

# SWPPP ROSEGATE AT CEDAR HILLS

*Project Number: 6001*

*Prepared For:*

**Cedar Hills Farm Land LLC**  
6150 South Redwood Road Suite 150  
Taylorsville, Utah 84118

*Prepared By:*

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March 18, 2015



Civil Engineering  
Structural Engineering  
Land Surveying  
Urban Design  
Planning

# Stormwater Pollution Prevention Plan

## For:

Rosegate at Cedar Hills  
Cedar Hills Drive & 4600 West Street  
Cedar Hills, Utah

## Operator(s):

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## SWPPP Contact(s):

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## SWPPP Preparation Date:

3/18/2015

*Estimated Project Dates:*

**Project Start Date:** \_\_\_\_\_  
**Project Completion Date:** \_\_\_\_\_

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# Contents

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<b>SECTION 1: SITE EVALUATION, ASSESSMENT, AND PLANNING .....</b>	<b>1</b>
1.1 Project/Site Information.....	1
1.2 Contact Information/Responsible Parties .....	1
1.3 Nature and Sequence of Construction Activity .....	3
1.4 Soils, Slopes, Vegetation, and Current Drainage Patterns.....	3
1.5 Construction Site Estimates .....	4
1.6 Receiving Waters.....	4
1.7 Site Features and Sensitive Areas to be Protected .....	4
1.8 Potential Sources of Pollution.....	5
1.9 Endangered Species Certification .....	5
1.10 Historic Preservation.....	5
1.11 Applicable Federal, Tribal, State or Local Programs .....	6
1.12 Maps.....	6
<b>SECTION 2: EROSION AND SEDIMENT CONTROL BMPs.....</b>	<b>7</b>
2.1 Minimize Disturbed Area and Protect Natural Features and Soil.....	7
2.2 Phase Construction Activity .....	7
2.3 Control Stormwater Flowing onto and through the Project.....	8
2.4 Stabilize Soils.....	10
2.5 Protect Slopes.....	11
2.6 Protect Storm Drain Inlets .....	12
2.7 Establish Perimeter Controls and Sediment Barriers.....	14
2.8 Retain Sediment On-Site.....	15
2.9 Establish Stabilized Construction Exits .....	16
2.10 Additional BMPs .....	16
<b>SECTION 3: GOOD HOUSEKEEPING BMPs .....</b>	<b>17</b>
3.1 Material Handling and Waste Management .....	17
3.2 Establish Proper Building Material Staging Areas .....	18
3.3 Designate Washout Areas .....	18
3.4 Establish Proper Equipment/Vehicle Fueling and Maintenance Practices .....	18
3.5 Control Equipment/Vehicle Washing .....	18
3.6 Spill Prevention and Control Plan.....	19
3.7 Any Additional BMPs.....	20
3.8 Allowable Non-Stormwater Discharge Management.....	20
<b>SECTION 4: SELECTING POST-CONSTRUCTION BMPs .....</b>	<b>21</b>
<b>SECTION 5: INSPECTIONS.....</b>	<b>22</b>
5.1 Inspections .....	22
5.2 Delegation of Authority .....	23
5.3 Corrective Action Log .....	23
<b>SECTION 6: RECORDKEEPING AND TRAINING .....</b>	<b>24</b>
6.1 Recordkeeping .....	24
6.2 Log of Changes to the SWPPP .....	24
6.3 Training.....	25
<b>SECTION 7: FINAL STABILIZATION.....</b>	<b>26</b>

<b>SECTION 8: CERTIFICATION AND NOTIFICATION.....</b>	<b>27</b>
<b>SWPPP APPENDICES .....</b>	<b>28</b>
Appendix A – General Location Map	
Appendix B – Site Maps	
Appendix C – Construction General Permit	
Appendix D – NOI and Acknowledgement Letter from EPA/State	
Appendix E – Inspection Reports	
Appendix F – Corrective Action Log	
Appendix G – SWPPP Amendment Log	
Appendix H – Subcontractor Certifications/Agreements	
Appendix I – Grading and Stabilization Activities Log	
Appendix J – Training Log	
Appendix K – Delegation of Authority	

## SECTION 1: SITE EVALUATION, ASSESSMENT, AND PLANNING

### 1.1 Project/Site Information

Project/Site Name: Rosegate at Cedar Hills  
Project Street/Location: Cedar Hills Drive & 4600 West Street  
City: Cedar Hills State: Utah ZIP Code:       
County: Salt Lake County

Latitude: 40.5677° N Longitude: -111.9300° W

Method for determining latitude/longitude:

USGS topographic map (specify scale: \_\_\_\_\_)       EPA Web site     GPS  
 Other (please specify): Google Earth

Is the project located in Indian country?     Yes       No

If yes, name of Reservation, or if not part of a Reservation, indicate "not applicable." \_\_\_\_\_

Is this project considered a federal facility?     Yes       No

UPDES project or permit tracking number\*: \_\_\_\_\_

*\*(This is the unique identifying number assigned to your project by your permitting authority after you have applied for coverage under the Utah Pollutant Discharge Elimination System (UPDES) construction general permit.)*

### 1.2 Contact Information/Responsible Parties

**Operator(s):**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**SWPPP Contact(s):**

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\_\_\_\_\_  
\_\_\_\_\_

**SWPPP Preparer(s):**

Ensign Engineering and Land Surveying  
Daniel Cowley  
45 West 10000 South  
Sandy, Utah 84070  
dcowley@ensignutah.com

**Subcontractor(s):**

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**Emergency 24-Hour Contact:**

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State of Utah  
Department of Environmental Quality  
Division of Water Quality  
288 North 1450 West  
P.O. Box 144870  
Salt Lake City, Utah 84114  
(801) 538-6951

Cedar Hills City  
10246 N Canyon Road  
Cedar Hills, Utah 84062  
(801) 785-9668

Environmental Protection Agency  
1595 Wynkoop Street  
Denver, Colorado 80202  
(800) 759-4372

### 1.3 Nature and Sequence of Construction Activity

What is the function of the construction activity?

- Residential     Commercial     Industrial     Road Construction     Linear Utility  
 Other (please specify): Senior Living Facility

Description of Project: The Rosegate at Cedar Hills project will consist of a senior living facility with **77 units**. Asphalt roadways, curb and gutter, sidewalks, and landscape areas are designed to provide access through the site. Underground utilities will service the proposed lots with sewer, water, and storm water drainage. Site construction will consist of mass grading, utility trenching and installation, asphalt paving, concrete work, footing and foundation installation, and vertical construction of the facility.

Nature of Work: Construction of the finish site will include the following earth-disturbing activities: offsite trench work and linear utility construction, mass excavation and placement of fill, site utility work within the right of way, asphalt and concrete paving, landscaping of common spaces, vertical construction of building including footing and foundation excavation, and finish grading of site.

Phasing of Construction: The project has been planned to occur in **one phase**. During construction, areas of the site not being directly impacted by work shall remain with existing vegetative cover. From the beginning of construction until completion a storm water treatment system will remain operational to protect the existing storm water facilities from being impacted by construction activities.

Estimated Project Start Date: \_\_\_\_\_

Estimated Project Completion Date: \_\_\_\_\_

### 1.4 Soils, Slopes, Vegetation, and Current Drainage Patterns

Existing Soil Characteristics: **Site consists of approximately 6 to 12 inches of topsoil.**

Existing Site Topography and Finish Grade Surface: Site slopes from north to south toward at slopes from 1% to 2%. At completion, the finish grade will mimic the existing ground surface.

Existing and Proposed Drainage Patterns The existing site drains to the south. The proposed drainage system consists of catch basins, cleanout boxes, and storm drain pipes. Road and parking lot grades have been designed to direct runoff into the proposed curb and gutter. Catch basins and combo boxes will collect the flow channeled by the curb and gutter and route them through the underground pipe network. The storm runoff will be conveyed through the underground pipe network into the onsite detention basin. **The detention basin discharges to the storm drain system in 4600 West Street.**

Existing Vegetation Type And Condition: The existing vegetation consists of native grasses,

weeds, and brush typical of an undeveloped lot.

### **1.5 Construction Site Estimates**

Total project area:	11.44 acres
Construction site area to be disturbed:	11.44 acres
Percentage impervious area before construction:	0 %
Runoff coefficient before construction:	0.20
Percentage impervious area after construction:	70 %
Runoff coefficient after construction	0.65

### **1.6 Receiving Waters**

Receiving Waters For Existing And Proposed Runoff: For the existing site the receiving waters are the South Jordan Canal and the existing storm drain network that drains to the Jordan River.

Description of Unique Features that are to be Preserved: The South Jordan Canal would need to be protected from erosion.

Describe Measures To Protect These Features: Silt Fence or construction fence will remain during the duration of the project.

Description of Storm Sewer: Runoff is collected into the storm drain system and is routed directly to the existing network in 1300 West Street.

Description of Impaired Waters or Waters Subject to TMDLs: The Jordan River is not listed by the state as critical or impaired water subject to TMDL's.

