormwater. Concrete waste management strategies keep the discharge of concrete waste materials from affecting local stormwater and drainage systems during concrete construction operations.

Concrete construction operations that have the potential for contaminating receiving waters include, but are not limited to:

- *Pouring and finishing concrete slabs on grade and concrete paving.*
- *Pouring vertical cast in place concrete (header curbs, concrete curbs and gutters, retaining walls, concrete footings).*
- *Drilling, cutting, polishing, and curing concrete.*
- *Washing concrete dust, and exposed aggregate concrete.*
- *Spilling concrete.*
- *Dampening freshly made concrete.*
- *Creating and applying concrete slurry coat.*
- *Building masonry structures.*
- *Finishing surfaces with stucco.*
- *Washing equipment.*

SEE ALSO

A1-9 *Spill Prevention Plan*
A1-11 *Solid Waste Management*
A1-12 *Hazardous Waste Management*

NMDOT TESCP
(TEMPORARY EROSION AND SEDIMENT CONTROL PLAN)
SYMBOL

CWM

Revision 03 *December 2020*
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM MANUAL
Appendix A1 – Construction Planning, Management and Clean Up

A1-10 CONCRETE WASTE MANAGEMENT CONTINUED

APPLICATION

Concrete waste management strategies include:

- *Avoid mixing excess amounts of fresh concrete or cement onsite.*
- *Perform washout of concrete trucks offsite or in designated areas on site at least 50 feet from storm drains, open ditches or bodies of water.*
- *Block drop inlets and direct concrete wastewater into temporary pits where the concrete can set, be broken up, and then disposed of properly.*
- *Collect and return sweepings to aggregate base stockpile or dispose of properly.*
- *Train employees and subcontractors in proper concrete waste management.*

LIMITATIONS

- *Offsite washout of concrete wastes may not always be possible.*

MAINTENANCE REQUIREMENTS

- *Ensure subcontractors properly manage concrete wastes.*
- *Dispose of hardened concrete on a regular basis.*
- *Regularly inspect drop inlet protection measures.*

A1-1 DUST CONTROL

A1 A2 A3

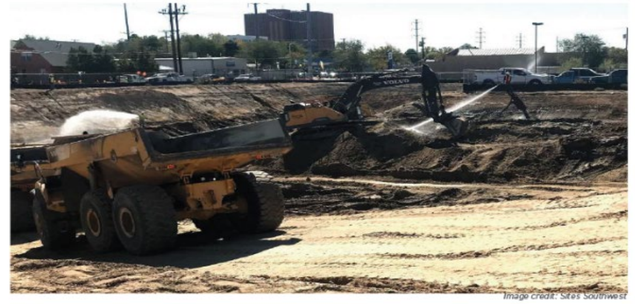

Image credit: Sites Southwest

DESCRIPTION

Dust control measures reduce a construction site's potential for producing airborne fugitive dust that can lead to air and water pollution. Sediments that are transported from construction sites by wind and construction vehicles that have left the site, are often re-dispersed to the air by subsequent vehicular traffic and winds. Likewise, these sediments may be transported by the next rainfall to streams and into public storm sewer systems. Implementation of control measures to minimize the generation of fugitive dust from disturbed landscapes and construction sites will also limit the quantity of sediments in stormwater.

PRIMARY USE

Dust control is used to limit and control nuisance fugitive dust from disturbed landscapes and construction sites. Project types and conditions that benefit from execution of a dust control strategy include, but are not limited to, the following:

- *Grading operations (land clearing and earthmoving).*
- *Drilling and blasting.*
- *Batch drop operations (loader operation).*
- *Exposed, cleared, and unstabilized areas.*
- *Vehicle traffic on unpaved surfaces.*
- *Sediment tracking on paved surfaces.*
- *Blasting and wrecking ball operations.*
- *Soil and debris storage piles.*

SEE ALSO

A1-4 *Grassland Seedbank Protection*
A1-5 *Stockpile Management*
A2-1 *Seeding*
A2-2 *Mulching*

