South Salt Lake City

SUPPLEMENTAL GUIDE FOR

CONTRACTORS AND DEVELOPERS

Storm Water Management Program – Appendix A

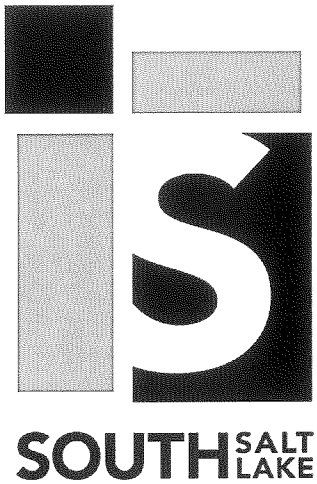
INTRODUCTION

This Supplemental Guide for Contractors and Developers is part of the South Salt Lake City Storm Water Management Plan (SWMP), included as appendix A. Developers, Contractors, and Engineers are required to understand the elements of this guide and any updates. Designs, construction methods and recording of plats are affected by the requirements herein. This guide has been adopted by South Salt Lake City for compliance with the Contractor Education aspects of State and Federal Storm Water requirements.

Revision date:

August, 2020

STORMWATER DESIGN MANUAL



THE CITY OF SOUTH SALT LAKE

July 2020

Table of Contents

CHAPTER 1 REGULATIONS

The federal, state, and local regulations shall be followed for all stormwater discharge and design. This chapter provides general information on related federal and state laws and regulations, and South Salt Lake City Ordinances. This chapter is informational only. Users of this manual shall verify and comply with all applicable laws and regulations.

1.1 Federal Laws and Regulations

EPA created the National Pollutant Discharge Elimination System (NPDES) in 1972 under the Clean Water Act. The NPDES permit program allows state governments to perform permitting, administrative, and enforcement aspects of this program. Refer to https://www.epa.gov/npdes for the latest information.

1.2 The State of Utah MS4 Permit

The MS4 permit is one of the sources that is regulated by the Utah Pollutant Discharge Elimination System (UPDES) which is the Utah version of the federal NPDES regulations. Refer to https://deq.utah.gov/water-quality/storm-water-permits-updes-permits for the latest information.

1.3 South Salt Lake City Ordinances and Storm Water Management Plans

The City of South Salt Lake implemented ordinances for storm water management as described in Chapter 13, while the city Stormwater Division has implemented the Storm Water Management Plan (SWMP) as a management guidance for developers.

CHAPTER 2 SUBMITTAL REQUIREMENTS

The storm water related submittals shall be in compliance with Federal, State, and City regulations/ordinances. Additional plans, reports, and memos may also be required by the Community Development Department, Engineering Department, or Public Works Stormwater Division.

2.1 General Submission Requirements

1. Site Plan
2. Grading Plan
3. Drainage Plan with Hydrology Calculations
4. Storm Water Pollution Prevention Plan (SWPPP) including Best Management Practices (BMPs)
5. Geotechnical Report
6. Post Construction (Design, performance, selection of BMP's, and maintenance requirements)
7. Other items listed on South Salt Lake Building/Right-of-way permit application checklist.

2.2 Special Requirements

1. For developments that disturb land greater than or equal to one acre, including projects that are part of a larger common plan of development or sale which collectively disturbs land greater than or equal to one acre, a full SWPPP including Notice of Intent (NOI) shall be submitted. Otherwise, general BMPs shall be submitted for review.
2. Infiltration rate shall be highlighted in geotechnical report for onsite retention systems.
3. Pre-construction meetings are required, to discuss the SWPPP and any Post Construction BMP's.

CHAPTER 3 NEW DEVELOPMENT HYDROLOGY CALCULATIONS

For new developments, the new MS4 permit requires 80th percentile storm precipitation for the total disturbed area. Refer to Figure 3-1 Design Process Flowchart for New Development.

3.1 80th Percentile Volume

1. Calculated 80th Percentile Precipitation Depth, d_{80} in South Salt Lake

   80th Percentile: **0.6** inches

2. Calculation Steps:

   a. Long-term daily rainfall data was obtained from National Oceanic and Atmospheric Administration (NOAA): https://www.ncdc.noaa.gov/cdo-web/datatools/selectlocation.

   b. South Salt Lake City data was selected and downloaded in .csv

   c. Data was sorted "low to high"

   d. Small precipitation events (< 0.1 inch) were deleted

   e. 80th Percentile Precipitation Depth was calculated

3.2 Calculations

1. Imperviousness

$$\%\ Project\ Impervious\ Area = \frac{Post\ Development\ Impervious\ Area}{Project's\ Disturbance\ Limits}$$

$$\%\ BMP\ Impervious\ Area = \frac{Post\ Development\ Impervious\ Area\ within\ BMP\ Drainage\ Area}{BMP\ Drainage\ Area}$$

2. Volumetric Runoff Coefficient

$$R_V = \frac{V_R}{V_P}$$

Where,

R_V – Volumetric Runoff Coefficient

V_R – Measured Runoff Volume, cf

V_P – Total Precipitation Volume, cf

$$V_P = \frac{d_{80} \cdot A}{12}$$

d_{80} – 80th Percentile Precipitation Depth, in

A – Parcel Area, sf

In this section, i represents the percent of impervious parcel area, in decimal format.

Reese Method

$$R_V = 0.91 \cdot i - 0.0204$$

NRCS Hydrological Soil Group Method

Table 3-1 NRCS Volumetric Runoff Coefficient

NRCS Soil Group	**A**	**B**	**C/D**
Equation	$R_V = 0.84 \cdot i^{1.302}$	$R_V = 0.84 \cdot i^{1.169}$	$R_V = 0.84 \cdot i^{1.122}$

3. 80th Percentile Volume

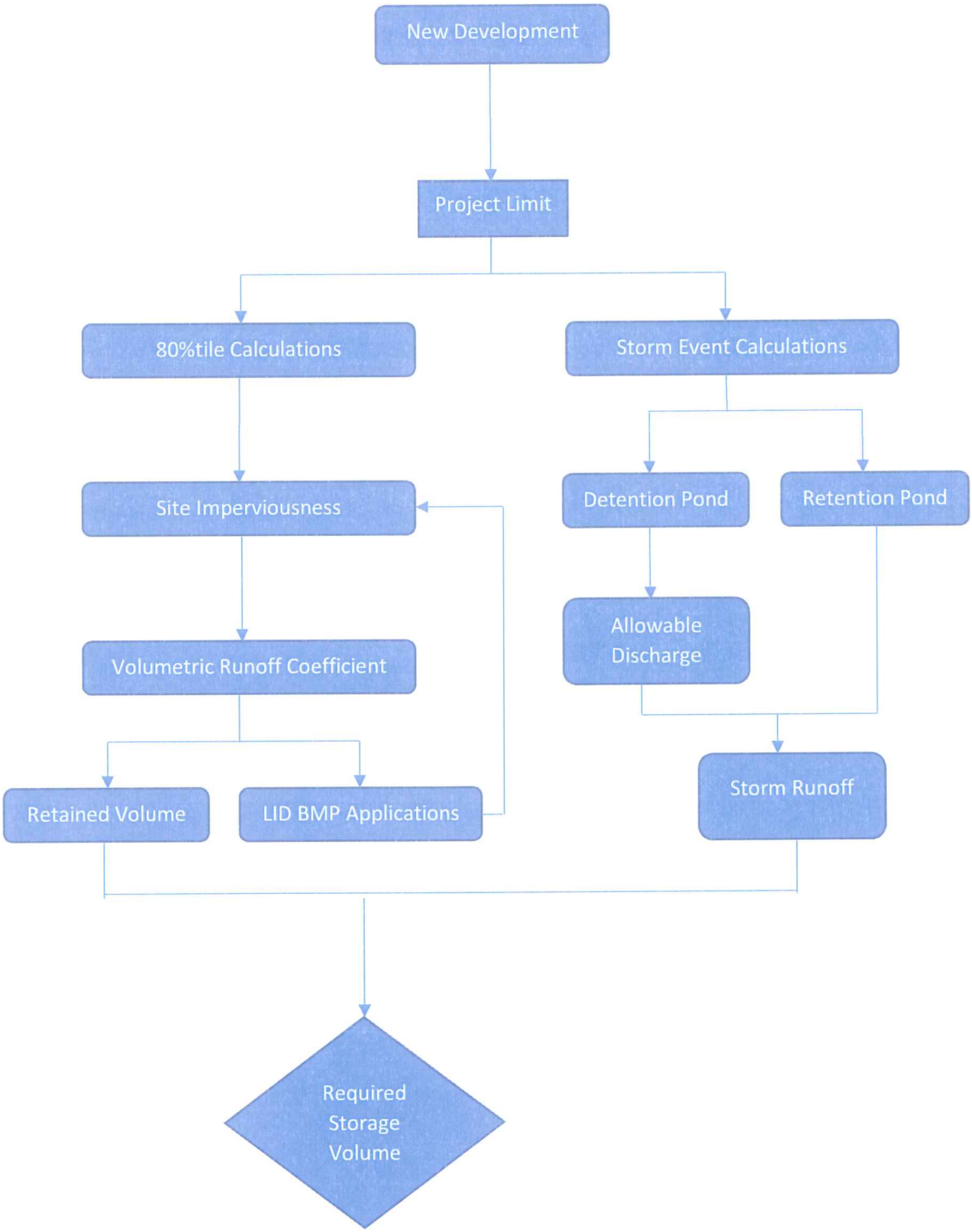
$$V_{80} = R_V \cdot d_{80} \cdot A$$

Where,

V_{80} – 80th Percentile Volume, cf

d_{80} – 80th Percentile Precipitation Depth, ft

Figure 3-1 Design Process Flowchart for New Development



CHAPTER 4 RE-DEVELOPMENT HYDROLOGY CALCULATIONS

If a redevelopment project increases the impervious surface by greater than 10%, the project shall manage rainfall on-site, and prevent the off-site discharge of the net increase in the volume associated with the precipitation from all rainfall events less than or equal to the 80th percentile rainfall event. Refer to Figure 4-1 Design Flowchart for Re-Development.

4.1 80th Percentile Volume

1. Percentile Precipitation Depth

   80th Percentile: **0.6** inches

2. Calculation Steps:

   a. Long-term daily rainfall data was obtained from National Oceanic and Atmospheric Administration (NOAA): https://www.ncdc.noaa.gov/cdo-web/datatools/selectlocation.

   b. South Salt Lake City data was selected and downloaded in .csv

   c. Data was sorted "low to high"

   d. Small precipitation events (< 0.1 inch) were deleted

   e. 80th Percentile Precipitation Depth was calculated

4.2 Calculations

1. Imperviousness

$$\%\ Existing\ Impervious\ Area = \frac{Existing\ Impervious\ Area}{Parcel\ Area}$$

$$\%\ Redevelopment\ Impervious\ Area = \frac{New\ Impervious\ Area + Existing\ Impervious\ Area}{Parcel\ Area}$$

$$\%\ Increase = \frac{\%\ Redevelopment\ Impervious\ Area - \%\ Existing\ Impervious\ Area}{\%\ Existing\ Impervious\ Area}$$

2. Volumetric Runoff Coefficient

$$R_V = \frac{V_R}{V_P}$$

Where,

R_V – Volumetric Runoff Coefficient

V_R – Measured Runoff Volume, cf

V_P – Total Precipitation Volume, cf

$$V_P = \frac{d_{80} \cdot A}{12}$$

d_{80} – 80th Percentile Precipitation Depth, in

A – Parcel Area, sf

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$$V_{80} = R_V \cdot d_{80} \cdot A$$

Where,

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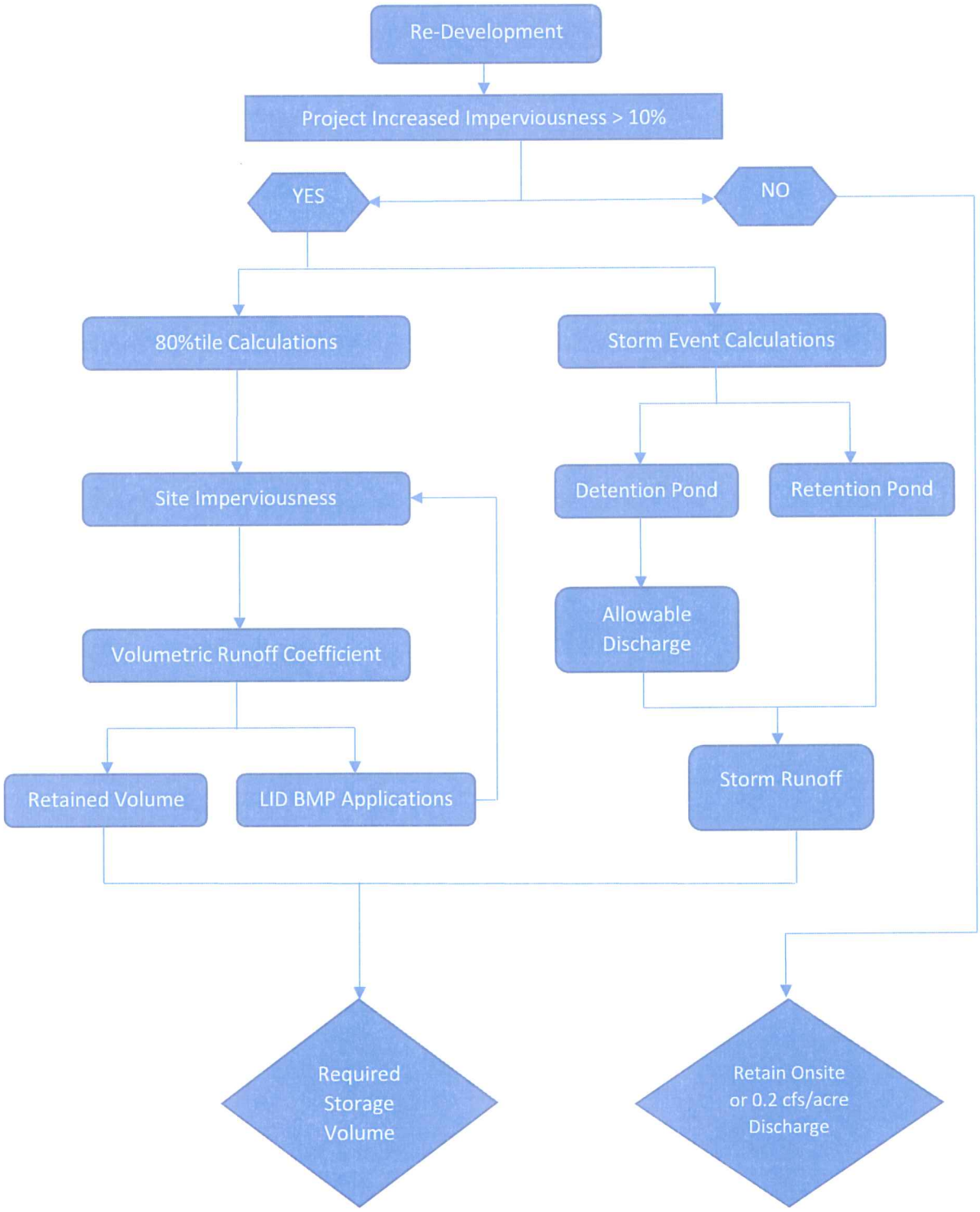
Figure 4-1 Design Flowchart for Re-Development



CHAPTER 5 HYDROLOGY DESIGN

5.1 Methods

The City of South Salt Lake allows Rational Method and SCS Curve Number Method (NRCS TR-55 Hydrology Design Method) for the design of hydrology system.

5.2 Storm Event

The City of South Salt Lake requires 100 years 24 hours storm event for the new development/re-development hydrology calculations. For roadway hydrology design, refer to CHAPTER 6.