### **1.7 Site Features and Sensitive Areas to be Protected**

Critical Areas On or Near Site: Runoff to the storm drain system and canal shall be guarded against pollution. Existing streets shall be kept clean from construction debris, mud, and dust.

Potential Erosion Problems Existing Or Anticipated: Erosion along the canal shall be prevented with the use of silt fences, although it is anticipated that the potential for erosion is minimal.

## **1.8 Potential Sources of Pollution**

Potential Sources of Sediment to Stormwater Runoff: Exposed soils that could become waterborne or airborne, stockpiled construction materials including road base, gravels, bedding material, and common fill.

Potential Non-Sediment Pollutants and Sources to Stormwater Runoff: non-sediment pollutants that may be present during construction activities include:

1. petroleum products including fuel, lubricants, hydraulic fluids, and form oils
2. polymer used for soil stabilization
3. water treatment chemicals (coagulant, acid, sodium bicarbonate)
4. concrete
5. paints
6. fertilizers
7. trash & litter
8. sanitary waste

These materials, and other materials used during construction with the potential to impact storm water, will be stored, managed, used, and disposed of in a manner that minimizes the potential for releases to the environment and especially into storm water.

PH-modifying sources will be managed to prevent contamination of runoff and storm water collected on site. The most common sources of ph-modifying materials are bulk cement, cement kiln dust (ckd), fly ash, new concrete washing and curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, and concrete pumping and mixer washout waters.

## **1.9 Endangered Species Certification**

Are endangered or threatened species and critical habitats on or near the project area?

Yes       No

Describe how this determination was made:

A review of the U.S. Fish & Wildlife Service and Utah Division of Wildlife Resources did not reveal any critical endangered species or habitat on the project site.

## **1.10 Historic Preservation**

Are there any historic sites on or near the construction site?

Yes       No

Describe how this determination was made:

No historic structures were observed during site visits.

### **1.11 *Applicable Federal, Tribal, State or Local Programs***

South Jordan City requires a Land Disturbance Permit and has a SWPPP template from which this report was generated

### **1.12 *Maps***

The following maps are included with this SWPPP:

Grading and Drainage Plan: Design for site depicting permanent BMP's including pavement, curb and gutter, storm drain, and detention facilities. Natural features to be preserved are noted. Point(s) of discharge are located, planned drainage patterns and finish grade contours are shown. Storm drain calculations are also shown.

Erosion and Sediment Control Plan: Plan depicting limits of disturbance, temporary erosion and sediment control BMP's, BMP site plan and details. Areas and timing of soil disturbance and stabilization are depicted. Staging and stockpiling areas are located.

## **SECTION 2: EROSION AND SEDIMENT CONTROL BMPS**

This section includes information regarding erosion and sediment control Best Management Practices (BMP's) including details, procedures, and protocols to be followed in implementing the BMP's. All temporary and permanent erosion and sediment control BMP's shall be maintained and repaired as needed to assure continued performance of their intended function. All maintenance and repair will be conducted in accordance with BMP's. The project is subject to inspection by city, county, state, and federal officials at any time to verify compliance with this SWPPP and with applicable ordinances. See SWPPP implementation sequence on the Erosion and Sediment Control Plan for sequence of BMP implementation. The measures shown herein and on the Erosion and Sediment Control Plan are not exclusive, and cannot all be applied simultaneously. It is the responsibility of the contractor to employ the correct best management practices for each stage of construction, and to maintain the BMP's for as long as they are appropriate.

### ***2.1 Minimize Disturbed Area and Protect Natural Features and Soil***

Minimize Site Clearing: see Erosion and Sediment Control Plan for anticipated clearing limits. Wherever possible, limit clearing only to areas of active work, per SWPPP Sequencing Diagram.

Mark Clearing Limits: Prior to beginning earth-disturbing activities, including clearing and grading, all clearing limits, easements, setbacks, sensitive areas and their buffers, trees and drainage courses will be clearly marked to prevent environmental damage both on and off site. Contractor shall erect fences as necessary to enforce the marked clearing limits.

Topsoil Conservation: Existing topsoil shall be harvested when an area is to be disturbed, and stockpiled on site. Topsoil shall then be spread when finish grade is achieved in order to encourage revegetation. As an alternative to storing stockpiled soil, new topsoil may be imported post-construction, provided all unpaved areas not otherwise landscaped are treated for revegetation.

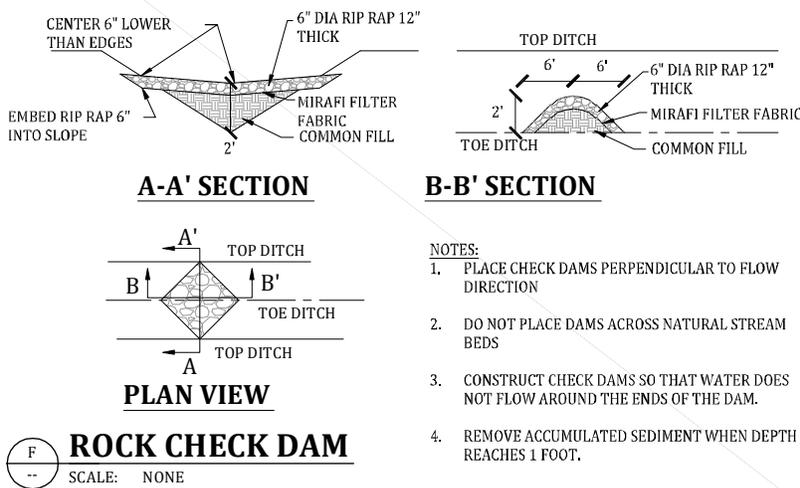
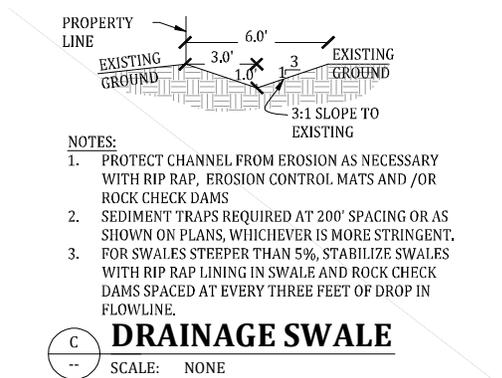
### ***2.2 Phase Construction Activity***

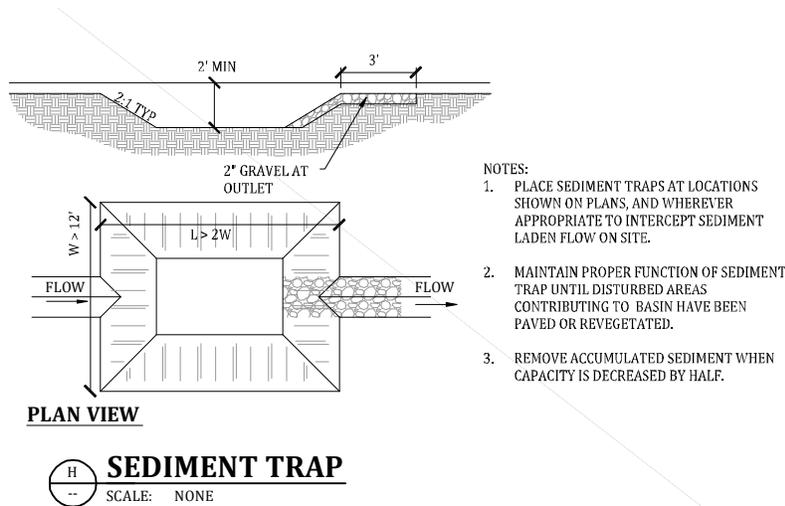
- Phase I – Mass Grading
- Phase II – Underground Utilities
- Phase III – Roadway Finish Grading and Pavement
- Phase IV– Vertical Construction of houses
- Phase V– Finish Grading of Landscape Areas

**Sequencing:** Sediment ponds and traps, vegetated buffer strips, sediment barriers or filters, dikes, and other BMP's intended to trap sediment on site will be installed before other land-disturbing activities take place (see SWPPP Sequencing Diagram). Silt fences and temporary drainage swales shall be placed per the Erosion and Sediment Control Plan, and elsewhere as appropriate. These BMP's shall be maintained until stabilization of disturbed areas is complete. The measures shown on the Erosion and Sediment Control Plan are not exclusive, and cannot all be applied simultaneously. It is the responsibility of the contractor to employ the correct best management practices for each construction stage, and to maintain the BMP's for as long as they are appropriate.