NMDOT TESCP
(TEMPORARY EROSION AND SEDIMENT CONTROL PLAN)
SYMBOL

DU

Revision 03 *December 2020*
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM MANUAL
Appendix A1 – Construction Planning, Management and Clean Up

A1-1 DUST CONTROL CONTINUED

APPLICATION

Dust control measures vary widely and should be selected alone or in combination for the specific project type, conditions, and resource availability. Dust control measures include, but are not limited to, the following:

- *Provide covers for trucks transporting materials that contribute dust.*
- *Pave, apply gravel, vegetate or chemically stabilize large disturbed areas.*
- *Immediately water disturbed areas.*
- *Regularly water and dampen unstabilized areas.*

Additionally, if the contractor is responsible for complying with the requirements of the air pollution control permit, the following is typically required:

- *Provide dust control plans for construction or land-clearing projects.*
- *Conduct enforcement activities with priority given to citizen complaints.*
- *Conduct documentation of maintenance.*

LIMITATIONS

Some dust control measures may be of limited use due to lack of resources at the site, construction sequencing, and the need to repeatedly re-implement measures during the course of construction. Limitations may include:

- *Access to water.*
- *Availability of equipment.*
- *Drought.*
- *Frequent disturbance during construction.*

MAINTENANCE REQUIREMENTS

- *Inspect stabilized soils for disturbance on a regular basis.*
- *Wet soil and soils treated with stabilization agents.*
- *Regrade and reapply soil stabilizing agents.*

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MDS Storage
PROJECT TITLE

ALBUQUERQUE, NM - BERNALILLO COUNTY
CITY, COUNTY, STATE

11/18/2024
DATE

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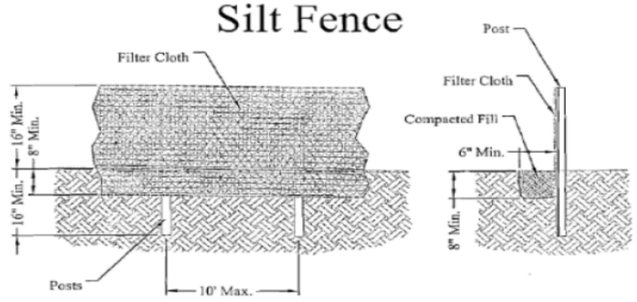
INSPECTIONS PLUS

Silt Fence



Definition

A temporary barrier of Geotextile Class "F" used to intercept sediment laden runoff from small drainage areas.

Purpose

The purpose of silt fence is to reduce runoff where velocity and allow the deposition of transported sediment to occur. Limits imposed by ultraviolet light on the stability of the fabric will dictate the maximum period that the silt fence may be used.

1. Silt fence provides a barrier that can collect and hold debris and soil, preventing the material from entering critical areas, streams, streets, etc.
2. Silt fence can be used where the installation of a dike would destroy sensitive areas; woods, wetlands, etc.

Conditions where the Practice Applies

Silt Fence is limited to intercepting sheet flow runoff from limited distances according to slope. It provides filtering and velocity dissipation to promote gravity settling of sediment.

Design Criteria

Wood or Steel Posts may be used in certain instances. Silt fence should be placed as close to the contour as possible. No section of silt fence should exceed a grade of 5 percent for a distance more than 50 feet. Where ends of the geotextile fabric come together, the ends shall be overlapped, folded, and stapled to prevent sediment bypass.

* If wood post are to be used they must meet the following specifications:
1 ½" X 1 ½" minimum square posts, or 1 ¾ " minimum diameter round post
* If metal posts are to be used they must be standard "T" or "U" post weighing not less than 1 lb. per linear foot.

The length of the flow contributing to silt fence shall conform to the following limitations.