Table 5-1 South Salt Lake City 24-hr Storm Event Intensity Rate

Interval (min)	Intensity Rate (in/hr)			
	10-year*	25-year*	50-year*	100-year
5	3.2	4.26	5.26	6.34
15	2.01	2.68	3.30	4.05
30	1.35	1.80	2.22	2.72
60	0.838	1.11	1.38	1.68
120	0.492	0.638	0.772	0.92
180	0.356	0.447	0.529	0.62
720	0.133	0.158	0.179	0.2
1440	0.077	0.089	0.099	0.1

*: For roadway hydrology design use only.

5.3 Allowable Discharge

The City of South Salt Lake allows 0.2 cfs/acre discharge to City stormdrain system.

5.4 Rational Method Calculation

1. Rational Equation

$$Q = C \cdot I \cdot A$$

Where,

Q – Peak flow (ft^3/s);

C – Run-off coefficient (Table 5-2);

$$C_{weighted} = \sum C_i \cdot A_i / A_{total}$$

I – Storm intensity (in/hr), from *Table 5-1*;

A – Drainage Area (acres).

Run-off coefficient:

Table 5-2 Runoff Coefficient

	Run-off Coefficient, C
Hardscape, parking	0.9
Buildings	0.85
Landscape	0.15

5.5 NRCS Curve Number Method

$$Q = \frac{(P - 0.2 \cdot S)^2}{(P + 0.8 \cdot S)}$$

$$S = \frac{1000}{CN} - 10$$

Q, P, S typically units of inches.

Where,

Q – Run off (inches);

P – Precipitation (inches);

S – Potential maximum retention after runoff begins;

CN – Curve Number (Table 5-3)

Table 5-3 Runoff Curve Numbers for Urban Areas

Cover description		**Curve numbers for hydrologic soil group**			
Cover type and hydrologic condition	*average %impervious area*	*A*	*B*	*C*	*D*
Fully developed urban areas					
Open space (lawns, parks, golf courses, cemeteries, etc.)					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas					
Paved parking lots, roofs, driveways, etc.		98	98	98	98
Streets and roads					

Paved; curbs and storm sewers (excluding ROW)		98	98	98	98
Paved; open ditches (including ROW)		83	89	92	93
Gravel (including ROW)		76	85	89	91
Dirt (including ROW)		72	82	87	89
Western desert urban area:					
Natural desert landscaping (pervious areas only)		63	77	85	88
artificial desert landscaping		96	96	96	96
Urban districts					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
Developing urban areas					
Newly graded areas (pervious areas only, no vegetation)		77	86	91	94

CHAPTER 6 RIGHT-OF-WAY DRAINAGE SYSTEM

6.1 Catch Basins, Inlet Boxes, and Manholes

The City of South Salt Lake does not allow open-hooded inlet boxes in City's Right-of-way. Refer to the City of South Salt Lake Engineering Supplementary Plans for catch basins and inlet boxes standard drawings.

The City of South Salt Lake follows the latest version of Standard Plans published by the Utah Chapter of American Public Works Association for storm drain manholes.

Refer to Table 6-1 for maximum spacing of catch basins and manholes.

Table 6-1 Maximum Spacing of Catch Basins and Manholes

Size of Pipe (inches)	Maximum Spacing (ft)
15	200
18-24	300
27-36	400
42	500

6.2 Storm Drain Pipe Design

Manning's equation shall be used for the calculation of storm drain pipe diameter, reference to Chapter 7. However, a minimal diameter of 18 inches shall be used for main lines, and a minimal diameter of 15 inches shall be for laterals. The pipe materials shall be Class III RCP. Type C900/C905 may only be acceptable with the written approval from the City Engineer.

Installation shall comply with the latest version of Standard Specifications published by the Utah Chapter of American Public Works Association.

The minimum longitudinal pipe slope shall be 0.3%, while a minimum flow velocity of 2 ft/s or 3 ft/s when flowing full shall be provided.

The design capacity shall be sufficient so that stormwater does not flow under pressure. And the HGL shall be at least 1 ft below the top of grate for the Design Check Event, except the system downstream from a major sag can sustain flow under pressure for the 50-year storm event.

6.3 Roadway Hydrology Design Criteria

1. Design frequency.

Storm event data refer to CHAPTER 5. The Design Check Event shall be used to evaluate flood risks to the roadway and adjacent properties. The roadway hydrology design frequency requirements as shown in Table 6-2.

Table 6-2 Roadway Hydrology Design Frequency Requirement

Roadway Functional Class	Design Frequency	Design Check Event	Storm Drainage System Characteristics
Arterial, Collector	10-year	50-year	
	25-year	50-year	Major sag locations, including all downstream drainage features
Local	10-year	50-year	

2. Maximum Stormwater Spread Width

Inlet boxes shall be provided along the roadway to meet the spread requirements as shown in Table 6-3.

Table 6-3 Maximum Stormwater Spread Width

Roadway Characteristic	Maximum Stormwater Spread Width
Posted Speed < 45 mph	Shoulder + 3 ft
Posted Speed ≥ 45 mph	Shoulder only
Major Sag	Shoulder + 3 ft
Bridge Deck*	Shoulder Only
No Shoulder	3 ft

*: Refer to UDOT Drainage Manual of Instruction.

CHAPTER 7 OPEN CHANNELS

7.1 Types

Open channel flows may not occur in South Salt Lake City Right-of-way. However, flow patterns in detention/retention ponds or low impact developments can be treated as open channel flows. Some common types are: triangular or trapezoidal bioswales and rain gardens, trapezoidal detention/retention ponds.

7.2 Calculations

Manning's Equation

$$v = \frac{1.49}{n} \cdot R^{2/3} \cdot S^{1/2}$$

$$Q = v \cdot A$$

Where,

Q – Flow (ft^3/s);

v – Velocity (ft/s);

n – Manning's Coefficient (Appendix B);

R – Hydraulic Radius (ft)

S – Channel slope for uniform flow (ft/ft)

A – Flow area (ft^2)