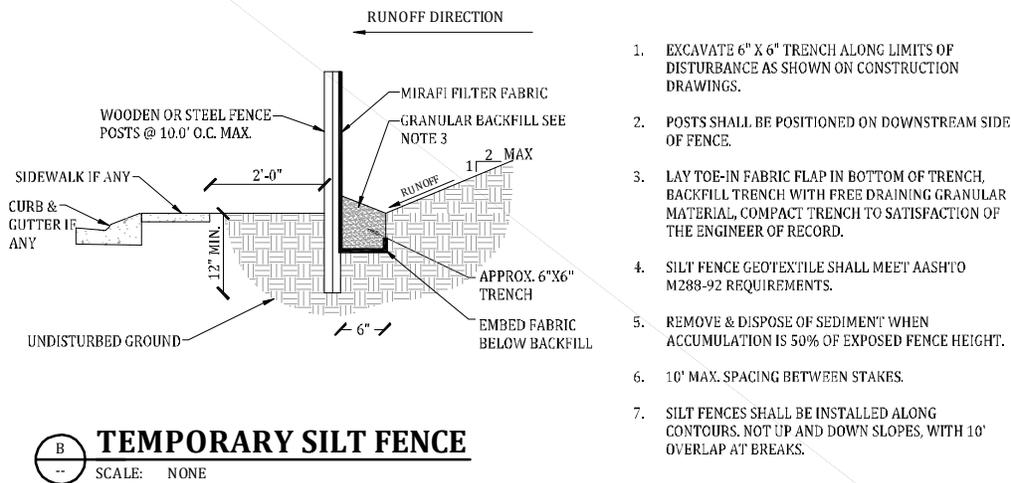
### 2.3 Control Stormwater Flowing onto and through the Project

**Drainage Swale:** Drainage swales shall be used to capture contaminated runoff before exiting the site, to capture wash water, and other sediment laden storm flows and convey the flow to sedimentation basins for treatment. Stabilization of the swale with rip rap, erosion control mats, check dams, and/or sediment traps is required per the following details.





**Temporary Silt Fence:** Temporary Silt Fence shall be installed at the downhill edge of disturbed areas, where drainage swales are not present, to prevent sediment-laden water from exiting the disturbed area and contaminating neighboring undisturbed ground or running off into the storm water system. Silt fence shall be installed parallel to contours for slopes steeper than 5%, such that the line of silt fence downhill overlaps the line of the silt fence by a minimum of five feet.



**BMP Description:**

<b>Installation Schedule:</b>	
<b>Maintenance and Inspection:</b>	
<b>Responsible Staff:</b>	

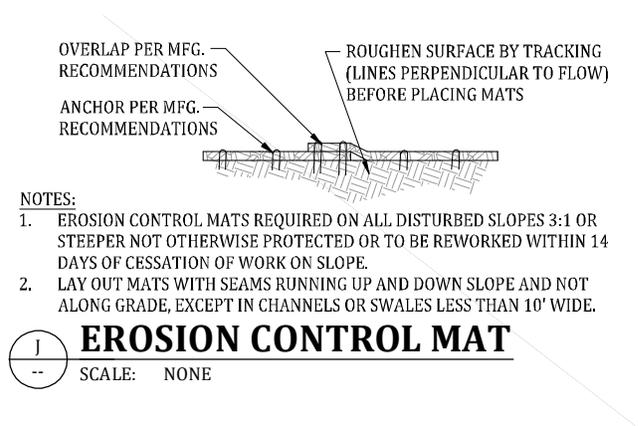
## 2.4 Stabilize Soils

**Dust Control:** Soils, gravels, etc., whether stockpiled or placed, shall be kept covered and/or adequately moist to prevent airborne dust from leaving the site.

**Mulching And Erosion Control Mats:** Once disturbed land has been worked to finish grade, or is to be left unworked for more than 14 calendar days, the land shall be stabilized by one of the following methods, to be determined at a minimum by the grade constraints listed. The owner/operator may apply a more stringent protection than required by the grade, as appropriate to the needs of the site:

1. grade less than 10%: tracking - lines of tracks perpendicular to flow direction
2. grade between 10% and 3:1 (33%) - tracking and mulching - straw, hydroseed, or other
3. grade steeper than 3:1 (33%) - erosion control mats

For locations where soil and/or slope conditions will make it difficult for vegetation to reestablish within six months, a bonded fiber matrix shall be employed to seed and stabilize disturbed land.



**Temporary Native Seeding:** Areas of site not to be immediately built out shall be revegetated after construction until respective construction begins. Native seeds shall be used where necessary.

**Permanent Landscaping:** Common areas to be landscaped per landscape plan. Landscaping shall be irrigated and maintained by contractor until the n.o.t. is accepted and ownership is transferred to the homeowners' association.

**Maintenance Of Existing Vegetation:** Existing and new vegetation will be maintained to the maximum extent practicable to prevent the contamination of storm water with sediment. Vegetated areas beginning to show signs of erosion or soil transport shall be repaired and stabilized through mulching, erosion control mats, or other methods as necessary

**Soil Covering:** All slopes as well as drainage ditches, swales, and exposed flat surfaces as deemed necessary by the erosion and sediment control lead shall be covered prior to the onset of the rainy season or any anticipated storm event. The primary stabilization method used will be covering soils with an approved matting and/or hydroseeding. Areas of the project, which have

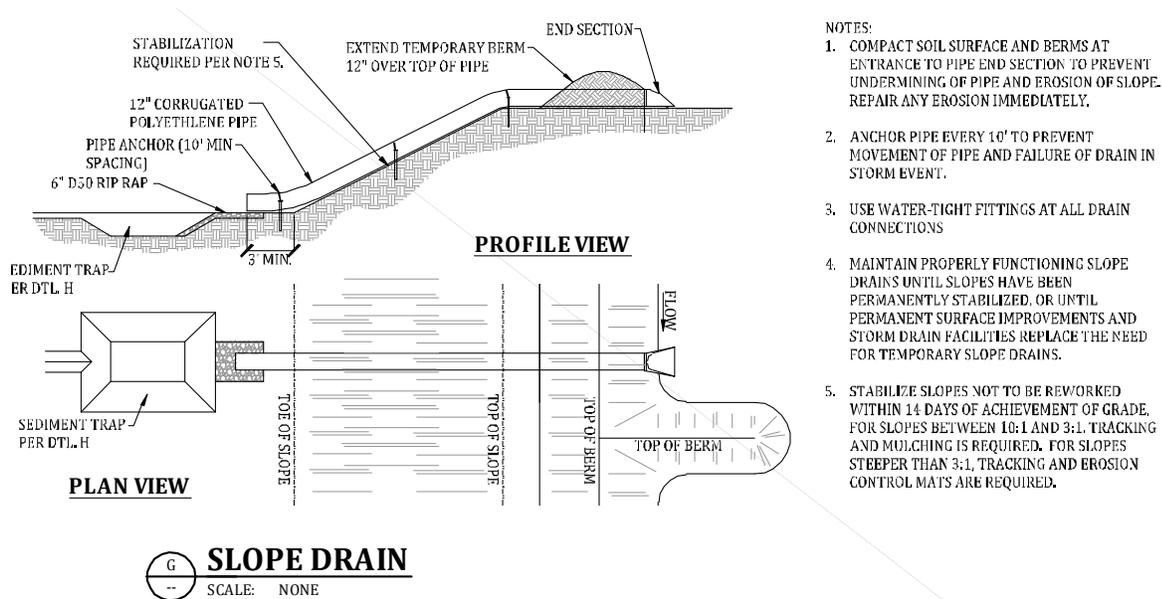
not been properly stabilized by vegetation by the onset of the wet season, will be covered with transparent plastic sheeting before any anticipated storm event to prevent sediment transport. Plastic sheeting will also be used as an emergency BMP to cover previously stabilized areas, which begin to erode. Loose straw and mulch covers are not to be used as they may be washed into drainage structures.

**Stockpile Covering:** All temporary soil stockpiles will be bermed around or covered with plastic prior to anticipated rainfall events. Long-term stockpiles will be compacted and hydroseeded prior to the onset of wet weather.

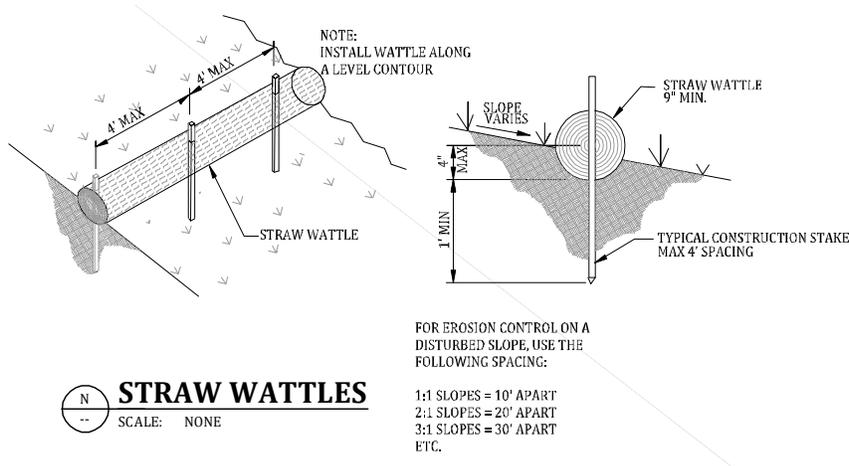
## 2.5 Protect Slopes

**General Practices:** Cut and fill slopes on this project have been designed and will be constructed so as to minimize erosion. Soil types have been analyzed and considered for their potential to erode. Slope runoff velocities shall be reduced by terracing, creating diversions, and surface contouring. Uncontaminated run-on water from off-site will be intercepted at the top of the slope and diverted around the active construction area. Down slope flows will be contained in pipes, slope drains, and/or stabilized channels.