Slope (%)	Slope Steepness	Slope Length (Ft.) (Maximum)	Silt Fence Length (Ft.) (Maximum)
2	0-50:1	Unlimited	Unlimited
2-10	50:1-10:1	125	1,000
10-20	10:1-5:1	100	750
20-33	5:1-3:1	60	500
33-50	3:1-2:1	40	250
50 +	> 2:1	20	125

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A1-13 STABILIZED CONSTRUCTION ENTRANCE/EXIT

A1 A2 A3

Image credit: Sites Southwest

DESCRIPTION
A stabilized construction entrance/exit consists of a pad of crushed stone, recycled concrete, or other rock-like material on top of a geotextile filter, which is used to facilitate the wash-down and removal of sediment and other debris from construction equipment prior to exiting the site.

PRIMARY USE
Stabilized construction entrances/exits are used to reduce offsite sediment tracking from trucks and construction equipment, and for sites where considerable truck traffic occurs each day. They also reduce the need to clean adjacent pavement as often, and help route site traffic through a single point. Stabilized construction entrances and exits are recommended for all construction sites, and may be required for Construction General Permit compliance.

APPLICATION
Strategies for successful and effective stabilized construction entrances/exits include but are not limited to:

» *Location selection able to accommodate construction traffic.*
» *Appropriate selection of locally available material.*

LIMITATIONS
» *Selection of the construction entrance/exit location is critical. To be effective, it must be used exclusively.*
» *Stabilized access points can be expensive and must be installed in combination with one or more other sediment control techniques. It may be more cost effective, however, than labor-intensive street cleaning.*

NMDOT STANDARD DRAWING
603-01-7/7 Offsite Tracking Prevention

NMDOT TESCP (TEMPORARY EROSION AND SEDIMENT CONTROL PLAN) SYMBOL
SCEE

A1-13 STABILIZED CONSTRUCTION ENTRANCE/EXIT CONTINUED

LIMITATIONS *CONTINUED*
» *Site constraints may limit the recommended 50 feet entrance/exit drive length.*

MAINTENANCE REQUIREMENTS
» *Inspect the stabilized construction entrance after major storm events to ascertain sediment and pollution are being effectively captured on site. When sediment or debris has substantially clogged the void area between the rocks, the aggregate mat must be washed down or replaced.*
» *Re-grade and top dress stone periodically to retain the effectiveness of the entrance/exit.*

A1-9 SPILL PREVENTION PLAN

A1 A2 A3

Image credit: iStock/ Shelly Still

DESCRIPTION
A spill prevention plan is an emergency plan to contain spills of dangerous, hazardous, or toxic wastes in order to mitigate environmental damage, safeguard the public and provide prompt notice to proper authorities. Hazardous chemicals include but are not limited to fertilizers, paints, oils, grease, pesticides, fuels, and construction or industrial facility chemicals.

PRIMARY USE
Spill prevention plans are applicable to all construction sites and specified in the Stormwater Pollution Prevention Plan (SWPPP). Sites closest to watercourses, canals, and reservoirs are at highest risk of contaminating surface waters with an uncontained spill.

APPLICATION
The spill prevention plan is created prior to construction and includes measures to limit the scope of spills and minimize the impact on the environment and public health. Typical spill prevention plan strategies include:

» *Designate a Pollution Prevention and Spill Response Coordinator (refer to Section I.B.2.h of the Manual).*
» *Select a designated area for storage.*
» *Seal and label all containers.*
» *Surround storage areas by a berm with an impermeable liner. Construct berms to provide a storage volume of no less than 1.5 times the total volume of the stored material.*
» *Establish cleanup procedures and have cleanup materials readily available.*

NMDOT STANDARD SPECIFICATION
603 Temporary Erosion and Sediment Control

NMDOT TESCP (TEMPORARY EROSION AND SEDIMENT CONTROL PLAN) SYMBOL
SPP

A1-9 SPILL PREVENTION PLAN CONTINUED

APPLICATION *CONTINUED*
» *Post cleanup procedures near where dangerous, hazardous or toxic materials are stored or used.*
» *Dispose of contaminated material in accordance with state or local requirements.*

Other strategies for specific situations include:

» *Small or incidental spills (<5 gallons): contain and clean the spill using facility personnel if they are able to do so without risking safety and injury.*
» *Large or reportable spills (> 5 gallons): clean the spill using emergency responders and/or clean up contractors. For releases of hazardous substances, the federal government has established Superfund Reportable Quantities (RQs).*
» *Releases of Hazardous Substances: if a hazardous substance is released to the environment in an amount that equals or exceeds its RQs, the release must be reported to federal authorities, unless certain reporting exemptions for hazardous substances releases also apply. Information on RQs can be found on the EPA website (https://www.epa.gov/epcra/cercla-and-epcra-continuous-release-reporting). In the event of a spill of a hazardous substance, notify the National Response Center (NRC) at (800) 424-8802, the New Mexico Environment Department (NMED) at (505) 827-9329, and the local fire department.*

LIMITATIONS
» *No major limitations.*

MAINTENANCE REQUIREMENTS
» *Inspect hazardous material storage areas frequently and after storm events.*
» *Maintain storage areas in a clean and orderly fashion.*
» *Maintain records of stored hazardous materials.*

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A2-12 **POND OUTFALL STRUCTURE**

Image credit: Sites Southwest

A1
A2
A3

DESCRIPTION

Pond outfall structures are constructed mechanical devices or cobble weirs that regulate the release of stormwater and facilitate the capture of sediment and floatables. Pond outfall structures are most often found in association with detention ponds, water harvesting basins, depressed medians, infiltration trenches, and bio(retention) swales.

PRIMARY USE

Pond outfall structures are used to decrease/regulate peak flows and stormwater volumes. Typically placed at the discharge point of a stormwater detention facility, pond outfall structures allow for ponding within multiple green stormwater infrastructure BMPs and provide an outlet for larger storm events that exceed the capacity of the BMP.

APPLICATION

Strategies for the design of successful outfall structures include:

» *Installation of a downstream discharge or outfall conveyance, such as a storm sewer system, storm basin or arroyo.*
» *Installation of a raised inlet with a sump or baffle to allow trash, debris, and sediment to drop out of the stormwater.*

LIMITATIONS

» *Maintenance equipment such as a vactor truck is required and may limit the structures' feasibility in areas where this equipment is not available.*

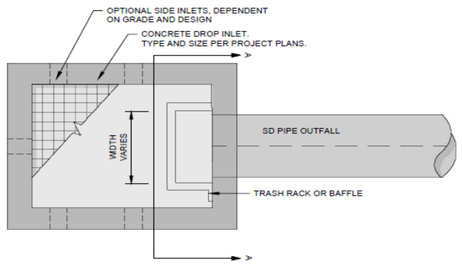
NMDOT TESCP
(TEMPORARY EROSION AND SEDIMENT CONTROL PLAN)
SYMBOL

POS

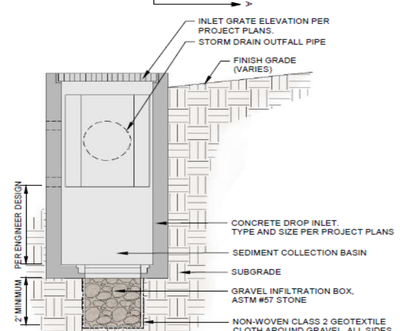
A2-12 **POND OUTFALL STRUCTURE** CONTINUED

MAINTENANCE REQUIREMENTS

» *Inspect semi-annually and after major storm events.*
» *Remove debris, trash, and accumulated sediment from the inlet grate and structure sump. A vactor truck may be needed for structure sump maintenance.*
» *Prune or remove encroaching vegetation to maintain a minimum of 2 feet clear from the structure.*

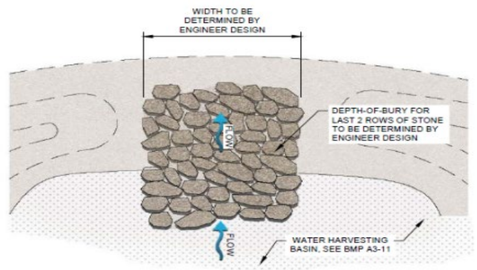


Mechanical outfall protection structure - PLAN VIEW.