Hydraulic Radius

$$R = \frac{Flow\ area}{Wetted\ perimeter} = \frac{A}{P}$$

Appendix A

Post Construction BMPs

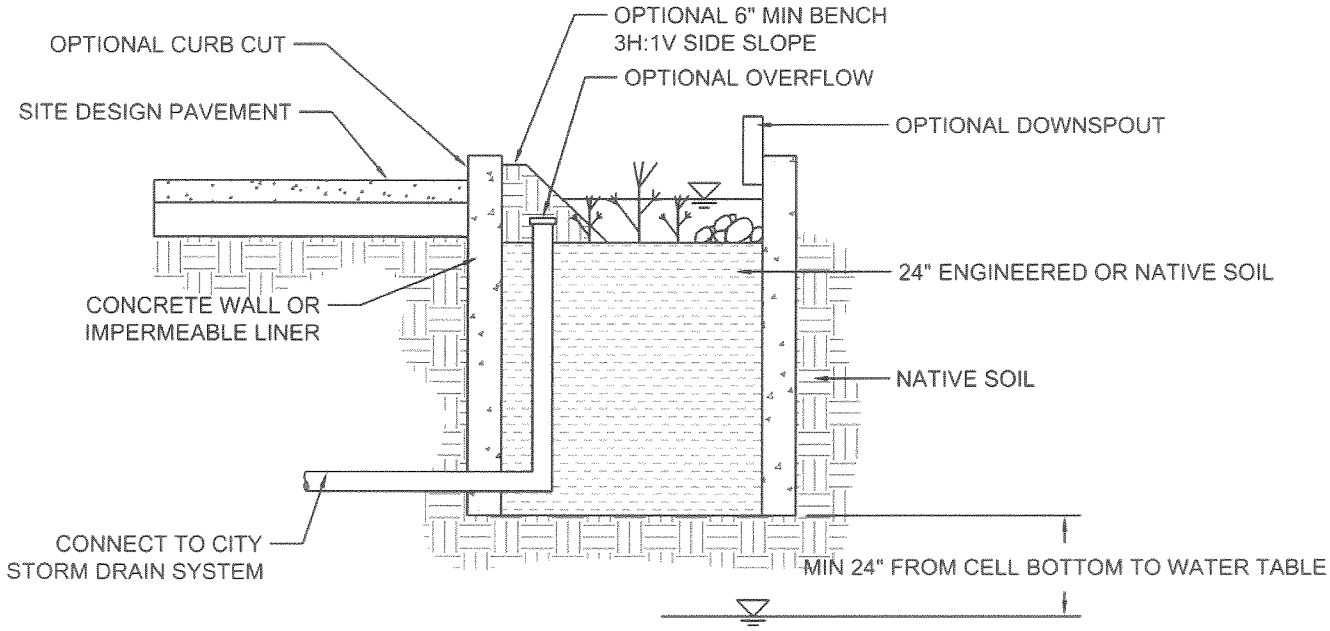
Sheet BR – Bioretention Cell

Sheet BS – Bioswale

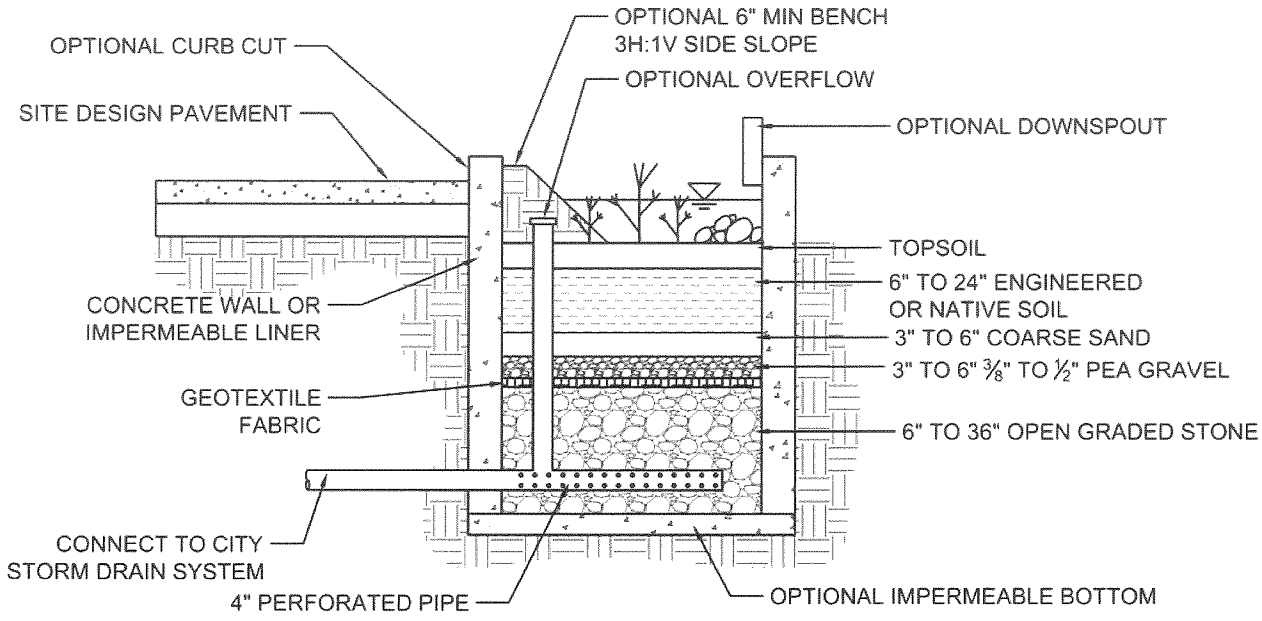
Sheet RG – Rain Garden

Sheet TB – Tree Box Filters

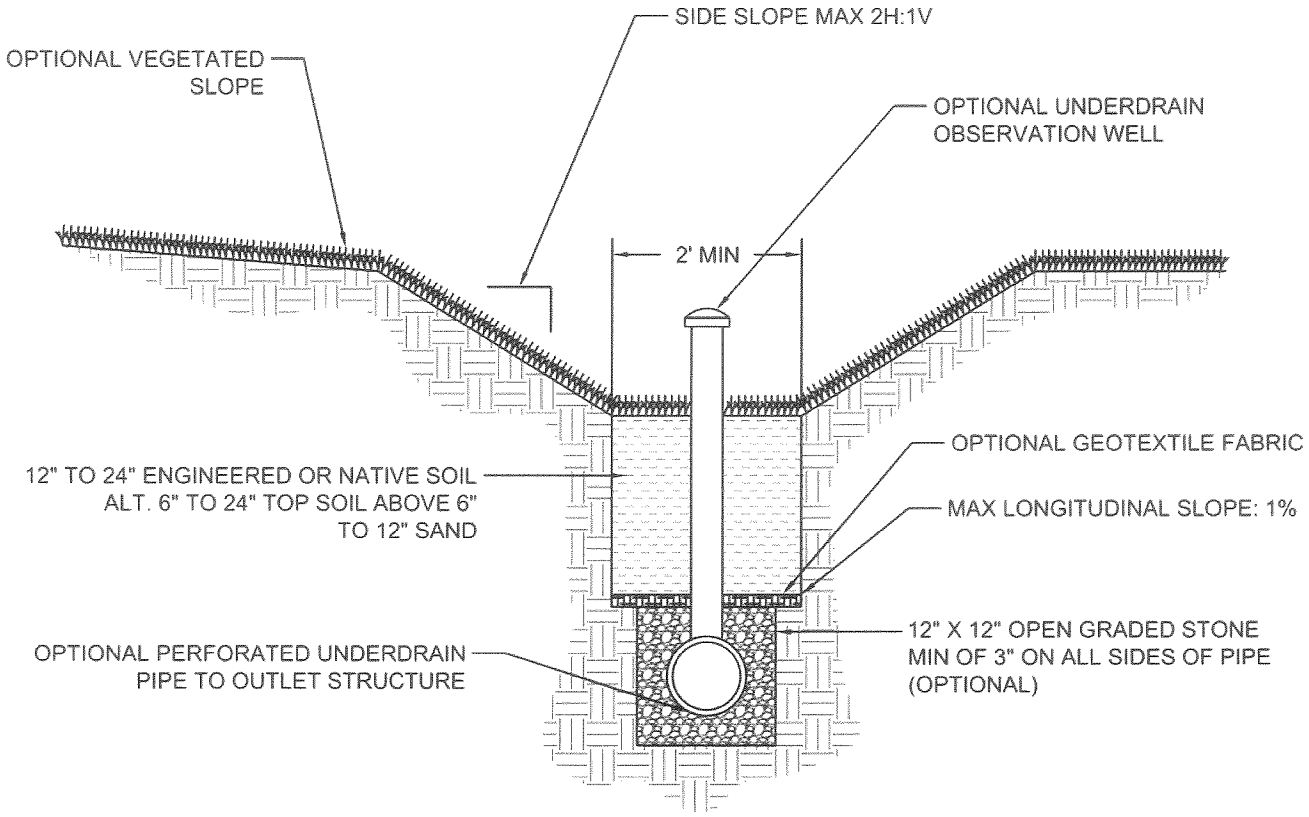
Sheet VS – Vegetated Strips



BIORETENTION CELL IN NATIVE OR ENGINEERED SOILS



BIORETENTION CELL WITH UNDERDRAIN SYSTEM



BIOSWALE

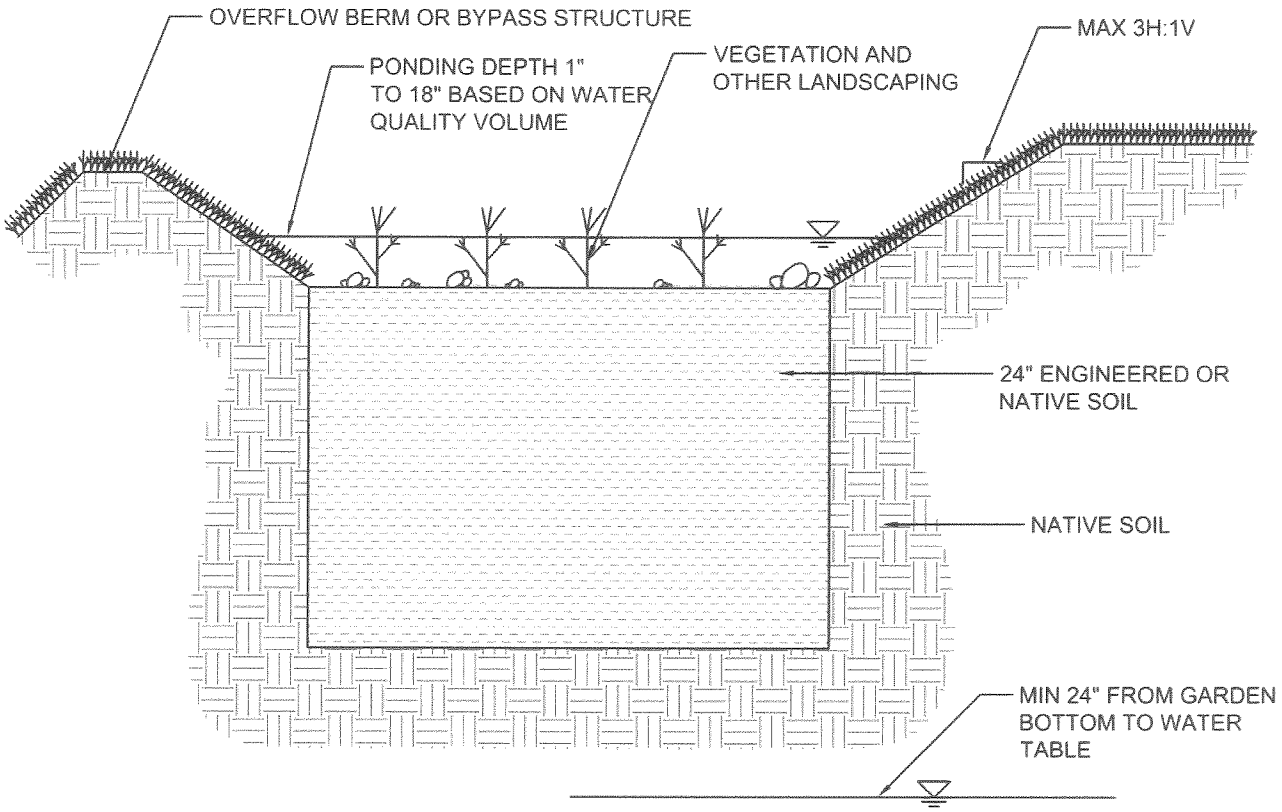
SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

CITY OF SOUTH SALT LAKE
POST CONSTRUCTION BMPS

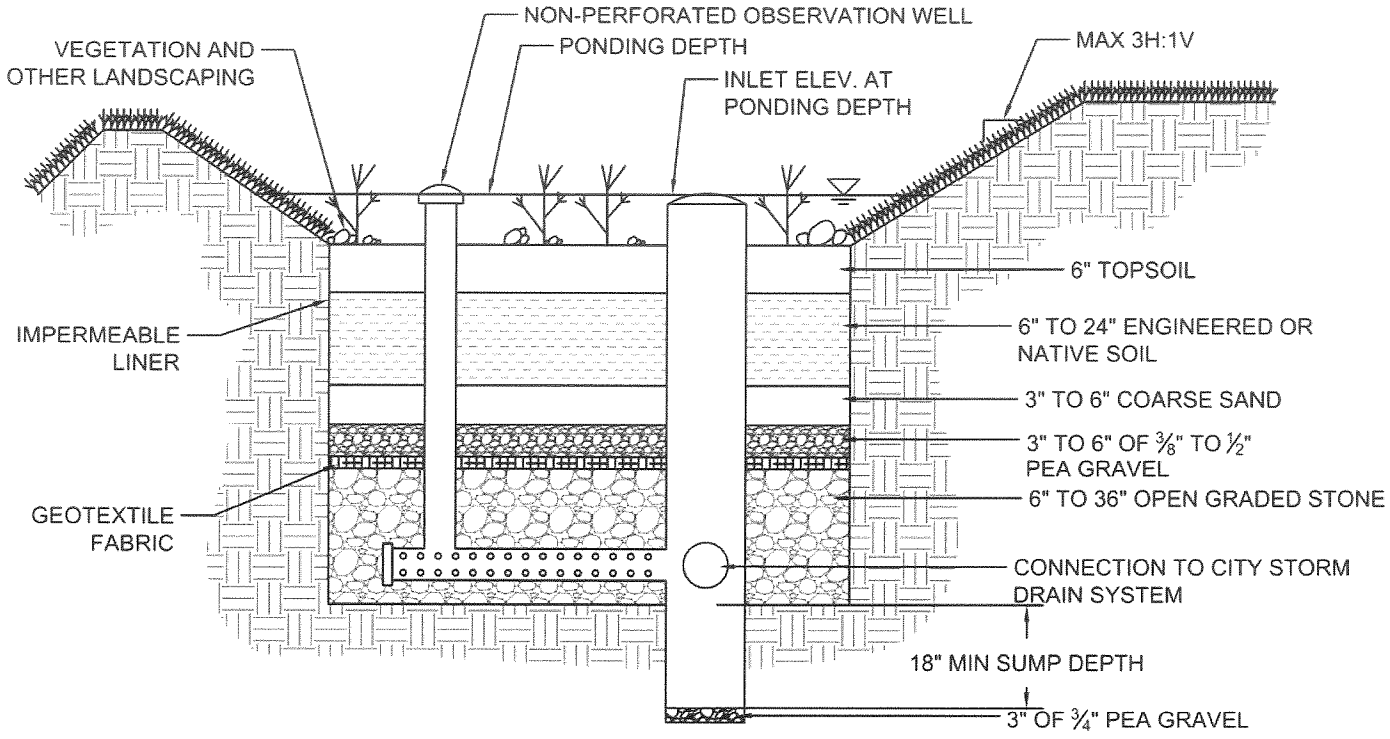
BIOSWALE

SHEET BS

DATE JULY, 2020

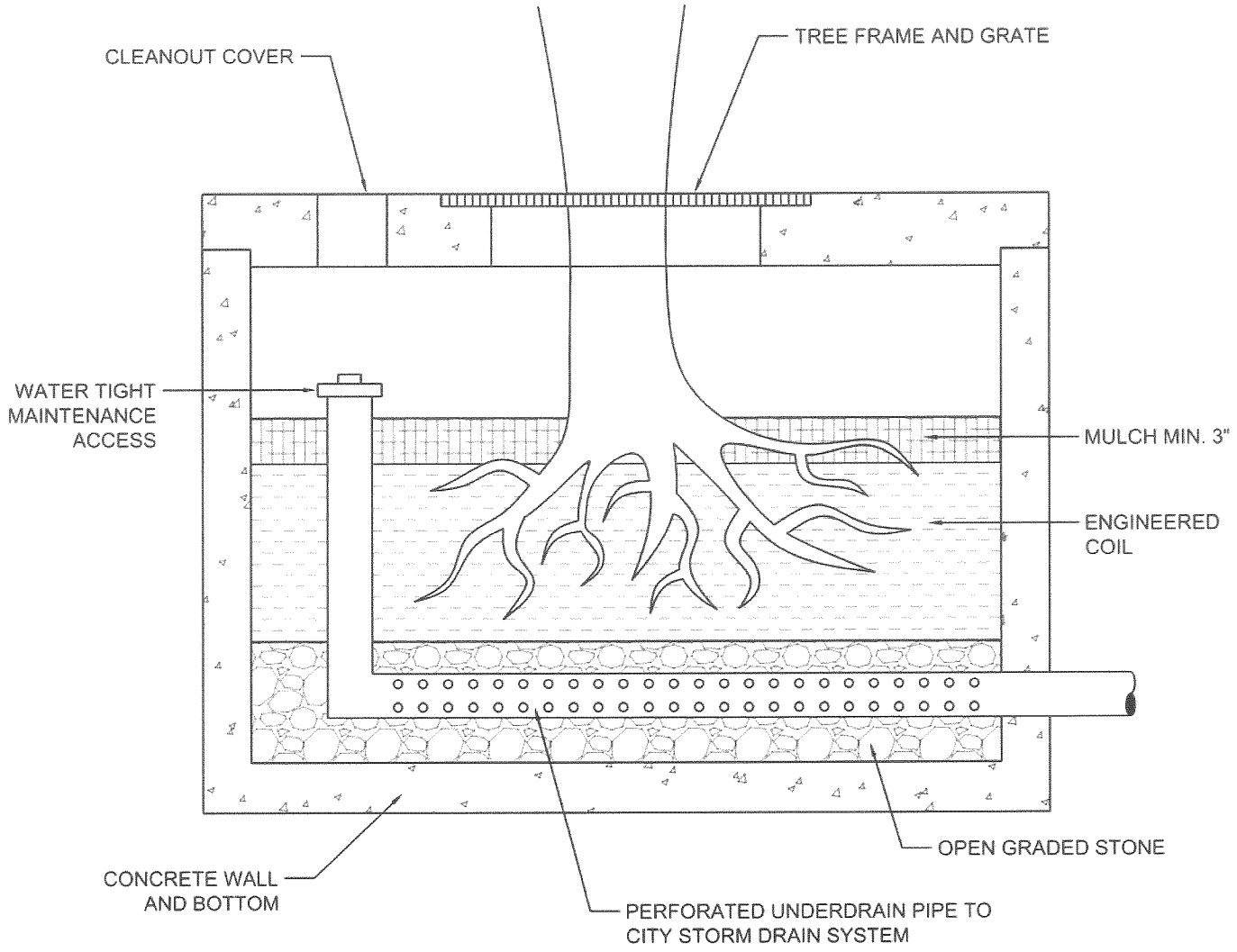


RAIN GARDEN IN NATIVE OR ENGINEERED SOILS



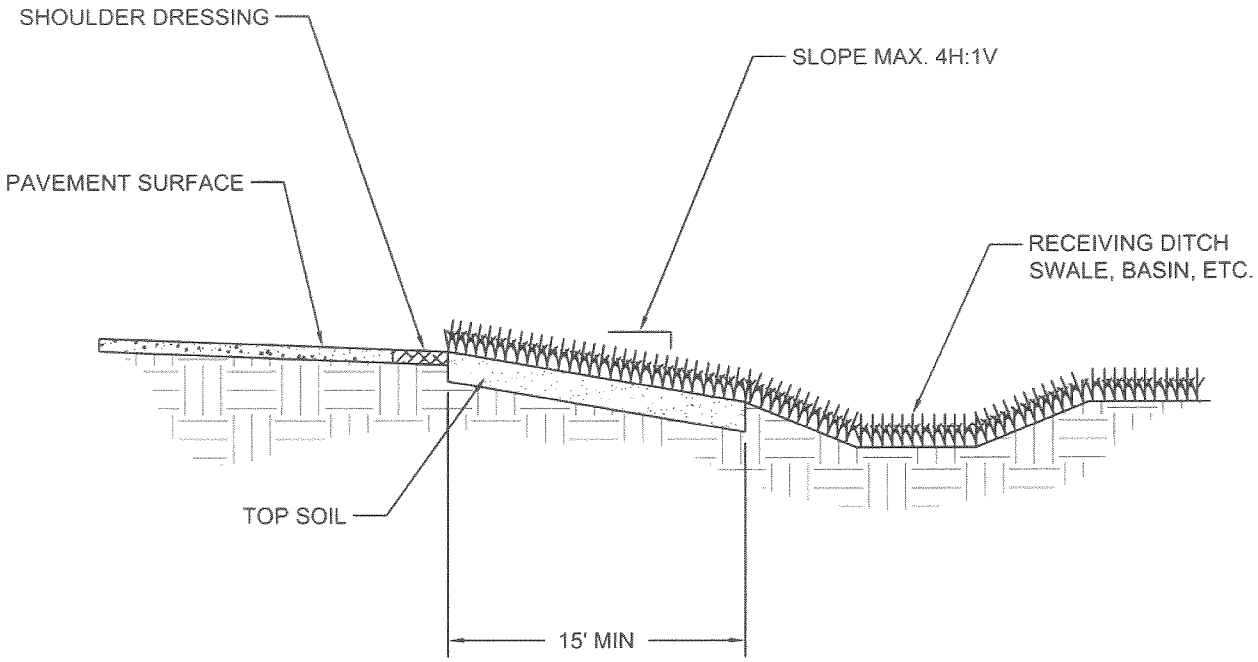
RAIN GARDEN WITH UNDERDRAIN SYSTEM

SOUTH SALT LAKE ENGINEERING DEPARTMENT 220 E MORRIS AVENUE SOUTH SALT LAKE, UTAH 84115	CITY OF SOUTH SALT LAKE POST CONSTRUCTION BMPS	RAIN GARDEN	SHEET RG DATE JULY, 2020



TREE BOX FILTERS

SOUTH SALT LAKE ENGINEERING DEPARTMENT 220 E MORRIS AVENUE SOUTH SALT LAKE, UTAH 84115	CITY OF SOUTH SALT LAKE POST CONSTRUCTION BMPS	TREE BOX FILTERS	SHEET TB DATE JULY, 2020