**Temporary Slope Drains:** Concentrated flows at tops of slopes shall be conveyed to the bottom of the slope via temporary slope drains, comprised of bermed inlets, flexible piping, and stabilized outlets. In some cases unstable slopes will be temporarily covered with plastic to prevent erosion and to protect water quality. When soil is disturbed downstream of the slope, the slope drainage must be conveyed around the disturbed soil to prevent erosion by piping it directly to the nearest drain or stabilized area.



**Straw Wattles:** For disturbed slopes without concentrated flow, straw wattles shall be placed along contours, such that ends of wattles overlap with ends of wattles uphill and down, to stabilize the slope while vegetation is established.



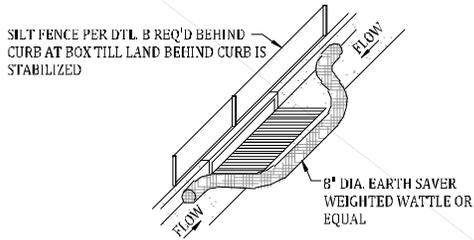
Other suggested BMP's: surface roughening, gradient terraces, interceptor dike and swale, grass-lined channels, pipe slope drain, subsurface drains, level spreader, check dams.

<b>BMP Description:</b>	
<b>Installation Schedule:</b>	
<b>Maintenance and Inspection:</b>	
<b>Responsible Staff:</b>	

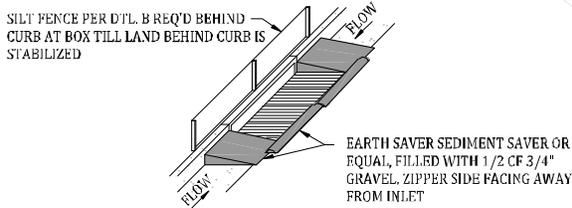
## 2.6 Protect Storm Drain Inlets

**Existing Storm Drains:** Existing storm drain inlets will be protected to prevent storm water from entering without first being filtered or treated to remove sediment. Inlet protection measures shown on Erosion and Sediment Control Plan are not necessarily precise and comprehensive, and are intended to guide the contractor how to protect inlets. Inlet protection should be in place before the first earth-disturbing activities commence, and should be maintained until final stabilization is achieved.

**Newly Constructed Storm Drains:** All storm drain inlets made operable during construction will be protected to prevent storm water from entering without first being filtered or treated to remove sediment. Inlet protection shall be in place as soon as inlets are constructed. Inlet protection will need to be modified throughout the course of construction as conditions around the inlet change, i.e. method of protection shall be appropriate to whether or not adjacent pavement is in place. See details for specific instruction.



**WATTLE OPTION**



**SANDBAG OPTION**

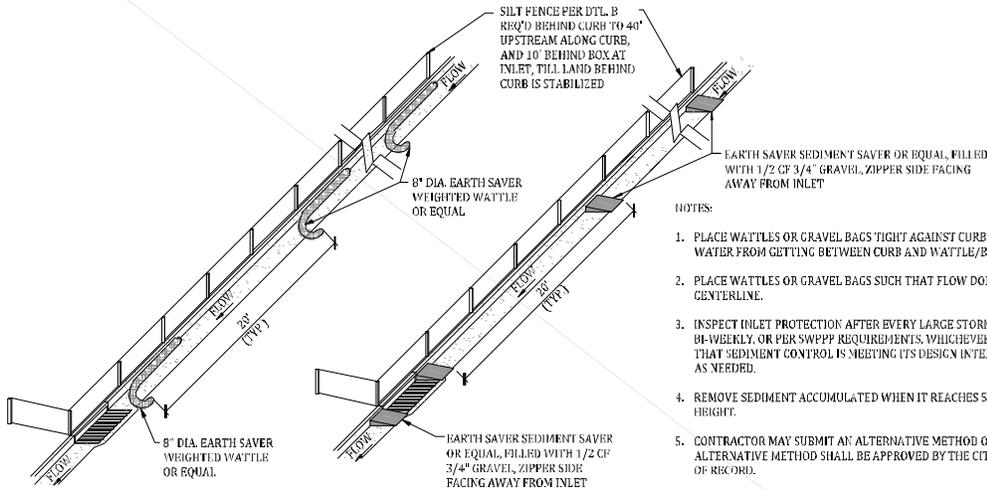
**NOTES:**

1. PLACE WATTLES OR GRAVEL BAGS TIGHT AGAINST CURB TO PREVENT SEDIMENT-LADEN WATER FROM GETTING BETWEEN CURB AND WATTLE/BAG.
2. PLACE WATTLES OR GRAVEL BAGS SUCH THAT FLOW DOES NOT OVERTOP CURB OR ROAD CENTERLINE.
3. INSPECT INLET PROTECTION AFTER EVERY LARGE STORM EVENT AND AT LEAST BI-WEEKLY, OR PER SWPPP REQUIREMENTS, WHICHEVER IS MORE STRINGENT, TO ENSURE THAT SEDIMENT CONTROL IS MEETING ITS DESIGN INTENT. MAINTAIN AND/OR REPLACE AS NEEDED.
4. REMOVE SEDIMENT ACCUMULATED WHEN IT REACHES 50% OF GRAVEL BAG OR WATTLE HEIGHT.
5. CONTRACTOR MAY SUBMIT AN ALTERNATIVE METHOD OF INLET PROTECTION. THE ALTERNATIVE METHOD SHALL BE APPROVED BY THE CITY INSPECTOR AND THE ENGINEER OF RECORD.
6. BEFORE PLACEMENT OF CURB, STABILIZATION OF LAND BEHIND CURB, AND/OR PAVING, MAINTAIN TOP OF INLET AT 6" ABOVE GRADE, AND SURROUND WITH SILT FENCE FOR SEDIMENTATION AROUND BOX. MAINTAIN SILT FENCE BEHIND BOX UNTIL LAND BEHIND CURB IS STABILIZED.



**SAG INLET PROTECTION**

SCALE: NONE



**WATTLE OPTION**

**SANDBAG OPTION**

**NOTES:**

1. PLACE WATTLES OR GRAVEL BAGS TIGHT AGAINST CURB TO PREVENT SEDIMENT-LADEN WATER FROM GETTING BETWEEN CURB AND WATTLE/BAG.
2. PLACE WATTLES OR GRAVEL BAGS SUCH THAT FLOW DOES NOT OVERTOP CURB OR ROAD CENTERLINE.
3. INSPECT INLET PROTECTION AFTER EVERY LARGE STORM EVENT AND AT LEAST BI-WEEKLY, OR PER SWPPP REQUIREMENTS, WHICHEVER IS MORE STRINGENT, TO ENSURE THAT SEDIMENT CONTROL IS MEETING ITS DESIGN INTENT. MAINTAIN AND/OR REPLACE AS NEEDED.
4. REMOVE SEDIMENT ACCUMULATED WHEN IT REACHES 50% OF GRAVEL BAG OR WATTLE HEIGHT.
5. CONTRACTOR MAY SUBMIT AN ALTERNATIVE METHOD OF INLET PROTECTION. THE ALTERNATIVE METHOD SHALL BE APPROVED BY THE CITY INSPECTOR AND THE ENGINEER OF RECORD.
6. BEFORE PLACEMENT OF CURB, STABILIZATION OF LAND BEHIND CURB, AND PAVING, MAINTAIN TOP OF INLET AT 6" ABOVE GRADE, PLACE SILT FENCE BEHIND CURB AS SHOWN, AND CONSTRUCT TEMPORARY 12" BERM IN FRONT OF INLET TO INTERCEPT SEDIMENT-LADEN WATER BEFORE IT FLOWS DOWNSTREAM AND TO ALLOW FOR SEDIMENTATION BEFORE FLOW ENTERS INLET BOX.