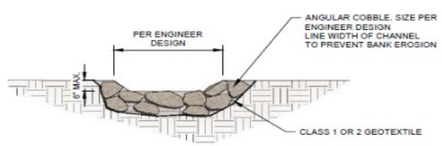


Mechanical outfall protection structure - SECTION A-A.

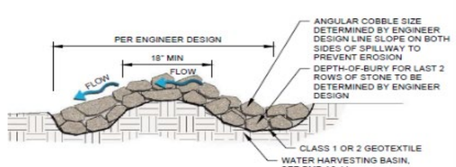
A2-12 **POND OUTFALL STRUCTURE** CONTINUED



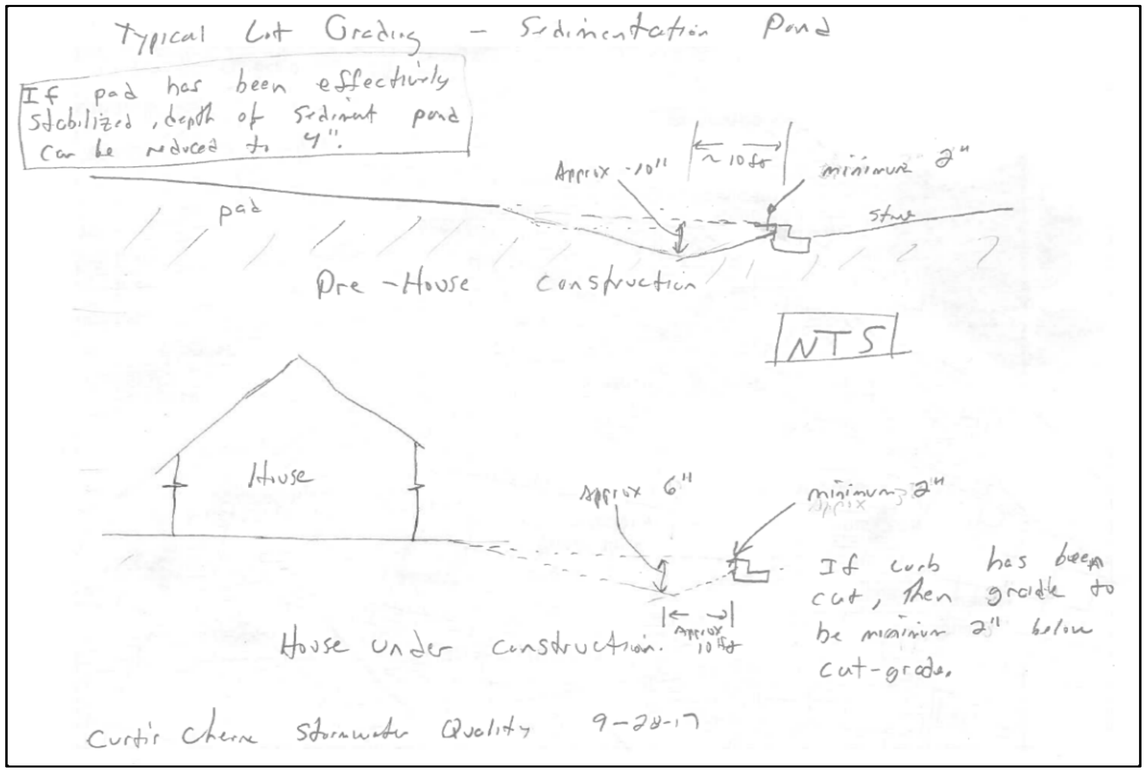
Cobble weir outfall protection - PLAN VIEW.



Cobble weir outfall protection - SECTION VIEW.



Cobble weir outfall protection - PROFILE VIEW.



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Stormwater Best Management Practice

Riprap

Minimum Measure: Construction Site Stormwater Runoff Control;
Subcategory: Erosion Control

Description

Riprap is a layer of large stones that protects soil from erosion in areas of high or concentrated flows. It is especially useful for armoring channel and ditch banks, among other features. Construction staff may also pair riprap with other stormwater control measures to reduce stormwater flow rates.