VEGETATED STRIPS

Appendix B

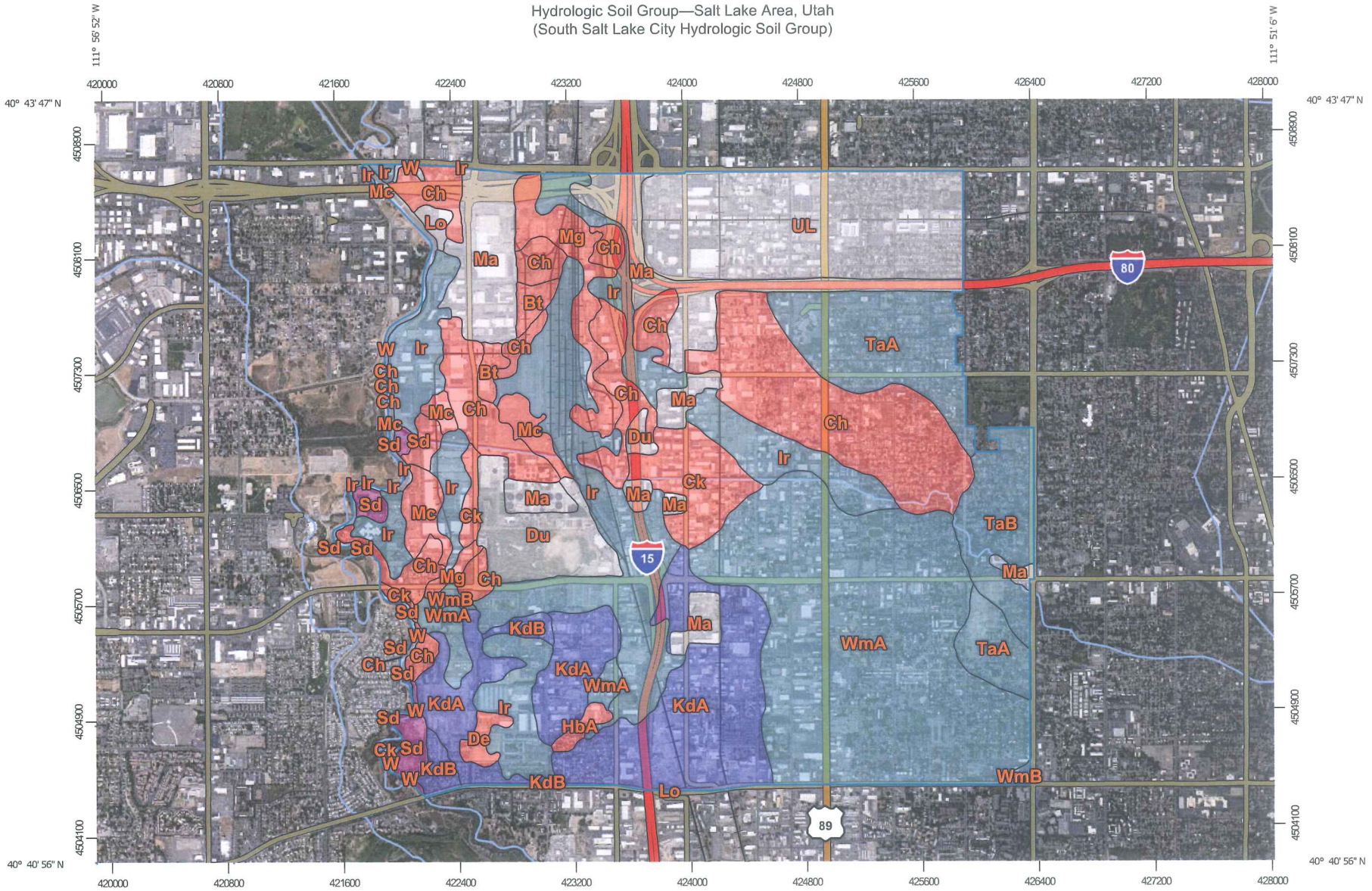
Manning's Coefficient

Channel material	n
Plastic (PVC and ABS)	0.009
Clean, uncoated cast iron	0.014
Clean, coated cast iron	0.013
Dirty, tuberculate cast iron	0.025
Riveted steel	0.016
Lock-ar and welded steel pipe	0.012
Galvanized iron	0.016
Brass and glass	0.011
Wood stave	
small diameter	0.011
large diameter	0.012
Concrete	
average value used	0.013
typical commercial, ball and spigot, rubber gasketed end connections	
full (pressurized and wet)	0.01
partially full	0.0085
with rough joints	0.0165
dry mix, ough forms	0.0155
wet mix, steel forms	0.013
very smooth, finished	0.0115
Vitrified sewer	0.014
Common-clay drainage tile	0.013
Asbestos	0.011
Planed timber (flume)	0.012
Canvas	0.012
Unplaned timber (flume)	0.013
Brick	0.016
Rubble masonry	0.017
Smooth earth	0.018
Firm gravel	0.023
Corrugated metal pipe (CMP)	0.0275
Natural channels, good condition	0.025
Rip rap	0.035
Natural channels with stones and weeds	0.035
Very poor natural channels	0.06

Appendix C

NRCS South Salt Lake City Hydrologic Soil Group

Hydrologic Soil Group—Salt Lake Area, Utah
(South Salt Lake City Hydrologic Soil Group)



Map Scale: 1:37,100 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 500 1000 2000 3000

Feet
0 1500 3000 6000 9000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Salt Lake Area, Utah
Survey Area Data: Version 13, Jun 8, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 5, 2018—Sep 14, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Bt	Bramwell silty clay loam, hardpan variant	D	30.2	0.7%
Ch	Chipman silty clay loam, 0 to 1 percent slopes	D	622.0	14.0%
Ck	Chipman silty clay loam, saline, sodic, 0 to 1 percent slopes	D	124.6	2.8%
De	Deckerman fine sandy loam, 0 to 1 percent slopes	D	17.2	0.4%
Du	Dumps		133.7	3.0%
HbA	Harrisville silt loam, 0 to 1 percent slopes	D	13.0	0.3%
Ir	Lewiston loam, 0 to 1 percent slopes	C	720.0	16.2%
KdA	Kidman very fine sandy loam, 0 to 1 percent slopes	B	475.2	10.7%
KdB	Kidman very fine sandy loam, 1 to 3 percent slopes	B	34.6	0.8%
Lo	Loamy borrow pits		10.7	0.2%
Ma	Made land		346.6	7.8%
Mc	Magna silty clay, 0 to 1 percent slopes	D	71.0	1.6%
Mg	Magna silty clay, peaty surface	D	98.9	2.2%
Sd	Sandy alluvial lands	A	42.2	0.9%
TaA	Taylorsville silty clay loam, 0 to 1 percent slopes	C	267.8	6.0%
TaB	Taylorsville silty clay loam, 1 to 3 percent slopes	C	134.3	3.0%
UL	Urban land		405.6	9.1%
W	Water		41.8	0.9%
WmA	Welby silt loam, 0 to 1 percent slopes	C	837.7	18.9%
WmB	Welby silt loam, 1 to 3 percent slopes	C	13.1	0.3%
Totals for Area of Interest			**4,440.4**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

City of South Salt Lake

Supplementary

Standard Plans

2018

SOUTH SALT LAKE

Revised Sept. 1, 2020

PREFACE

The City of South Salt Lake has adoped the latest edition of the APWA Manual of Standard Plans as its engineering standard for development and construction. However, in certain conditions the APWA Standard Plans do not adequately represent the City's engineering requirements. To this end the City has developed this supplementary standard. All plans in this supplementary manual replace the corresponding plans in the APWA Manual of Standard Plans. Any questions concerning the use of the supplementary drawings should be directed to the South Salt Lake City Engineering Department.

Table of Contents

PART 1 – GENERAL REQUIREMENT

Stormwater Best Management Practices (BMPs)

PART 2 – ROADWAY

Curb, Gutter, Driveway, Sidewalk

Roadways

PART 3 – STORM DRAIN

Catch Basins, Inlets, Outlets and hardware

PART 4 – SANITARY SEWER

PART 5 – WATER SYSTEMS

PART 6 – IRRIGATION AND LANDSCAPING

Planting

PART 7 – LIGHTING, TRAFFIC CONTROL

Street Lighting

Traffic Calming

PART 8 – GENERAL FACILITIES

PART 9 – STREET

Street Sections

PART 1

GENERAL REQUIREMENT

Rain garden

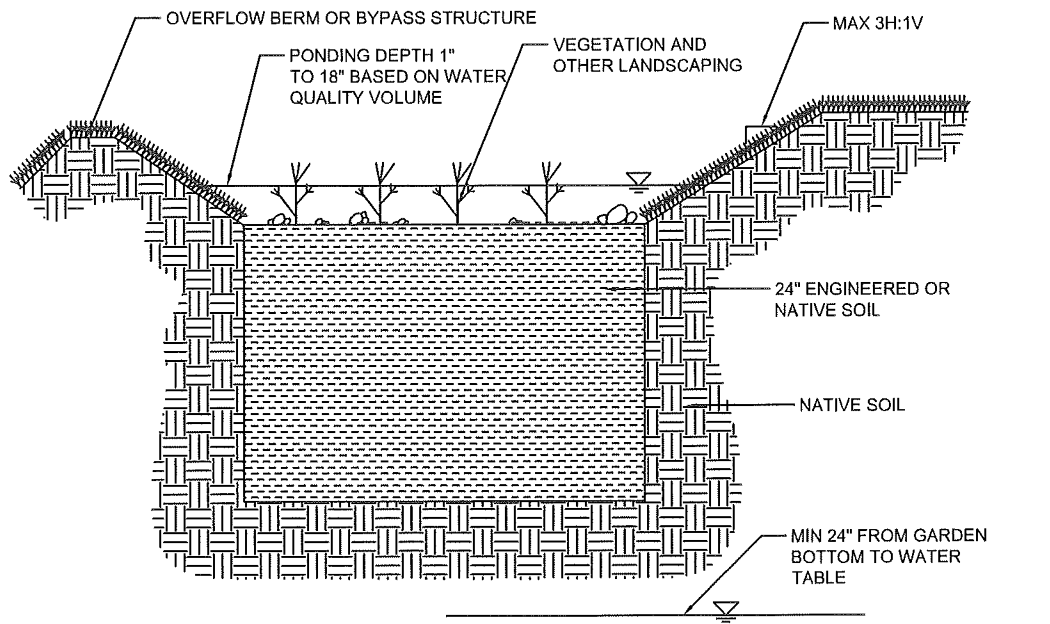
1. GENERAL
   A. The drawing is a typical arrangement. Construction varies according to the architectural and engineering design.
   B. Variance from specified dimensions and slopes must be acceptable to the ENGINEER. System configuration may be changed at ENGINEER's discretion.
   C. Additional requirements are specified in South Salt Lake City Stormwater Design Manual.

2. PRODUCTS
   A. Geotextile fabric: APWA Section 31 05 21.

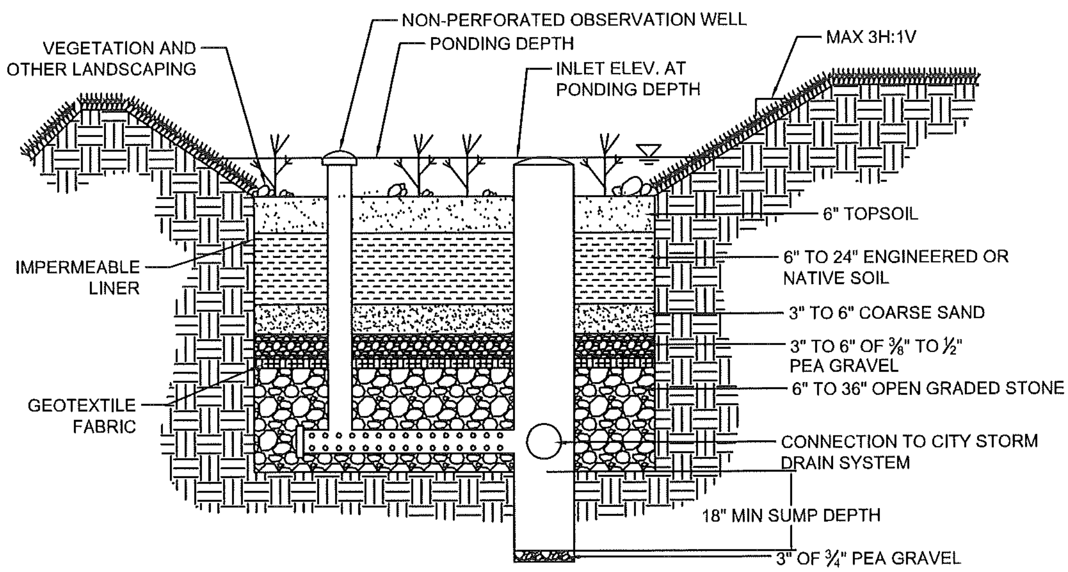
3. EXECUTION (Not used)

SSL Plan 131

SHEET 131
DATE SEPTEMBER 2020
RAIN GARDEN
CITY OF SOUTH SALT LAKE STANDARD DRAWINGS
SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115
DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE SEPT. 18TH 2020
NO | AUTHORIZED BY | REVISION | MADE BY | DATE



RAIN GARDEN IN NATIVE OR ENGINEERED SOILS



RAIN GARDEN WITH UNDERDRAIN SYSTEM

Rain garden

SHEET 131
DATE SEPTEMBER, 2020
RAIN GARDEN
CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS
SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY	LINGKUN LI
CHECKED BY	
SCALE	
DATE	SEPT. 10TH 2020

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE

Bioretention cell

1. GENERAL
   A. The drawing is a typical arrangement. Construction varies according to the architectural and engineering design.
   B. Variance from specified dimensions and slopes must be acceptable to the ENGINEER. System configuration may be changed at ENGINEER's discretion.
   C. Additional requirements are specified in South Salt Lake City Stormwater Design Manual.

2. PRODUCTS
   A. Geotextile fabric: APWA Section 31 05 21.
   B. Concrete: Class 4000, APWA Section 03 30 04.

3. EXECUTION (Not used)

SSL Plan 132

SHEET 132
DATE SEPTEMBER 2020

BIORETENTION CELL

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGXUN LI
CHECKED BY
SCALE
DATE SEPT. 15TH, 2020

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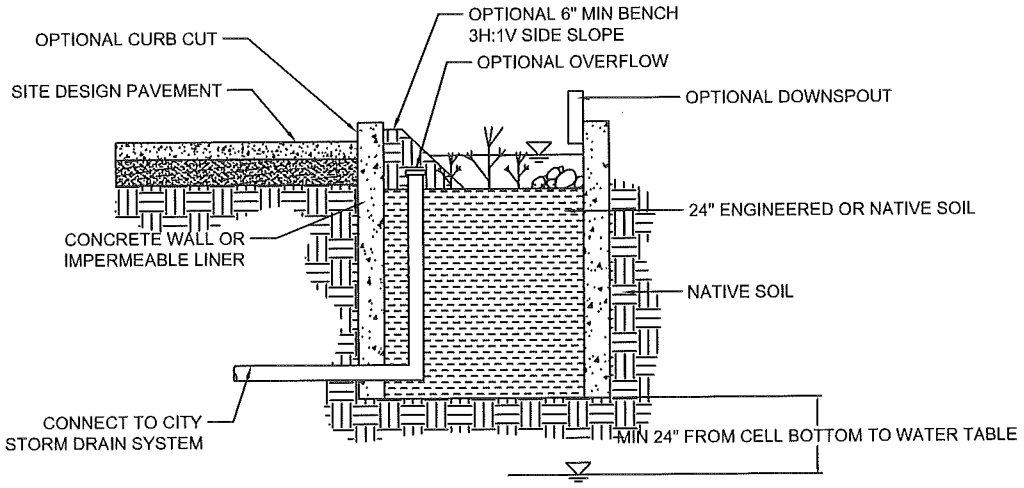
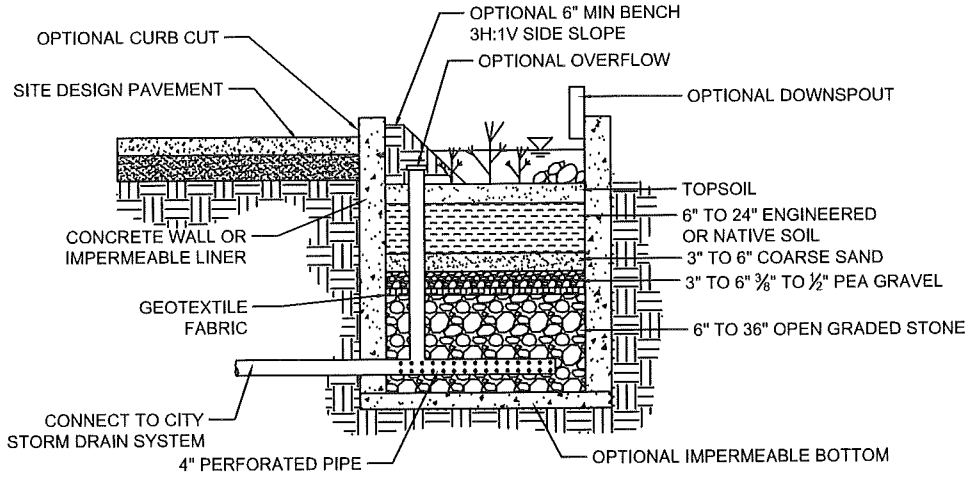


BIORETENTION CELL IN NATIVE OR ENGINEERED SOILS



BIORETENTION CELL WITH UNDERDRAIN SYSTEM

Bioretention Cell

SHEET 132
DATE SEPTEMBER, 2020

BIORETENTION CELL

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE SEPT. 10TH 2020

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE

Bioswale

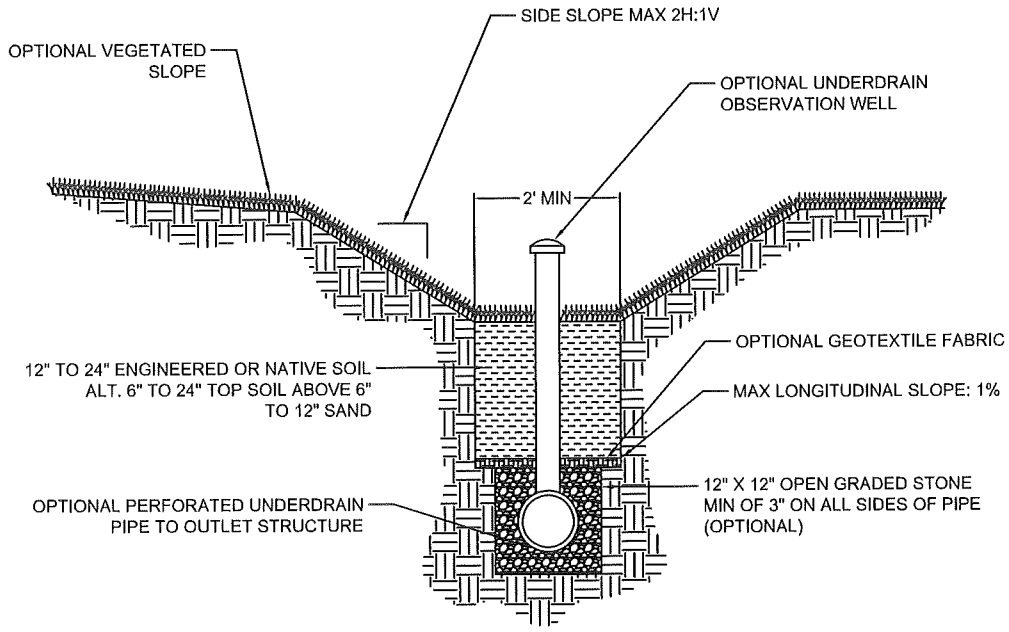
1. GENERAL
   A. The drawing is a typical arrangement. Construction varies according to the architectural and engineering design.
   B. Variance from specified dimensions and slopes must be acceptable to the ENGINEER. System configuration may be changed at ENGINEER's discretion.
   C. Additional requirements are specified in South Salt Lake City Stormwater Design Manual.