**IN-LINE INLET PROTECTION**

SCALE: NONE

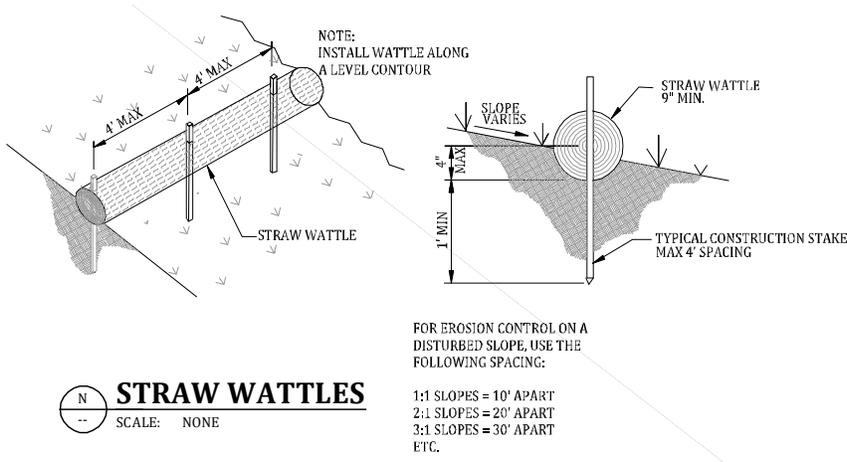
Temporarily Modified Catchment Structures

**BMP Description:**

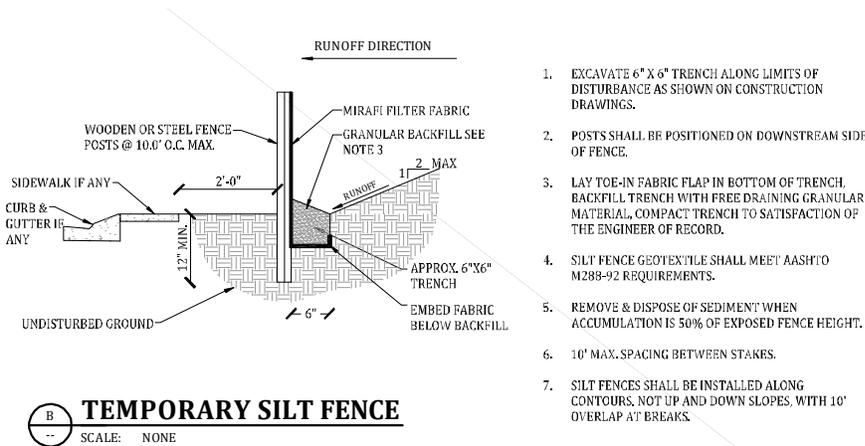
<b>Installation Schedule:</b>	
<b>Maintenance and Inspection:</b>	
<b>Responsible Staff:</b>	

## 2.7 Establish Perimeter Controls and Sediment Barriers

**Straw Wattles:** For disturbed slopes without concentrated flow, straw wattles shall be placed along contours, such that ends of wattles overlap with ends of wattles uphill and down, to stabilize the slope while vegetation is established.



**Temporary Silt Fence:** Temporary Silt Fence shall be installed at the downhill edge of disturbed areas, where drainage swales are not present, to prevent sediment-laden water from exiting the disturbed area and contaminating neighboring undisturbed ground or running off into the storm water system. Silt fence shall be installed parallel to contours for slopes steeper than 5%, such that the line of silt fence downhill overlaps the line of the silt fence by a minimum of five feet.

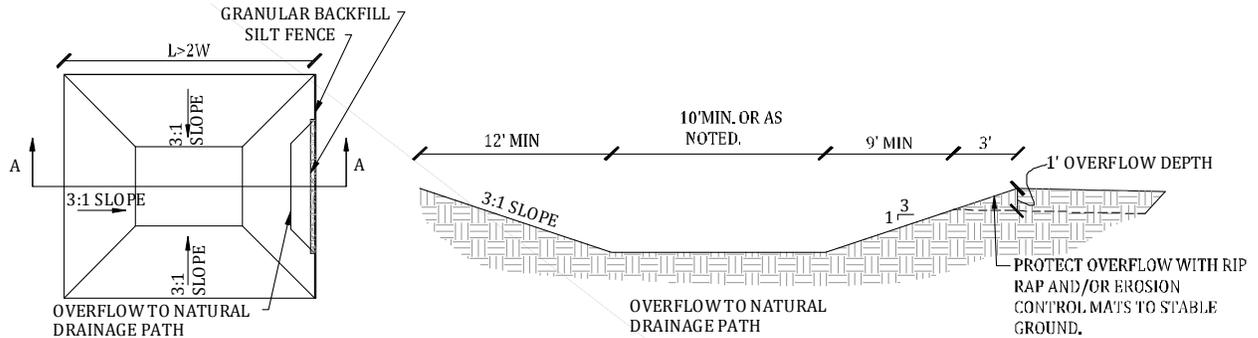


### BMP Description:

<b>Installation Schedule:</b>	
<b>Maintenance and Inspection:</b>	
<b>Responsible Staff:</b>	

## 2.8 Retain Sediment On-Site

**Sedimentation Basins:** Temporary sedimentation basins shall be used to retain sediment onsite. Sediment must be removed from sedimentation ponds when design capacity has been reduced by 50%.



**PLAN VIEW**

**A-A SECTION**

**NOTES:**

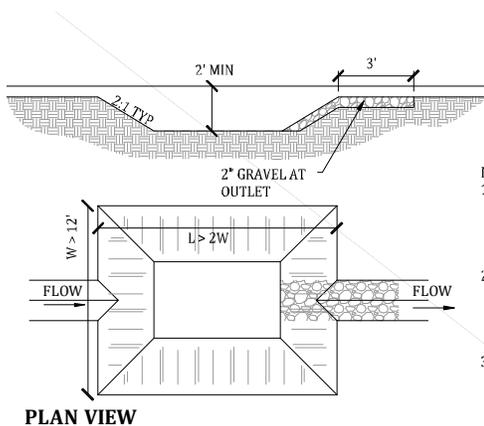
1. CLEAN OUT BASIN WHEN CAPACITY IS REDUCED BY HALF.
2. SIZE BASIN PER MINIMUM DIMENSIONS SHOWN, AND PER DIMENSIONS IN PLAN, WHICHEVER IS GREATER.
3. SAFETY FENCING IS REQUIRED FOR DEPTH GREATER THAN THREE FEET.
4. WHERE 2:1 RATIO OF LENGTH TO WIDTH IS NOT AVAILABLE, CONSTRUCT BERM(S) FOR BAFFLE(S) BETWEEN INLET AND OUTLET TO ACHIEVE 2:1 FLOW LENGTH RATIO.
5. WHERE TEMPORARY SEDIMENTATION WILL BE CONVERTED TO A PERMANENT DETENTION POND, PROTECT OUTLET PER DTL. L, TEMPORARY BASIN OUTLET PROTECTION.



**TEMPORARY SEDIMENTATION BASIN**

SCALE: NONE

**Sediment Traps:** For swales, slope drains, and other locations away from the basin where sediment-laden flow is possible, sediment traps shall be used to slow the flow and allow sedimentation to remove sediment from the flow. Sediment traps shall be cleaned out when design capacity has been reduced by 50%.



**PLAN VIEW**

**NOTES:**

1. PLACE SEDIMENT TRAPS AT LOCATIONS SHOWN ON PLANS, AND WHEREVER APPROPRIATE TO INTERCEPT SEDIMENT LADEN FLOW ON SITE.
2. MAINTAIN PROPER FUNCTION OF SEDIMENT TRAP UNTIL DISTURBED AREAS CONTRIBUTING TO BASIN HAVE BEEN PAVED OR REVEGETATED.
3. REMOVE ACCUMULATED SEDIMENT WHEN CAPACITY IS DECREASED BY HALF.



**SEDIMENT TRAP**

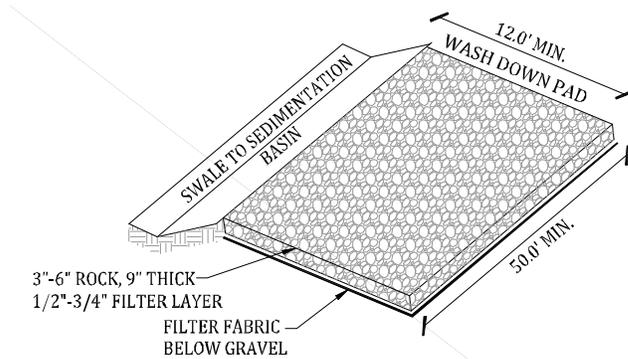
SCALE: NONE

**BMP Description:**

<b>Installation Schedule:</b>	
<b>Maintenance and Inspection:</b>	
<b>Responsible Staff:</b>	

**2.9 Establish Stabilized Construction Exits**

Stabilized Construction Entrance: See Erosion and Sediment Control Plan for anticipated construction entrance location. Contractor may field adjust as necessary and record location on drawings. All construction vehicles exiting the site will be limited to this access. The access will be stabilized with quarry spalls, crushed rock, or asphalt to prevent tracking sediment onto paved areas.