Applicability

Riprap is useful in areas where other erosion control practices have exceeded their stabilization capacity (MPCA, 2019). For example, riprap can stabilize cut-and-fill slopes; channel side slopes and bottoms; inlets and outlets for culverts, bridges, slope drains, grade stabilization structures, and storm drains; and streambanks.

Siting and Design Considerations

Riprap can be unstable on very steep slopes, especially when site developers use rounded rock. For slopes steeper than 2:1, developers should consider using materials other than riprap for erosion protection. Construction sequencing is important, as construction staff that use riprap in high-flow locations often struggle to remove it after placement (WDE, 2014).

When installing riprap, construction staff should consider the following design recommendations (MDE, NRCS, & MASCD, 2011):

- *Gradation*. Use a well-graded mixture of rock sizes instead of one uniform size. Design engineers can determine a minimum size based on standard design equations and site-specific flow regimes.
- *Riprap size*. Riprap size depends on the shear stress of the flows that the riprap will be subject to, which design engineers can determine using standard design equations. Median stone diameters range from 9.5 to 23 inches, with no stones larger than 34 inches.

A riprap-lined bank surrounding a newly constructed detention pond.

- *Stone quality*. Stone for riprap should consist of field stone or quarry stone that is angular, variably sized and resistant to cracking during freeze and thaw cycles. Most igneous stones, such as granite, have suitable durability. Do not use crushed concrete for riprap.
- *Riprap depth*. Riprap minimum depths depend upon site flow regimes, median riprap size and local design requirements. Consult and appropriately implement local design standards.
- *Filter material*. To prevent underlying soil from moving through the riprap, apply a filter fabric, geotextile material or layer of gravel before applying the riprap.
- *Riprap upper limits*. Place riprap so it extends up to the maximum flow depth, or to a point where the land surface is stable or vegetation will be satisfactory to control erosion.
- *Curves*. Consult local design standards to ensure riprap extends far enough upstream and downstream of any curve.
- *Wire riprap enclosures*. Consider using chain link fencing or wire mesh to secure riprap installations, especially on steep slopes or in high-flow areas. This practice is typically referred to as a gabion. Consult local design standards for more information.

Limitations

The steepness of the slope limits the applicability of riprap, because slopes greater than 2:1 can cause riprap loss due to erosion and sliding. Improper use of riprap can increase erosion. Additionally, riprap can be hard to maintain if sediment inundates it; therefore, construction staff should not locate riprap downstream of an area with sediment-laden stormwater.

Maintenance Considerations

Inspect riprap areas annually and after major storms. If storms damage the riprap or geotextile material, repair it promptly to prevent a progressive failure. If a location repeatedly needs repairs, evaluate the site to determine if the original design conditions have changed. Also, weed and brush growth control may be necessary. Maintain the line, grade and cross section as designed. Remove accumulated sediment and debris if using riprap for energy dissipation (MDE, NRCS, & MASCD, 2011).

Effectiveness

Proper design and installation of riprap can reduce flow velocities and prevent erosion of the protected area.

Cost Considerations

The cost of riprap varies depending on location, material type, maintenance frequency and installation method. Hand-placed riprap can cost up to $750 per cubic yard, while random riprap can cost as little as $64 per cubic yard (MPCA, 2019).

Additional Information

Additional information on related practices and the Phase II MS4 program can be found at EPA's National Menu of Best Management Practices (BMPs) for Stormwater website

References

Maryland Department of the Environment (MDE), Natural Resources Conservation Service (NRCS), & Maryland Association of Soil Conservation Districts (MASCD). (2011). *2011 Maryland standards and specifications for soil erosion and sediment control*. Baltimore, MD: Maryland Department of the Environment.

Minnesota Pollution Control Agency (MPCA). (2019). *Minnesota stormwater manual*.

Washington State Department of Ecology (WDE) (2014). *2012 stormwater management manual for western Washington as amended in December 2014* (Vol. II) (Publication Number 14-10-055).

Disclaimer

This fact sheet is intended to be used for informational purposes only. These examples and references are not intended to be comprehensive and do not preclude the use of other technically sound practices. State or local requirements may apply.

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