2. PRODUCTS (Not used)

3. EXECUTION (Not used)

SSL Plan 133

SHEET 133
DATE SEPTEMBER 2020
BIOSWALE
CITY OF SOUTH SALT LAKE STANDARD DRAWINGS
SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E NORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115
DRAWN BY UNKNOWN
CHECKED BY
SCALE
DATE SEPT. 10TH 2020
NO. | AUTHORIZED BY | REVISION | MADE BY | DATE



BIOSWALE

Bioswale

SHEET 133
DATE SEPTEMBER, 2020

BIOSWALE

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGXUAN LI
CHECKED BY
SCALE
DATE SEPT. 10TH 2020

NO	AUTHORIZED BY	REVISION	MADE BY	DATE
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Vegetated strip

1. GENERAL
   A. The drawing is a typical arrangement. Construction varies according to the architectural and engineering design.
   B. Variance from specified dimensions and slopes must be acceptable to the ENGINEER. System configuration may be changed at ENGINEER's discretion.
   C. Additional requirements are specified in South Salt Lake City Stormwater Design Manual.

2. PRODUCTS (Not used)

3. EXECUTION (Not used)

SSL Plan 134

SHEET 134
DATE SEPTEMBER 2020

VEGETATED STRIP

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGRUN LI
CHECKED BY
SCALE
DATE SEPT. 10TH 2020

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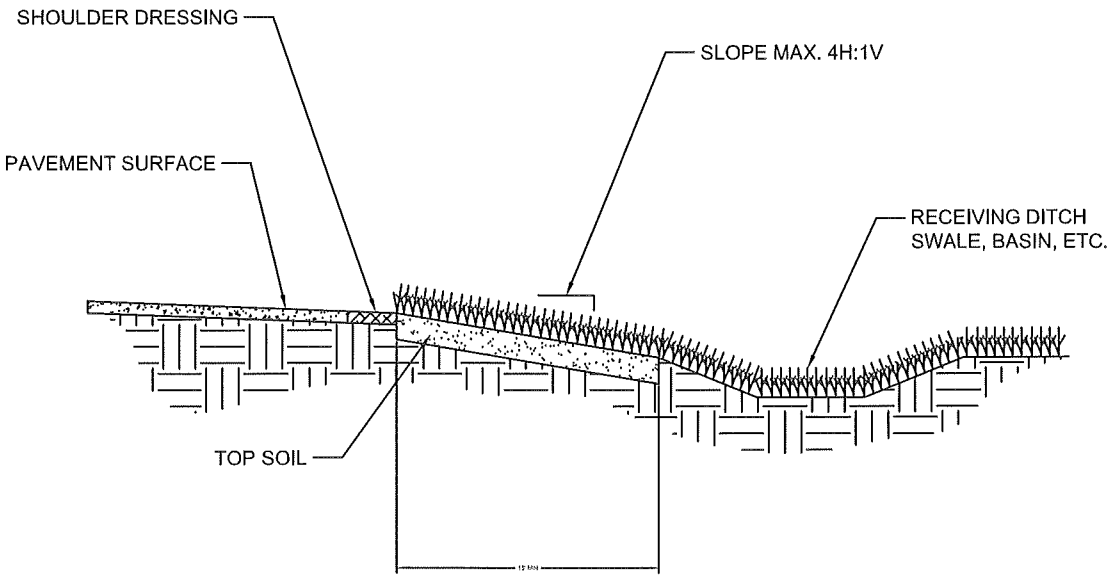

VEGETATED STRIP

Vegetated strip

SHEET 134
DATE SEPTEMBER, 2020

VEGETATED STRIP

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE SEPT. 10TH 2020

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
1				
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Tree box filters

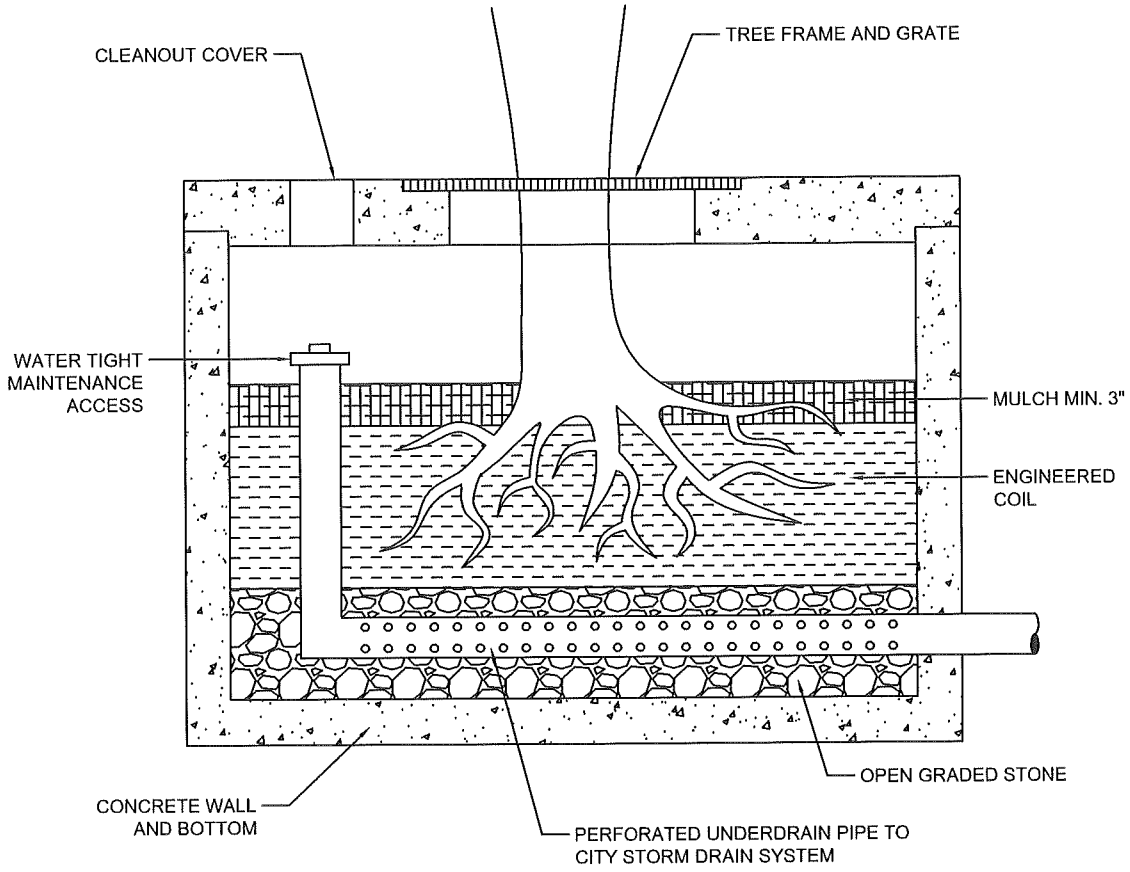
1. GENERAL
   A. The drawing is a typical arrangement. Construction varies according to the architectural and engineering design.
   B. Variance from specified dimensions and slopes must be acceptable to the ENGINEER. System configuration may be changed at ENGINEER's discretion.
   C. Additional requirements are specified in South Salt Lake City Stormwater Design Manual.

2. PRODUCTS
   A. Tree Frame and Grate: Traffic rated.

3. EXECUTION (Not used)

SSL Plan 135

SHEET 135
DATE SEPTEMBER 2020
TREE BOX FILTERS
CITY OF SOUTH SALT LAKE STANDARD DRAWINGS
SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115
DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE SEPT. 16TH 2020
NO. AUTHORIZED BY REVISION MADE BY DATE



TREE BOX FILTERS

Tree box filters

SHEET 135
DATE SEPTEMBER, 2020

TREE BOX FILTERS

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE SEPT. 15TH 2020

NO	AUTHORIZED BY	REVISION	MADE BY	DATE
1				
2				
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PART 2

ROADWAY

Curb and gutter

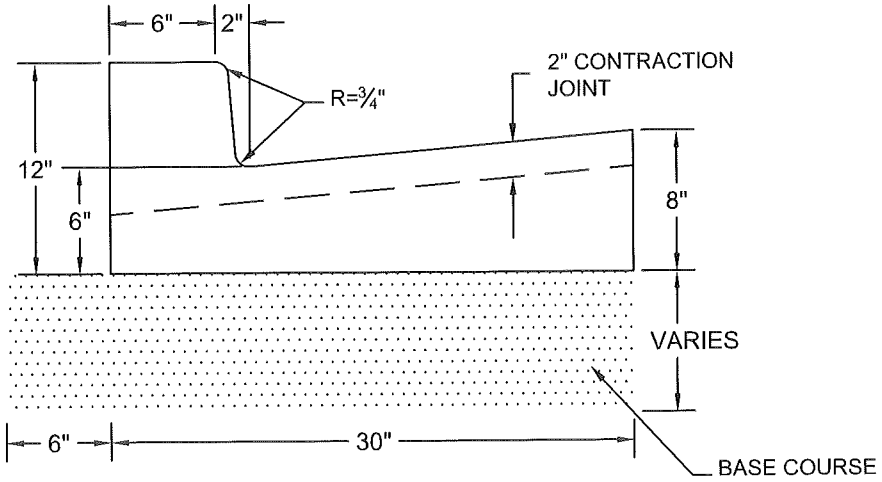
1. GENERAL
   A. Variance from specified dimensions and slopes must be acceptable to the ENGINEER. System configuration may be changed at ENGINEER's discretion.
   B. Additional requirements are specified in APWA Section 32 16 13.

2. PRODUCTS
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Expansion Joint Filler: 1/2-inch thick type F1 full depth, APWA Section 32 13 73.
   C. Concrete: Class 4000, APWA Section 03 30 04. If necessary, provide concrete that achieves design strength in less than 7 days. Use caution; however, as concrete crazing (spider cracks) may develop if air temperature exceeds 90 degrees F.
   D. Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00.

3. EXECUTION
   A. Base Course Placement: APWA Section 32 05 10. Thickness is 6-inches if flow-line grade is 0.5 percent (s=0.005) or greater. If slope is less, provide 8-inches. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   B. Concrete Placement: APWA Section 03 30 10.
      1) Install expansion joints vertical, full depth, with top of filler set flush with concrete surface. Install at the start or end of a street intersection curb return. Expansion joints are not required in concrete placement using slip-form construction.
      2) Install contraction joints vertical, 1/8-inch wide or 1/4 slab thickness if the slab is greater than 8-inches thick. Match joint location in adjacent Portland-cement concrete roadway pavement.
      3) Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
   C. Protection and Repair: Protect concrete from deicing chemicals during cure. Repair construction that does not drain. If necessary, fill flow-line with water to verify.

SSL Plan 205.1

BACKFILL BEHIND CURB BEFORE
PAVING AGAINST LIP OF GUTTER

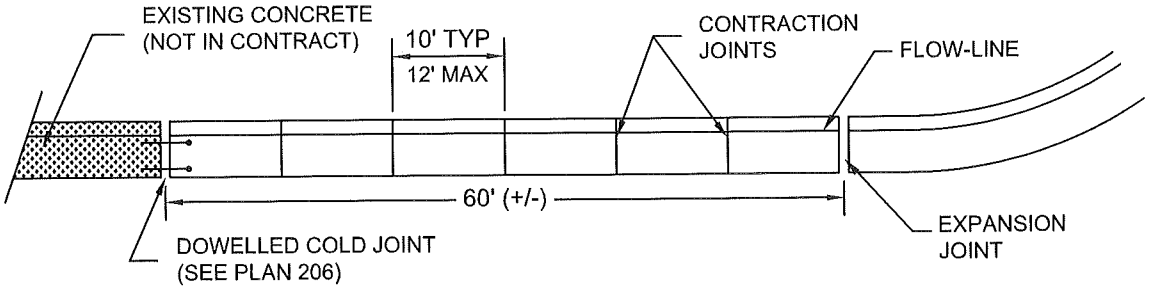


CONCRETE AREA = 1.7 SQ. FT.

Type A

Notes:

1. APWA Type B, C, D, E, F, G, H, or HB30-7 Curb and Gutter may be used where applicable and only if approved by City Engineer.



JOINT DETAIL

Curb and gutter

This drawing replaces
APWA Plan 205.1
August 2018

SHEET 205.1
DATE SEPTEMBER, 2018

CURB AND GUTTER

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE
ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE SEPT. 10TH 2018

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
1				
2				
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4				
5				

Curb and gutter (Reversed Pan)

1. GENERAL
   A. Variance from specified dimensions and slopes must be acceptable to the ENGINEER. System configuration may be changed at ENGINEER's discretion.
   B. Additional requirements are specified in APWA Section 32 16 13.

2. PRODUCTS
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Expansion Joint Filler: 1/2-inch thick type F1 full depth, APWA Section 32 13 73.
   C. Concrete: Class 4000, APWA Section 03 30 04. If necessary, provide concrete that achieves design strength in less than 7 days. Use caution; however, as concrete crazing (spider cracks) may develop if air temperature exceeds 90 degrees F.
   D. Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00.

3. EXECUTION
   A. Base Course Placement: APWA Section 32 05 10. Thickness is 6-inches if flow-line grade is 0.5 percent (s=0.005) or greater. If slope is less, provide 8-inches. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   B. Concrete Placement: APWA Section 03 30 10.
      1) Install expansion joints vertical, full depth, with top of filler set flush with concrete surface. Install at the start or end of a street intersection curb return. Expansion joints are not required in concrete placement using slip-form construction.
      2) Install contraction joints vertical, 1/8-inch wide or 1/4 slab thickness if the slab is greater than 8-inches thick. Match joint location in adjacent Portland-cement concrete roadway pavement.
      3) Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
   C. Protection and Repair: Protect concrete from deicing chemicals during cure. Repair construction that does not drain. If necessary, fill flow-line with water to verify.