NOTE: PLACE SIGN ADJACENT TO ENTRANCE " CONSTRUCTION TRAFFIC ONLY - ALL CONSTRUCTION TRAFFIC SHALL ENTER AND EXIT SITE AT THIS LOCATION"

**TEMPORARY VEHICLE WASHDOWN & STABILIZED CONSTRUCTION ENTRANCE**



SCALE: NONE

**BMP Description:**

<b>Installation Schedule:</b>	
<b>Maintenance and Inspection:</b>	
<b>Responsible Staff:</b>	

**2.10 Additional BMPs**

**BMP Description:**

<b>Installation Schedule:</b>	
<b>Maintenance and</b>	

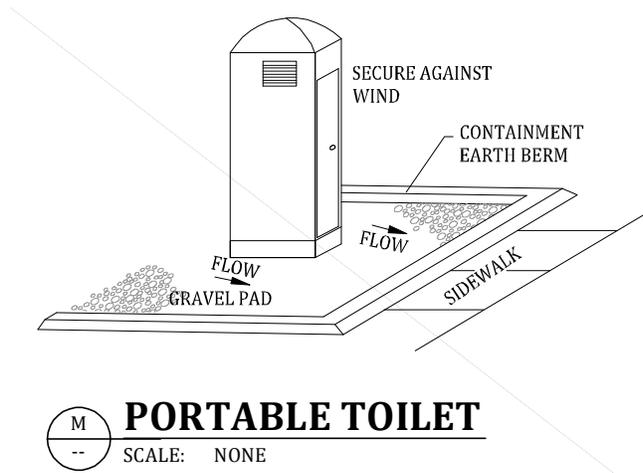
<b>Inspection:</b>	
<b>Responsible Staff:</b>	

## SECTION 3: GOOD HOUSEKEEPING BMPS

### 3.1 Material Handling and Waste Management

General Materials Handling Practices: Hazardous materials shall be handled in accordance with all applicable laws. Hazardous materials shall be kept offsite, or shall be kept in an impervious contained area and covered as appropriate so that spills will not run off or seep into the ground. Potential pollutants will be stored and used in a manner consistent with the manufacturer's instructions in a secure location. To the extent practicable, material storage areas should not be located near storm drain inlets and should be equipped with covers, roofs, or secondary containment as needed to prevent storm water from contacting stored materials. Chemicals that are not compatible (such as sodium bicarbonate and hydrochloric acid) shall be stored in segregated areas so that spilled materials cannot combine and react. Materials disposal will be in accordance with the manufacturer's instructions and applicable local, state, and federal regulations. Materials no longer required for construction will be removed from the site as soon as practicable.

Sanitary Waste: Portable sanitary facilities shall be maintained during subdivision construction and all waste disposed of in accordance with all applicable laws. Portable toilets shall be surrounded in a berm sufficient to contain any spills and far enough from toilet as to avoid being damaged if the toilet topples.



Construction Debris, Trash, and Garbage: Waste disposal container(s) shall be kept on site as needed to keep the site clear of obstruction and BMP's clear and functional. Containers shall be kept covered and emptied weekly, or more frequently as needed. Litter, construction debris, and construction chemicals exposed to storm water shall be picked up prior to anticipated storm events or otherwise prevented from becoming a pollutant source for storm water discharges.

### **3.2 Establish Proper Building Material Staging Areas**

Materials Staging Area: See the Erosion and Sediment Control Plan for the designated materials stockpile and staging area. Inert materials that are stockpiled that pose a potential for causing pollution of storm water include gravels and soil materials. The contractor shall construct a berm or swale around the downhill side of the staging area as practical to contain any potentially polluted runoff and channel it to the sedimentation basin. Non-sediment pollutants including PH-modifying sources of pollutants shall be stored in a lined bermed area of sufficient capacity to contain all of the anticipated storm water and pollutant in the event of a leak or spill.

### **3.3 Designate Washout Areas**

Concrete Wash-Out: A lined basin or dumpster shall be placed near the entrance to the project for the purpose of washing out concrete truck chutes. Basin shall be clearly signed. Sign shall designate basin or dumpster as concrete washout for concrete truck chutes only - concrete wash-out shall not be allowed elsewhere on site. Silt fences and hay bales shall not be used to contain concrete wash-out. Contractor shall remove waste and dispose of in a lawful manner as necessary.

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***BMP Description:***

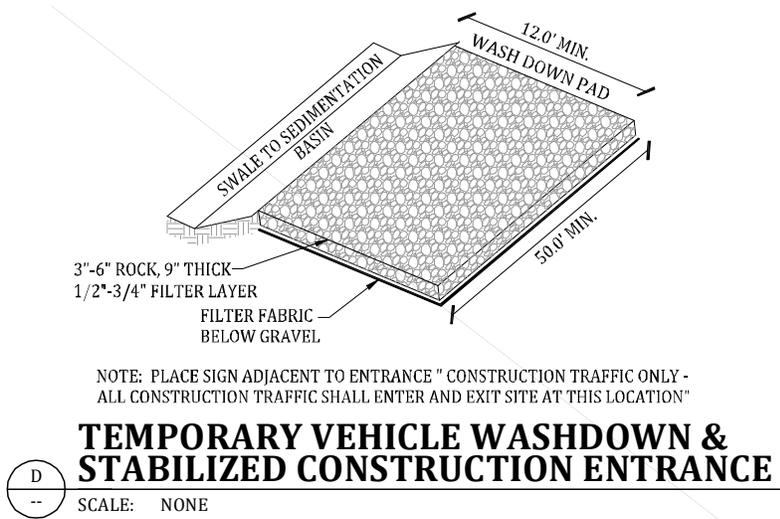
<b><i>Installation Schedule:</i></b>	
<b><i>Maintenance and Inspection:</i></b>	
<b><i>Responsible Staff:</i></b>	

### **3.4 Establish Proper Equipment/Vehicle Fueling and Maintenance Practices**

Vehicles And Equipment: Fix leaks of fuel, oil, etc. immediately. Perform refueling and servicing off site whenever possible. For on-site service or refueling, provide an impervious contained area such that spills will not run off to the storm drainage system or seep into the ground. Conduct maintenance under cover during wet weather if possible. Materials spilled during maintenance operations will be cleaned up immediately and properly disposed of.

### **3.5 Control Equipment/Vehicle Washing**

Vehicle Wash-Down: A temporary truck wheel wash station shall be constructed to ensure control of sediment at the construction exit point. The wash system shall be constructed on the site at a location just prior to where trucks leave the site access and enter the street. The system shall consist of a cobble pad lined below with filter fabric, and an adjacent drainage swale and sedimentation basin to collect wash water for settlement of debris. Wash water may be reused after settling, infiltrated onsite, or transported off-site for disposal. Accumulated sediments may be reused onsite or disposed of off-site. Wheel wash station may be combined with the stabilized construction entrance, provided that the owner/operator ensures that it effectively serves both purposes.



**BMP Description:**

<b>Installation Schedule:</b>	
<b>Maintenance and Inspection:</b>	
<b>Responsible Staff:</b>	

**3.6 Spill Prevention and Control Plan**

Spill Kits And Training: Spill kits containing materials and equipment for spill response and cleanup will be maintained at the site. Suggested spill kit may contain:

- oil absorbent pads (one bale),
- oil absorbent booms (40 feet),
- 55 gallon drums (2),
- 9 mil plastic bags (10),
- personal protective equipment including gloves and goggles.

Facility personnel with primary responsibility for spill response and cleanup will receive training from the site superintendent. This training will include identifying the location of spill kits and other spill response equipment and the use of spill response materials.

Spill response equipment will be inspected and maintained as necessary to replace any materials used in spill response activities.

Hazardous Material Spills: In the event of a spill, work shall be stopped and best efforts made to contain the spill. The site superintendent shall be notified immediately, and will assess the situation and determine the appropriate response. If oil sheen is observed on surface water (e.g., settling ponds, detention pond, swales), absorbent pads and/or booms will be applied to contain and remove the oil. The source of the oil sheen will also be identified and removed or repaired as necessary to prevent further releases.

Spill Notifications: The site superintendent, or his designee, will be responsible for

completing the spill reporting form and for reporting the spill to the appropriate state or local agency. Any spill of oil which 1) violates water quality standards, 2) produces a 'sheen' on a surface water, or 3) causes a sludge or emulsion, must be reported immediately by telephone to the national response center hotline at (800) 424 8802. Any oil, hazardous substance, or hazardous waste release which exceeds the reportable quantity must be reported immediately by telephone to the national response center hotline at (800) 424 8802. Any spill of oil or hazardous substance to waters of the state must be reported immediately by telephone to the Utah Division of Environmental Quality Spill Hotline at (801) 536-4123. Any release of a hazardous substance that may be a threat to human health or the environment must be reported to the Utah Division of Environmental Quality Spill Hotline at (801) 536-4123 immediately upon discovery. Emergency contacts for the project will be posted at the project office. Spill reports will be completed and submitted by the prime contractor on the project.

### **3.7 Any Additional BMPs**

Street Cleaning: If sediment is transported on to the street it will be removed from the street surface on a daily basis. Sediment will be shoveled and/or swept from the street and disposed of in a manner, which prevents contamination with storm water or surface water (e.g., covered soil stockpile). In addition, a street sweeper may be used to maintain clean roads on an as-needed basis. For 'offsite' trench work, all feasible care shall be made to contain excavated material and backfill material, and the adjacent street shall be swept daily during work days, and at other times as needed, to keep the traveled way and adjacent properties and/or drainages clean from mud, dust, silt, and debris.

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<b><i>BMP Description:</i></b>	
<b><i>Installation Schedule:</i></b>	
<b><i>Maintenance and Inspection:</i></b>	
<b><i>Responsible Staff:</i></b>	

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### **3.8 Allowable Non-Stormwater Discharge Management**

Non-stormwater discharges include dust control water, vehicle washwater, waterline flushings, landscape irrigation, and other non-polluted water sources. It is anticipated that these water sources will be effectively treated by the BMP's installed to control storm water. For trench dewatering and other activities with high volume of unpolluted water, where there is a potential of overloading storm water sediment controls, the discharge shall be piped to the nearest storm drain inlet and discharge directly into the storm drain, bypassing the sediment controls.