SSL Plan 205.2

SHEET 205.2
DATE SEPTEMBER 2018

CURB AND GUTTER (REVERSED PAN)

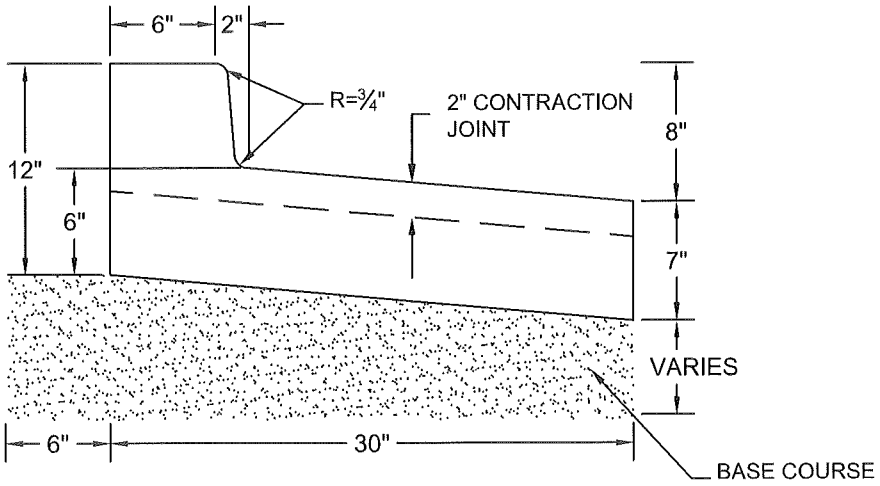
CITY OF SOUTH SALT LAKE STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY: LINGXUN LI
CHECKED BY:
SCALE:
DATE: SEPT. 16TH 2018

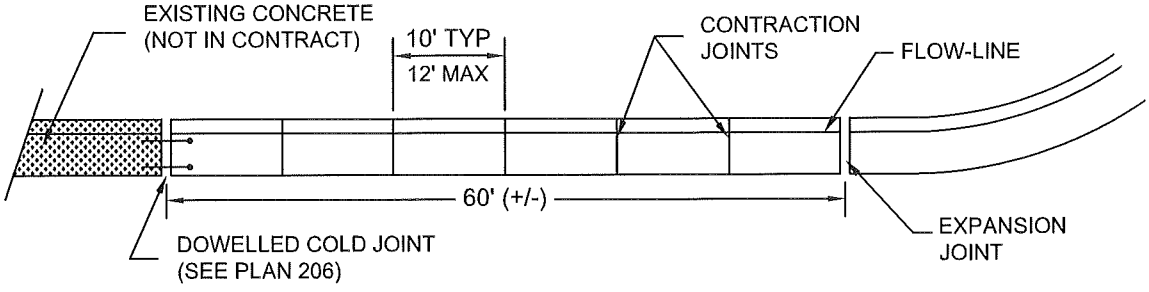
NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
1				

BACKFILL BEHIND CURB BEFORE PAVING AGAINST LIP OF GUTTER



CONCRETE AREA = 1.68 SQ. FT.

Reversed Curb Pan



JOINT DETAIL

Curb and gutter (Reversed Pan)

SSL Plan 205.2

SHEET 205.2
DATE SEPTEMBER, 2020

CURB AND GUTTER (REVERSED PAN)

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGJUN LI
CHECKED BY
SCALE
DATE SEPT. 10TH, 2015

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE

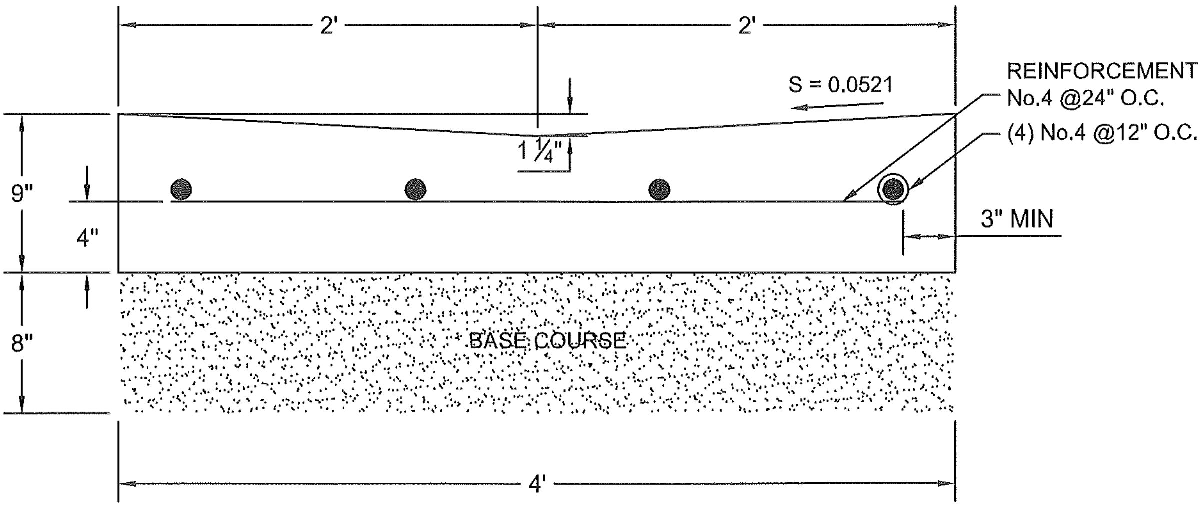
Waterway

1. GENERAL
   A. Variance from specified dimensions and slopes must be acceptable to the ENGINEER. System configuration may be changed at ENGINEER's discretion.
   B. Width of waterway shall be 4 feet unless approved by ENGINEER.
   C. Additional requirements are specified in APWA Section 32 16 13.

2. PRODUCTS
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Expansion Joint Filler: 1/2-inch thick type F1 full depth, APWA Section 32 13 73.
   C. Concrete: Class 4000, APWA Section 03 30 04. If necessary, provide concrete that achieves design strength in less than 7 days. Use caution; however, as concrete crazing (spider cracks) may develop if air temperature exceeds 90 degrees F.
   D. Reinforcement: Galvanized or epoxy coated, deformed, 60 ksi yield grade steel, ASTM A615.
   E. Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00.

3. EXECUTION
   A. Base Course Placement: APWA Section 32 05 10. Thickness is 6-inches if flow-line grade is 0.5 percent (s=0.005) or greater. If slope is less, provide 8-inches. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   B. Concrete Placement: APWA Section 03 30 10.
      1) Install expansion joints vertical, full depth, with top of filler set flush with concrete surface. Expansion joints are not required in concrete placement using slip-form construction.
      2) Install contraction joints vertical, 1/8-inch wide or 1/4 slab thickness if the slab is greater than 8-inches thick. Match joint location in adjacent Portland-cement concrete roadway pavement.
      3) Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
   C. Protection and Repair: Protect concrete from deicing chemicals during cure. Repair construction that does not drain. If necessary, fill flow-line with water to verify.

SHEET 211
DATE SEPTEMBER 2018
WATERWAY
CITY OF SOUTH SALT LAKE STANDARD DRAWINGS
SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115
DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE SEPT. 19TH 2018
DATE | MADE BY | REVISION | AUTHORIZED BY | NO.



4'-0" WATERWAY

CONCRETE AREA = 2.583 SQ. FT.

Waterway

This drawing replaces
APWA Plan 211
August 2018

SHEET 211
DATE SEPTEMBER, 2018

WATERWAY

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE MAY. 29TH 2020

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE

Sidewalk

1. GENERAL
   A. Variance from specified dimensions and slopes must be acceptable to the ENGINEER. System configuration may be changed at ENGINEER's discretion.
   B. Additional requirements are specified in APWA Section 32 16 13.

2. PRODUCTS
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Expansion Joint Filler: 1/2-inch thick type F1 full depth, APWA Section 32 13 73.
   C. Concrete: Class 4000, APWA Section 03 30 04. If necessary, provide concrete that achieves design strength in less than 7 days. Use caution; however, as concrete crazing (spider cracks) may develop if air temperature exceeds 90 degrees F.
   D. Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00.

3. EXECUTION
   A. Base Course Placement: APWA Section 32 05 10. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   B. Concrete Placement: APWA Section 03 30 10.
      1) Install expansion joints vertical, full depth, with top of filler set flush with concrete surface.
      2) Install contraction joints vertical, 1/8-inch wide or 1/4 slab thickness if the slab is greater than 8-inches thick. Maximum length to width ratio for non-square panels is 1.5 to 1. Maximum panel length (in feet) is 1.5 times the slab thickness (in inches).
      3) Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.

SSL Plan 231

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SIDEWALK

SHEET 231

DATE SEPTEMBER 2018

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY UNKNOWN
CHECKED BY
SCALE
DATE SEPT. 16TH 2018

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
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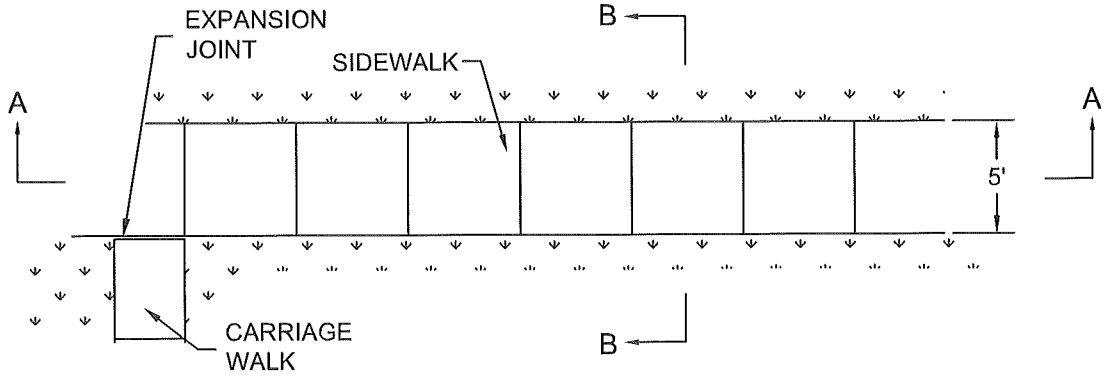
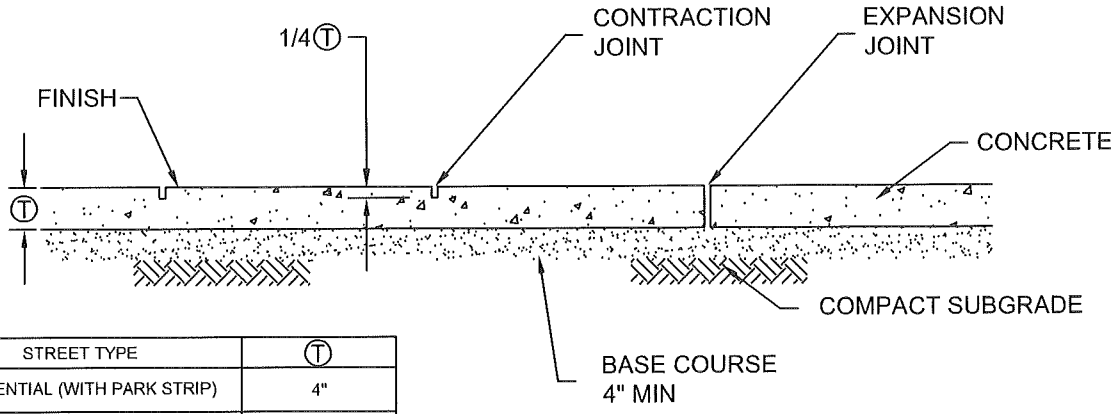


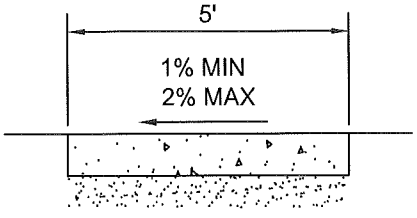
PLAN



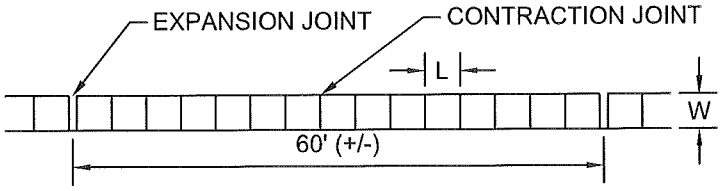
STREET TYPE	Ⓣ
RESIDENTIAL (WITH PARK STRIP)	4"
RESIDENTIAL (NO PARK STRIP)	6"
OTHER	6"
REPLACING EXISTING SIDEWALK	MATCH EXISTING (4" MIN.)

SEE DRIVEWAY APPROACH PLANS FOR SIDEWALK THICKNESS AT DRIVEWAYS

SECTION A-A



SECTION B-B



$L_{MIN} = W$

L_{MAX} (in feet) = 2.5 x Ⓣ (in inches)
= 15 FEET MAX

SIDEWALK JOINT DETAIL

Sidewalk

This drawing replaces
APWA Plan231
August 2018

SHEET 231
DATE SEPTEMBER, 2018

SIDEWALK

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGJUN LI
CHECKED BY
SCALE
DATE MAY. 20TH 2020

NO. | AUTHORIZED BY | REVISION | MADE BY | DATE

Asphalt pavement patch (5 years or newer)

1. GENERAL
   A. Vertical cuts in bituminous pavement may be done by saw or pavement zipping. If cuts greater than 6 inches are necessary to prevent pavement "break off" consult ENGINEER for directions on handling additional costs.
   B. Repair a T-patch restoration if any of the following conditions occur prior to final payment or at the end of the one year correction period.
      1) Pavement surface distortion exceeds 1/4-inch deviation in 10 feet. Repair option - plane off surface distortions. Coat planed surface with a cationic or anionic emulsion that complies with APWA Section 32 12 03.
      2) Separation appears at a connection to an existing pavement or any Street Fixture. Repair option - blow separation clean and apply joint sealant, APWA Plan 265.
      3) Cracks at least 1-foot long and 1/4-inch wide occur more often than 1 in 10 square feet. Repair option - blow clean and apply crack seal, APWA Plan 265.
      4) Pavement raveling is greater than 1 square foot per 100 square feet. Repair option - Mill and inlay, APWA Section 32 01 16.71 and 32 12 05.

2. PRODUCTS
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Flowable Fill: Target is 60 psi in 28 days with 90 psi maximum in 28 days, APWA Section 31 05 15. It must flow easily requiring no vibration for consolidation.
   C. Reinforcement: No. 5 galvanized or epoxy coated, deformed, 60 ksi yield grade steel, ASTM A615.
   D. Concrete: Class 4000, APWA Section 03 30 04.
   E. Tack Coat: APWA Section 32 12 13.13
   F. Bituminous Concrete: APWA Section 32 12 05
      1) Warm Weather Patch: PG64-22-DM-1/2, unless indicated otherwise.
      2) Cold Weather Patch: Modified MC-250-FM-1 as indicated in APWA Section 33 05 25.

3. EXECUTION
   A. Base Course Placement: APWA Section 32 05 10. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   B. Flowable Fill: Cure to initial set before placing aggregate base or bituminous pavement. Use in excavations that are too narrow to receive compaction equipment.
   C. Tack Coat: Clean all horizontal and vertical surfaces. Apply full coverage all surfaces.
   D. Pavement Placement: Follow APWA Section 32 12 16.13. Unless indicated otherwise, lift thickness is 3-inches minimum after compaction. Compact to 94 percent of ASRM D2041 (Rice density) plus or minus 2 percent.
   E. Bituminous Concrete Substitution: If bituminous concrete is substituted for Portland cement concrete substrate, omit rebar and provide 1.25 inches of bituminous concrete for each 1 inch or Portland cement concrete. Follow paragraph E requirements.
   F. Reinforcement: Required if thickness of existing portland-cement concrete substrate is 6-inches or greater. Not required if:
      1) less than 6-inches thick,
      2) if existing concrete is deteriorating,
      3) if excavation is less than 3 feet square,
      4) if bituminous pavement is substituted for Portland-cement concrete substrate.
   G. Concrete Substrate: Cure to initial set before placing new bituminous concrete patch.

SSL Plan 255.1

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

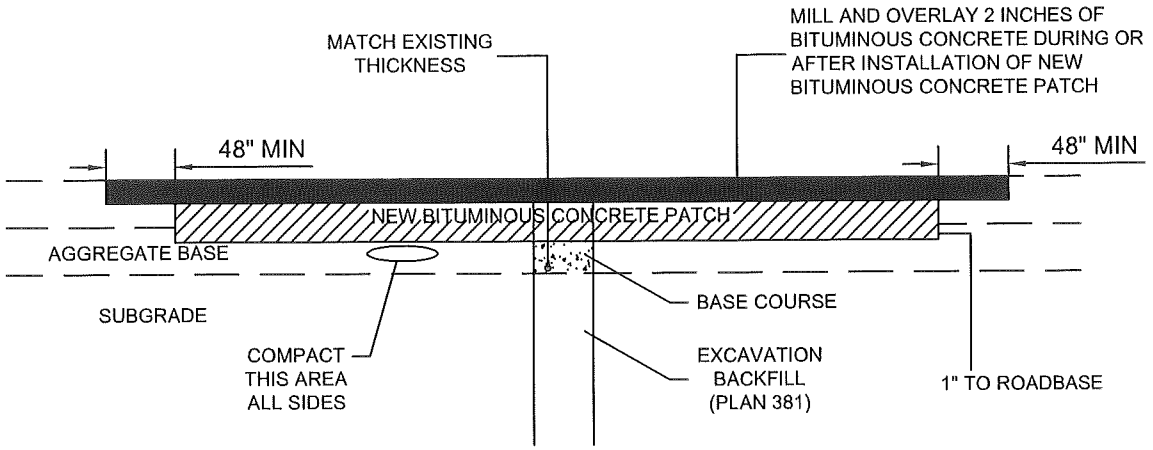
CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

ASPHALT PAVEMENT T-PATCH (5 YEARS OR NEWER)

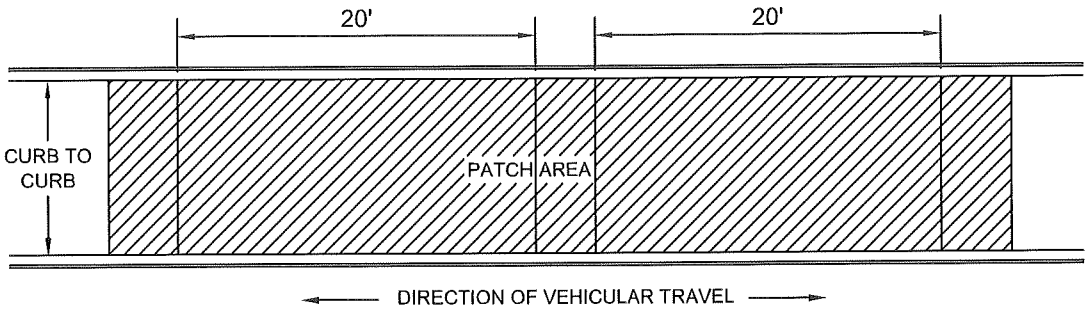
SHEET 255.1
DATE SEPTEMBER 2018

NO	AUTHORIZED BY	REVISION	MADE BY	DATE
1				

DRAWN BY LINGHUN LI
CHECKED BY
SCALE
DATE SEPT. 10TH 2018



BACKFILL



PATCH AREA

Asphalt pavement patch (5 years or newer)

SHEET 255.1
DATE SEPTEMBER, 2018

ASPHALT PAVEMENT T-PATCH (5 YEARS OR NEWER)

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE MAY. 26TH 2020

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE

Concrete pavement patch

1. GENERAL
   A. Reproduce existing pavement joint layout even if repairs straddle and existing joint.
   B. Additional requirements are specified in APWA Section 32 01 19

2. PRODUCTS
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Reinforcement: 60 ksi yield grade steel, ASTM A615 epoxy coated or galvanized deformed or smooth with diameter and length indicated.
   C. Adhesive: Epoxy adhesive grout, APWA Section 03 30 10 for gluing bars in drilled holes in concrete.
   D. Bond Breaker (Grease): Paraffin wax, lithium grease, or other semi-solid, inert lubricant.
   E. Concrete: Class 4000, APWA Section 03 30 04.
   F. Concrete Curing Agent: White pigmented membrane forming compound (Type II Class A or B), APWA Section 03 39 00.
   G. Water Repellant: Penetrating compound, APWA Section 07 19 00.

3. EXECUTION
   A. Base Course Placement: APWA Section 32 05 10. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   B. Joint Preparation: Use a rigid drill frame to drill holes in the vertical center of the adjacent concrete panel. Drill holes parallel to the panel surface. Provide the specified space between drill holes. For dowel bars, drill the holes parallel to the thoroughfare centerline. Limit deviation from parallel to 1/4-inch in the length of the dowel bar. Clean vertical surface of the adjacent concrete.
   C. Reinforcement: Remove dirt, dust, and rust from bars. Do not install tie bars that interfere with dowel bars.
      1) For tie bars, place adhesive at the back of each hole so adhesive flows out, around, and fully encases each inserted bar. DO NOT coat one end of the bar and then insert the bar into the hole. Prevent loss of adhesive upon insertion.
      2) For dowel bars, place grease at the back of each hole so grease flows out, around, and fully encases each inserted bar. Grease the bar before insertion.
      3) Grease protruding dowel bar prior to concrete placement.
   D. Bond Breaker: Place bond breaker on all pavement joints that compose existing joints, both transverse and horizontal.
   E. Concrete Placement: Repack loose bars and dampen base course uniformly. Place concrete, consolidate along face of existing concrete panels and under reinforcement, keep vibrators away from reinforcing steel, and prevent segregation. Match adjacent surface texture.
   F. Cure: Apply curing agent in total coverage in 2 directions after texturing. Keep cure temperature event throughout extent and depth of concrete patch.
   G. Traffic: Not allowed on patch until concrete strength is achieved.
   H. Surface Distortions: After cure, remove surface distortions that exceed 1/4-inch deviation in 10 feet. Apply water repellant to surfaces receiving grinding.

SSL Plan 256.2

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E. MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINCOLN LI
CHECKED BY
SCALE
DATE SEPT. 18TH 2018

NO	AUTHORIZED BY	REVISION	MADE BY	DATE
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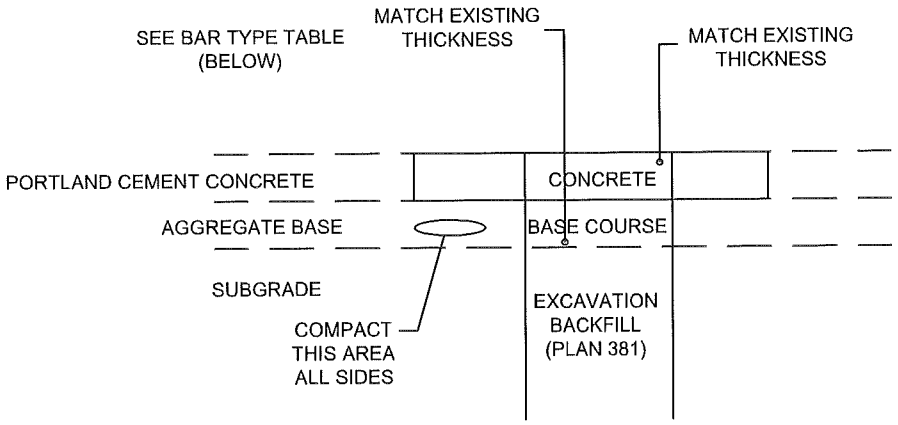
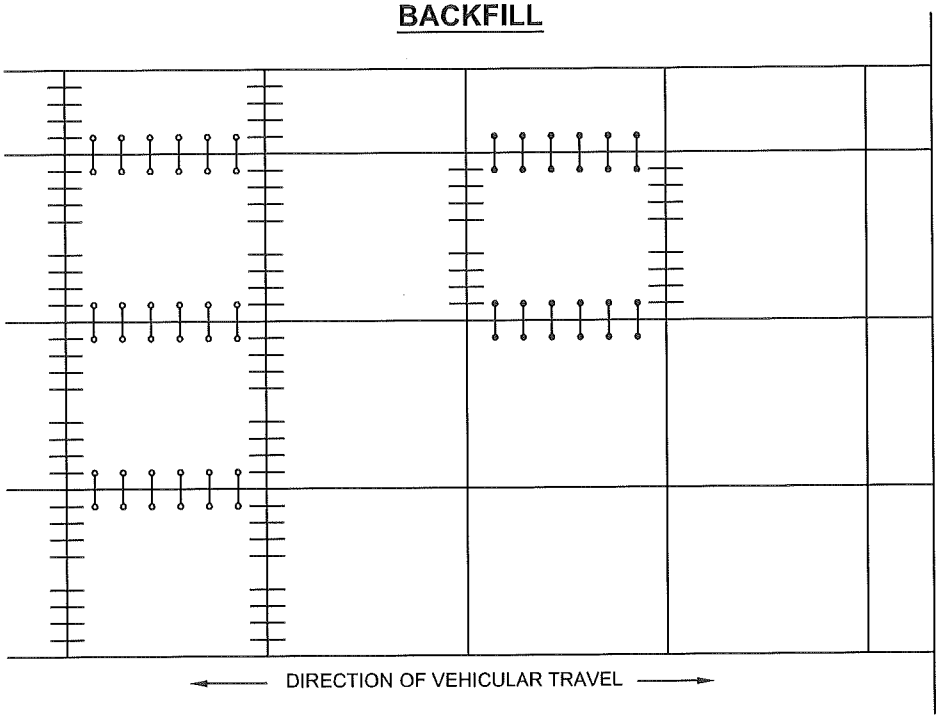
BACKFILL AND PANEL TIE-IN

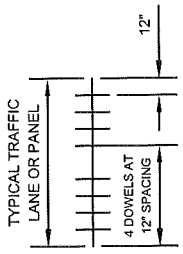


BACKFILL



BAR TYPE	BAR TYPE TABLE
⟜—⟜	30" LONG No. 5 TIE BARS AT 30" O.C.
•—•	30" LONG No. 5 TIE BARS AT 15" O.C.
—	18" LONG DOWEL BARS - SEE TABLE 1

TABLE 1	
PAVEMENT THICKNESS	DOWEL DIAMETER
LESS THAN 9"	1"
≥ 9" AND < 11"	1.25"
11" OR GREATER	1.5"



PANEL TIE-IN

Concrete pavement patch

This drawing replaces
APWA Plan 256.2
August 2018

SHEET 256.2
DATE SEPTEMBER, 2018

CONCRETE PAVEMENT PATCH

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE MAY. 26TH 2020

NO	AUTHORIZED BY	DATE	REVISION	MADE BY	DATE
1					
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PART 3

STORM DRAIN

47 3/4" Grate and frame

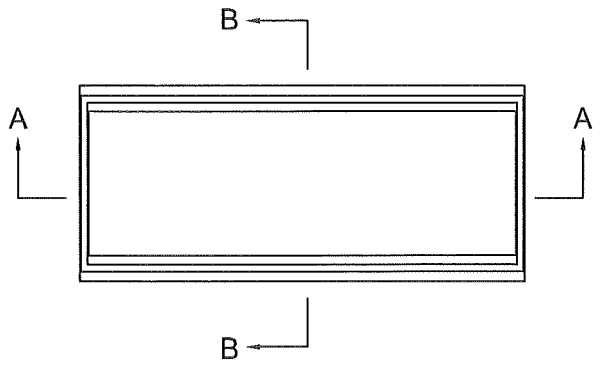
1. GENERAL
   A. The grate and frame fits cleanout box Type A in APWA Plan 331.

2. PRODUCTS
   A. Castings: Grey iron class 35 minimum per ASTM A48, coated with asphalt based paint or better (except on machined surfaces).

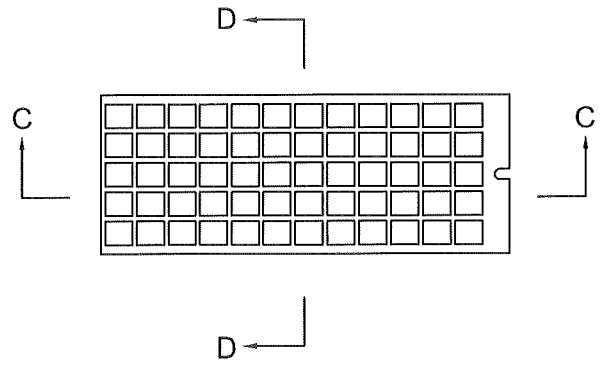
3. EXECUTION (Not used)

SSL Plan 309.2

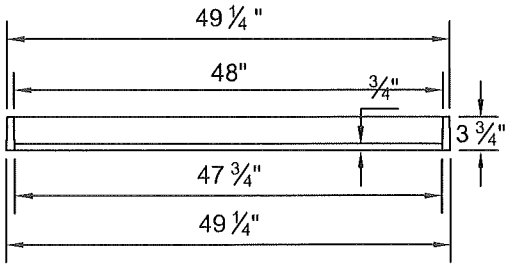
SHEET 309.2
DATE SEPTEMBER 2018
47 3/4" GRATE AND FRAME
CITY OF SOUTH SALT LAKE STANDARD DRAWINGS
SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115
DRAWN BY LINGMIN LI
CHECKED BY
SCALE
DATE SEPT. 10TH 2018
NO. | AUTHORIZED BY | REVISION | MADE BY | DATE



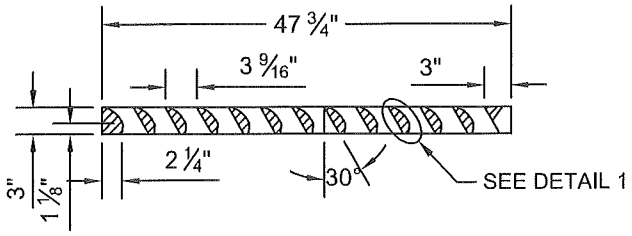
FRAME



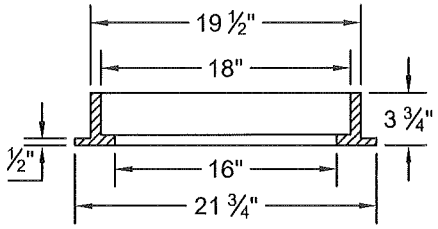
GRATE



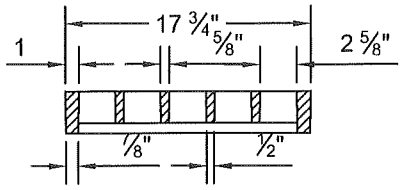
SECTION A-A



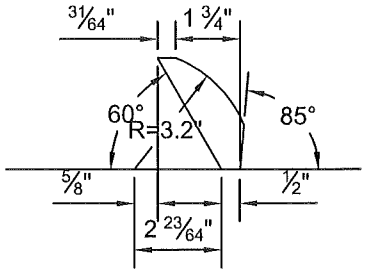
SECTION C-C



SECTION B-B



SECTION D-D



DETAIL 1

Notes:
1. D & L Supply Grate type I-1803 or similar.

47 ¾" Grate and frame

This drawing replaces
APWA Plan 309.2
August 2018

SHEET 309.2
DATE SEPTEMBER, 2018

47 ¾" GRATE AND FRAME

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE MAY, 28TH 2020

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
1				
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Catch basin

1. GENERAL
   A. The drawing shows typical pipe connections. Refer to construction drawings for connection locations or refer to field location of existing piping when engineering pipe connection to the box.