## SECTION 4: SELECTING POST-CONSTRUCTION BMPs

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***BMP Description:***

<b><i>Installation Schedule:</i></b>	
<b><i>Maintenance and Inspection:</i></b>	
<b><i>Responsible Staff:</i></b>	

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***BMP Description:***

<b><i>Installation Schedule:</i></b>	
<b><i>Maintenance and Inspection:</i></b>	
<b><i>Responsible Staff:</i></b>	

## SECTION 5: INSPECTIONS

### 5.1 *Inspections*

1. *Inspection Personnel:* To be determined at the pre-construction meeting.

2. *Inspection Schedule and Procedures:*

Owner's Inspection Schedule: The owner shall provide inspection of the site by qualified personnel as described below to verify compliance with this SWPPP:

- A) at least once every fourteen calendar days for sites not finally stabilized.
- B) prior to anticipated storm events that could result in substantial runoff.
- C) within 24 hours after a storm that results in 0.5 in. Runoff or greater.
- D) at least once each month when runoff is unlikely or where sites have been stabilized until n.o.t. is filed.

Inspection Criteria: Points, areas, BMP's and activities to be inspected shall include the following:

- Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system.
- Erosion and sediment control measures identified in the plan shall be observed to ensure that they are operating correctly.
- Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.
- Locations where vehicles enter or exit the site shall be inspected for evidence of offsite sediment tracking.

Inspection Induced Plan Revisions: Based on the results of the inspection, the site description identified in the plan and pollution prevention measures identified in the plan shall be revised as appropriate, but in no case later than 7 calendar days following the inspection. Such modifications shall provide for timely implementation of any changes to the plan within 7 calendar days following the inspection.

Inspection Follow-Up: Maintenance needs identified by inspections or by other means shall be accomplished before the next anticipated storm event, or as necessary to maintain the effectiveness of storm water controls. If maintenance prior to the next anticipated storm event is impracticable, maintenance must be scheduled and accomplished as soon as practicable. Maintenance done to address a concern noted on an inspection form shall be recorded on the same form, including the action taken and the date the action was taken, in order to show that the

concern was addressed.

**Inspection Report:** A report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the storm water pollution prevention plan (including the location (s) of discharges of sediment or other pollutants from the site and of any control device that failed to operate as designed or proved inadequate for a particular location), and actions taken shall be made at each inspection. These reports shall be retained as part of the storm water pollution prevention plan on-site during construction, and for at least three years for the date that the site is finally stabilized. Such reports shall identify any incidents of non-compliance. Where a report does not identify any incidents of non-compliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. Then report shall be signed by the contractor, inspector, and owner's representative.

See Appendix F for Inspection Reports as they are completed

## **5.2 Delegation of Authority**

### **Duly Authorized Representative(s) or Position(s):**

Company or Organization Name:

Name:

Position:

Address:

City, State, Zip Code:

Telephone Number:

Fax/Email:

See delegation of authority form in Appendix K.

## **5.3 Corrective Action Log**

See appendix F. The corrective action log shall be used to describe the repair, replacement, and maintenance of BMP's undertaken as a result of the inspections and maintenance procedures described above. Actions related to the findings of inspections shall reference the specific inspection report.

## SECTION 6: RECORDKEEPING AND TRAINING

### 6.1 *Recordkeeping*

Records will be retained for a minimum period of at least 3 years after the permit is terminated.

Date(s) when major grading activities occur:

Attach log and reference in Appendix

Date(s) when construction activities temporarily or permanently cease on a portion of the site:

Attach log and reference in Appendix

Date(s) when an area is either temporarily or permanently stabilized:

Attach log and reference in Appendix

Record Keeping: The owner shall retain copies of inspection reports, the SWPPP, the state notice of intent (n.o.i.) and any other applicable records for three years following the completion of the subdivision construction. A record of dates of major grading activities temporary cessations of construction activities, and initiation of stabilization measures shall be maintained by the contractor and kept with the inspection reports.

### 6.2 *Log of Changes to the SWPPP*

First Appraisal: This plan is designed as a first appraisal of necessary means to protect the waters of the state from potential pollution. It is the responsibility of the owner/operator to add warranted best management practices (BMP's) as necessary, modify those shown as appropriate, and delete from the project those found to be unnecessary. Federal and state law allows these updates to be made by the owner/operator onsite and recorded by the owner/operator on the copy of the SWPPP kept onsite. All such changes shall be marked on the site maps and/or in the SWPPP as appropriate and logged in this section.

When To Amend: This plan shall be amended whenever:

- a) there is a change in design, construction, operation, or maintenance that has a substantial effect on the discharge of pollutants to the waters of the state.
- b) inspections or investigations by officials indicate that the plan is ineffective in eliminating, minimizing, or controlling the discharge of pollutants associated with construction activity
- c) there is a new contractor or subcontractor that implements a measure of the storm water pollution prevention plan.
- d) there is a change in state or federal regulations that applies to this SWPPP.
- e) BMP's not referenced in plan are used on site.

Tracking Amendments: Amendments and revisions to this plan shall be noted in the revision block on the title block (on the right side of each sheet), including type of changes and date of changes. Changes shall be marked with revision clouds on plan sheets with keyed references to revision numbers. After changes are made, owner, engineer, and contractor shall sign amended

plan which is then the plan to be kept on site. Superseded plan shall be filed by owner or contractor with inspection reports.

Deviations From Plans: Any deviations from the plans as shown during construction shall be brought to the attention of design engineering for evaluation as to whether the changes affect the storm water pollution prevention plan.

Partial Transfer Of Ownership: If ownership of a portion of the project is transferred to another before filing of the notice of termination (n.o.t.), liability for storm water pollution prevention for the parcel shall be transferred to the new owner by contract. The new owner shall be responsible to conduct operations in such a manner as to not interfere with this plan, and in accordance with all local, state, and federal regulations.

Log of changes and updates to the SWPPP

See Appendix F

### **6.3 Training**

Training: Contractor will provide on-site training to key personnel responsible for compliance with the SWPPP. The contractor's superintendent and project manager will be familiarized with the major elements of the plan. Construction workers and others at the site will be given appropriate training information at the conclusion of site safety meetings or on an as-needed basis. The owner shall appoint an erosion and sediment control lead at the preconstruction conference who will take an active roll in applying the provisions of this plan onsite.

Preconstruction Conference: One or more preconstruction meetings will be held with an explicit agenda item addressing the SWPPP.

Coordination With Utilities and Other Contractors: All contractors providing services on the project which may cause storm water pollution will be given a copy of the SWPPP and appropriate training regarding storm water pollution prevention.

Subcontractor Oversight: Subcontractor oversight to ensure compliance with the SWPPP will be provided by the prime contractor's superintendent or project manager. Informal, on-the-job tailgate training will be the first level of communication followed by onsite observation of training compliance. Noncompliance with SWPPP policies will trigger a more intensive training session to correct the problem(s). Chronic non-compliance with SWPPP policies may require the intervention of local and/or state regulatory personnel.

## **SECTION 7: FINAL STABILIZATION**

After construction has been completed and landscaping installed per the Landscape Plan, the following steps shall be taken to close out the project:

Revegetation: All remaining disturbed land shall be reseeded with native grass mixture and protected until grasses are established.

Removal of Temporary BMP's: All temporary erosion and sediment control BMP's will be removed within 30 days after final site stabilization is achieved or after the temporary BMP's are no longer needed. Trapped sediment will be removed or stabilized on site. Disturbed soil areas resulting from removal of BMP's or vegetation will be permanently stabilized as soon as possible.

Cleanup: All inlets and junctions shall be cleaned. All waste materials shall be removed and properly disposed of.

Notice of Termination (N.O.T.): After completion of construction and cleanup, the owner shall file a N.O.T. with the state DEQ Division of Water Quality to certify that construction activities have been completed and the site properly cleaned up and commissioned.

Subsequent Construction Projects: future phases and adjacent projects are not covered by this SWPPP and shall be handled separately.

## 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: \_\_\_\_\_ Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## **SWPPP APPENDICES**

Attach the following documentation to the SWPPP:

***Appendix A – General Location Map***

***Appendix B – Site Maps***

***Appendix C – Construction General Permit***

***Appendix D – NOI and Acknowledgement Letter from EPA/State***

***Appendix E – Inspection Reports***

***Appendix F – Corrective Action Log***

***Appendix G – SWPPP Amendment Log***

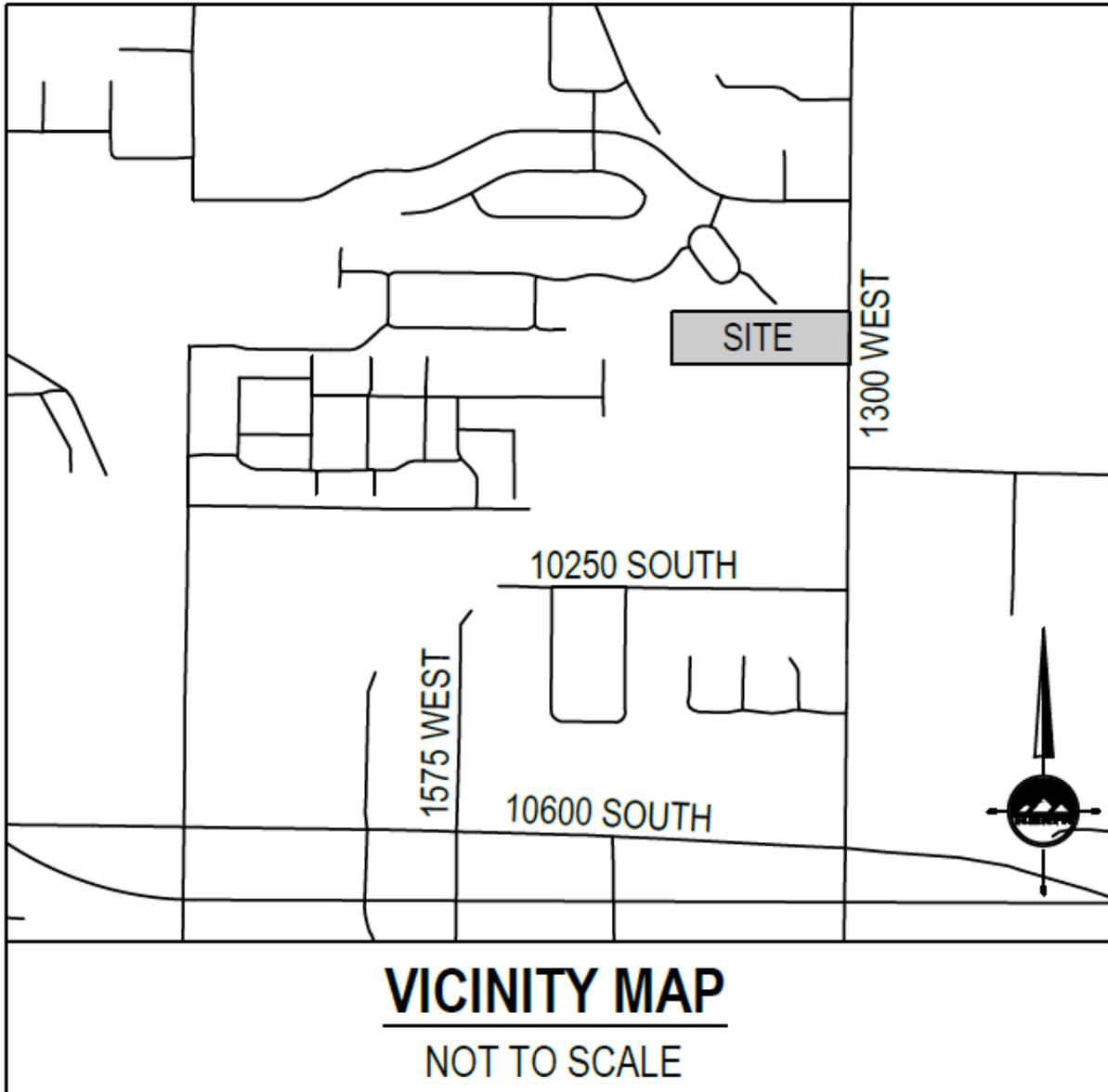
***Appendix H – Subcontractor Certifications/Agreements***

***Appendix I – Grading and Stabilization Activities Log***

***Appendix J – Training Log***

***Appendix K – Delegation of Authority***

## Appendix A – General Location Map



## Appendix B – Site Maps

## Appendix C – Construction General Permit

## Appendix D – NOI and Acknowledgement Letter from EPA/State

## Appendix E – Inspection Reports





## Appendix H –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 BMPs and 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 I –Grading and Stabilization Activities Log

Project Name:  
SWPPP Contact:

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

## Appendix J –SWPPP Training Log

### Stormwater Pollution Prevention Training Log

Project Name: \_\_\_\_\_

Project Location: \_\_\_\_\_

Instructor's Name(s): \_\_\_\_\_

Instructor's Title(s): \_\_\_\_\_

Course Location: \_\_\_\_\_ Date: \_\_\_\_\_

Course Length (hours): \_\_\_\_\_

Stormwater Training Topic: *(check as appropriate)*

- Erosion Control BMPs       Emergency Procedures  
 Sediment Control BMPs       Good Housekeeping BMPs  
 Non-Stormwater BMPs

Specific Training Objective: \_\_\_\_\_  
\_\_\_\_\_

Attendee Roster: *(attach additional pages as necessary)*

No.	Name of Attendee	Company
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

## Appendix K –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 \_\_\_\_\_ (Reference State Permit), and that the designee above meets the definition of a “duly authorized representative” as set forth in \_\_\_\_\_ (Reference State Permit).

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.

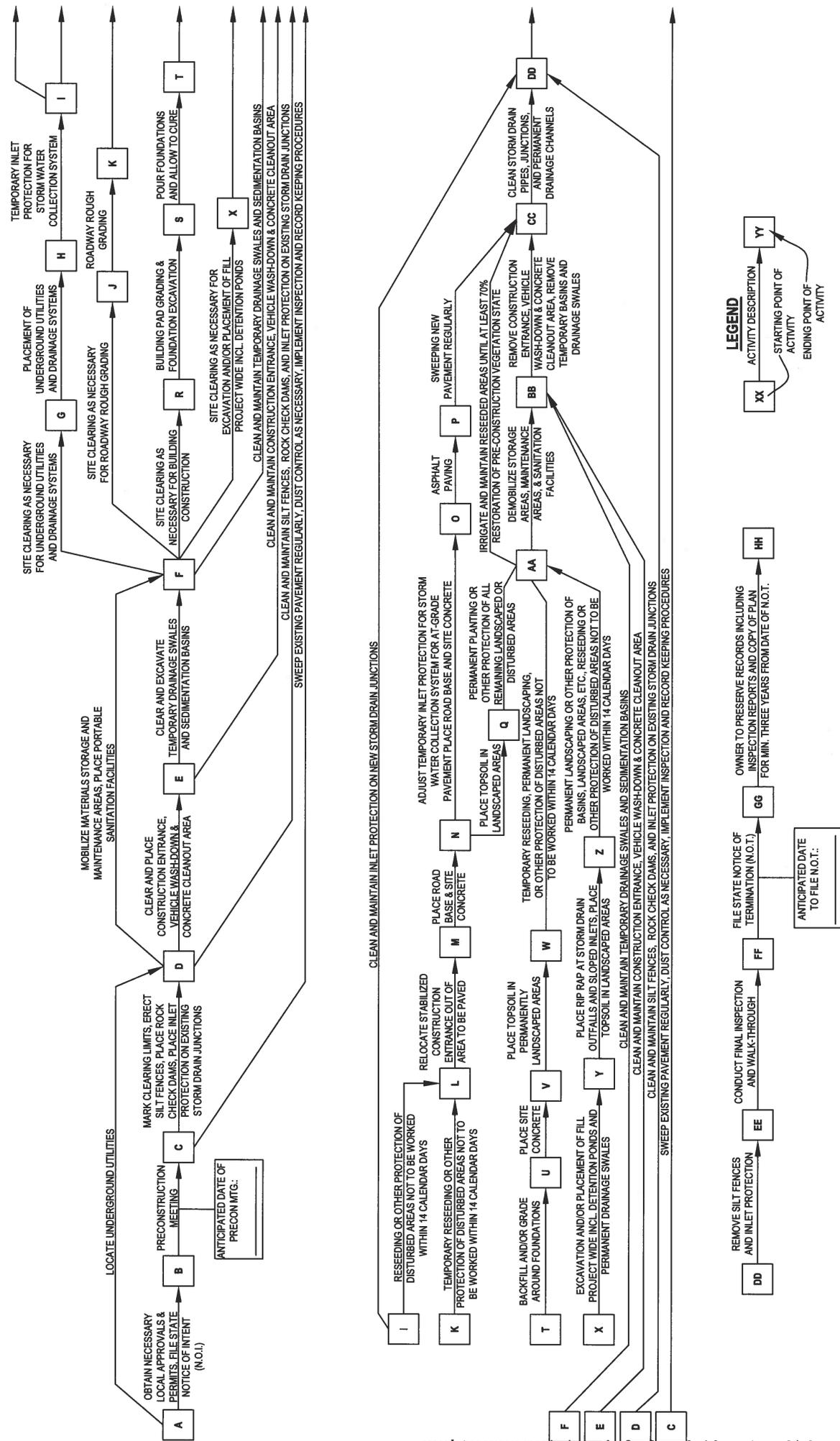
**Name:** \_\_\_\_\_

**Company:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_



# SUGGESTED SWPPP IMPLEMENTATION SEQUENCE