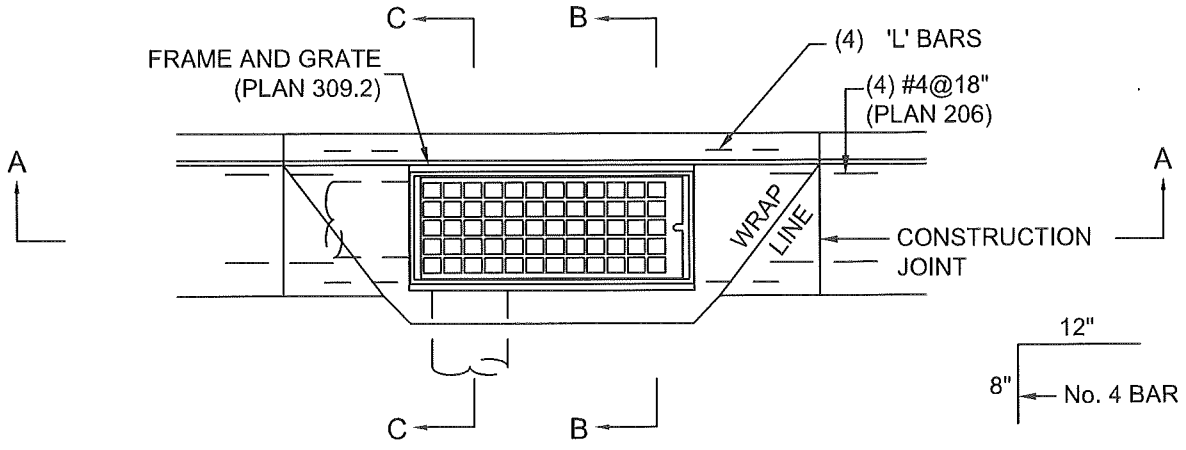
2. PRODUCTS
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   C. Concrete: Class 4000, APWA Section 03 30 04.
   D. Reinforcement: Deformed, 60 ksi yield grade steel, ASTM A615.

3. EXECUTION
   A. Base Course Placement: APWA Section 32 05 10. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   B. Concrete Placement: APWA Section 03 30 10. Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
   C. Backfill: Place backfill against the basin wall. Pea gravel and recycled RAP aggregate is NOT ALLOWED. Water jetting is NOT allowed. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a standard proctor density, APWA Section 31 23 26.

SSL Plan 315.1

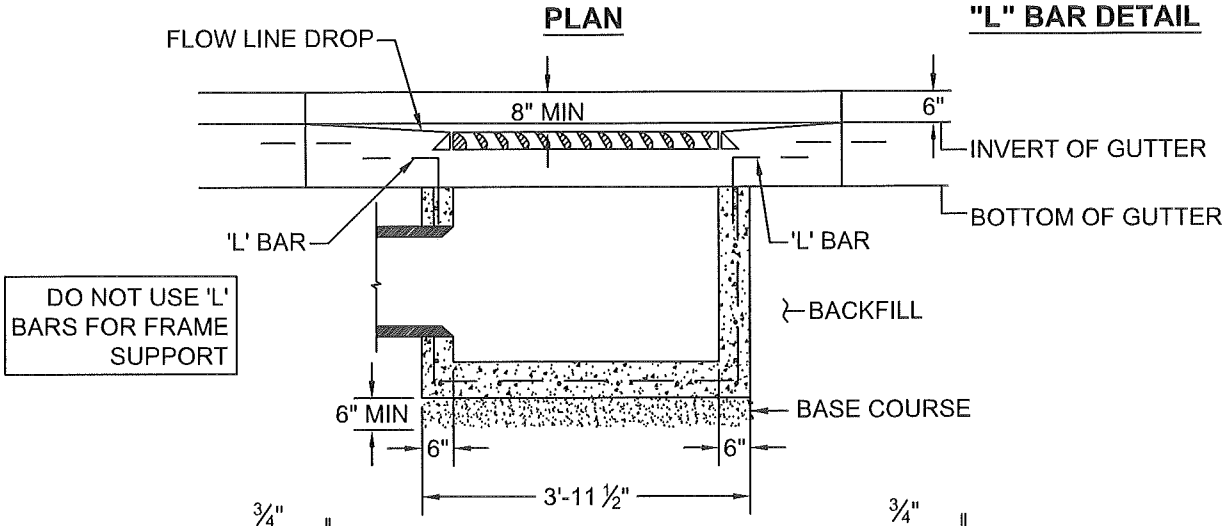
SHEET 315.1
DATE SEPTEMBER 2018
CATCH BASIN
CITY OF SOUTH SALT LAKE STANDARD DRAWINGS
SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115
DRAWN BY UNOKUN U
CHECKED BY
SCALE
DATE SEPT. 10TH 2018
NO. | AUTHORIZED BY | REVISION | MADE BY | DATE

SINGLE GRATE

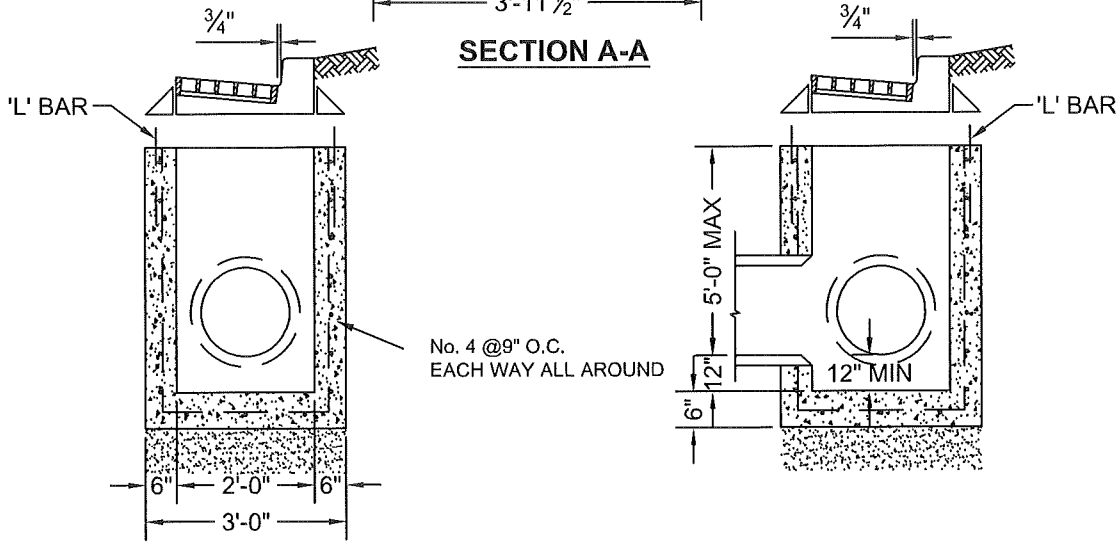


PLAN

"L" BAR DETAIL



SECTION A-A



SECTION B-B

SECTION C-C

Catch basin

This drawing replaces
APWA Plan 315.1
August 2018

SHEET 315.1
DATE SEPTEMBER, 2018

CATCH BASIN

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE MAY. 20TH 2020

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE

Catch basin

1. GENERAL
   A. The drawing shows typical pipe connections. Refer to construction drawings for connection locations or refer to field location of existing piping when engineering pipe connection to the box.

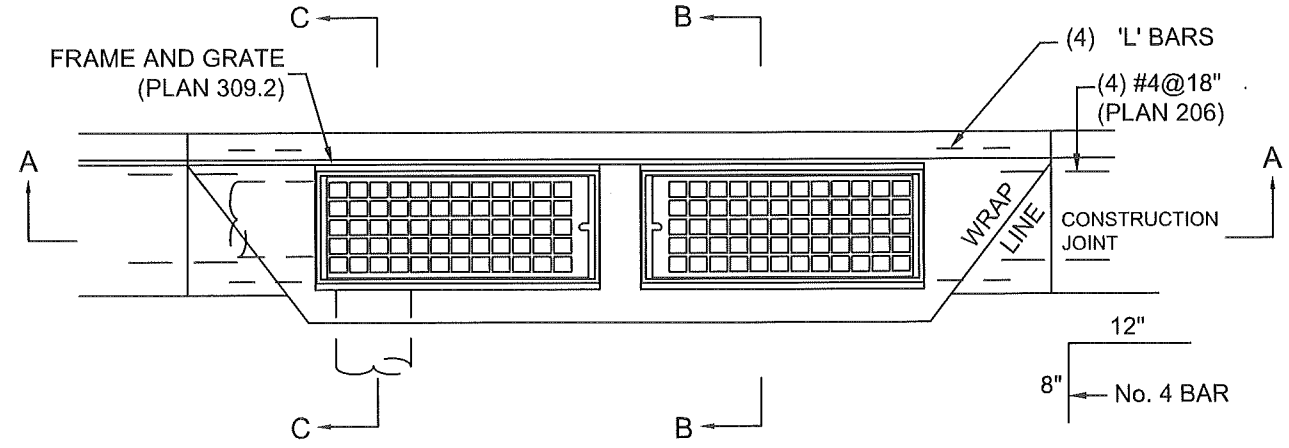
2. PRODUCTS
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   C. Concrete: Class 4000, APWA Section 03 30 04.
   D. Reinforcement: Deformed, 60 ksi yield grade steel, ASTM A615.

3. EXECUTION
   A. Base Course Placement: APWA Section 32 05 10. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   B. Concrete Placement: APWA Section 03 30 10. Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
   C. Backfill: Place backfill against the basin wall. Pea gravel and recycled RAP aggregate is NOT ALLOWED. Water jetting is NOT allowed. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a standard proctor density, APWA Section 31 23 26.

SSL Plan 315.2

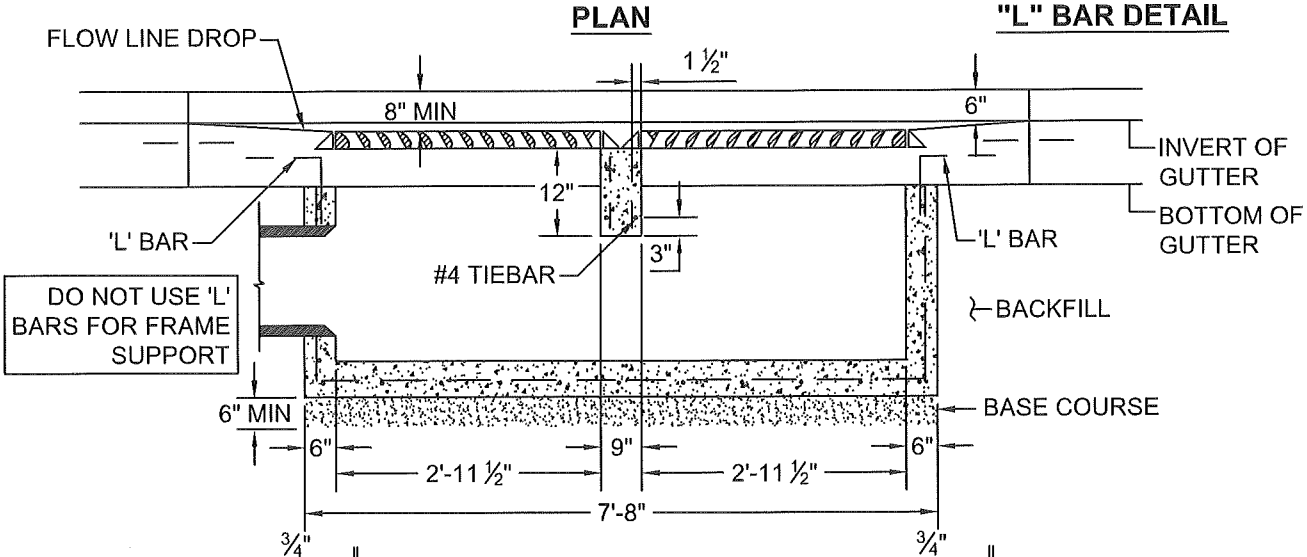
SHEET 315.2
DATE SEPTEMBER 2018
CATCH BASIN
CITY OF SOUTH SALT LAKE STANDARD DRAWINGS
SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E. MORRIS AVENUE SOUTH SALT LAKE, UTAH 84115
DRAWN BY UNKNOWN
CHECKED BY
SCALE
DATE SEPT. 10TH 2018
NO | AUTHORIZED BY | REVISION | MADE BY | DATE

DOUBLE GRATE

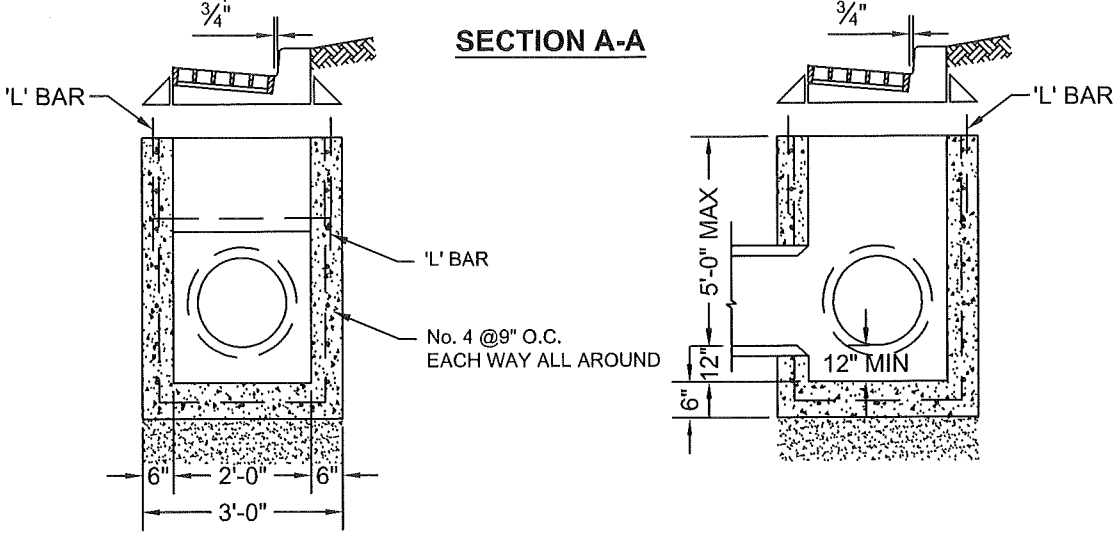


PLAN

"L" BAR DETAIL



SECTION A-A



SECTION B-B

SECTION C-C

Catch basin

This drawing replaces
APWA Plan 315.2
August 2018

SHEET 315.2
DATE SEPTEMBER, 2018

CATCH BASIN

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE
ENGINEERING
DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE MAY. 26TH 2020

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE

Combination catch basin and cleanout box

1. GENERAL
   A. The drawing shows typical pipe connections. Refer to construction drawings for connection locations or refer to field location of existing piping when engineering pipe connection to the box.

2. PRODUCTS
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   C. Concrete: Class 4000, APWA Section 03 30 04.
   D. Reinforcement: Deformed, 60 ksi yield grade steel, ASTM A615.
   E. Ladder Rungs: Plastic, or plastic coated steel typically 8-inches wide.

3. EXECUTION
   A. Base Course Placement: APWA Section 32 05 10. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   B. Ladder Rungs: Provide rungs in boxes over 6 feet deep. When measured from the floor of the box, place bottom rung the greater distance of 4 feet from the floor of the box or 1 foot above the top of the pipe. Place top rung within 3 feet of bottom of box ceiling.
   C. Concrete Placement: APWA Section 03 30 10. Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
   D. Backfill: Place backfill against the basin wall. Pea gravel and recycled RAP aggregate is NOT ALLOWED. Water jetting is NOT allowed. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a standard proctor density, APWA Section 31 23 26.

SSL Plan 316

SHEET 316
DATE SEPTEMBER 2018
COMBINATION CATCH BASIN AND CLEANOUT BOX
CITY OF SOUTH SALT LAKE STANDARD DRAWINGS
SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE SOUTH SALT LAKE, UTAH 84115
DRAWN BY LINGKUN LI
CHECKED BY
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DATE SEPT. 19TH 2018
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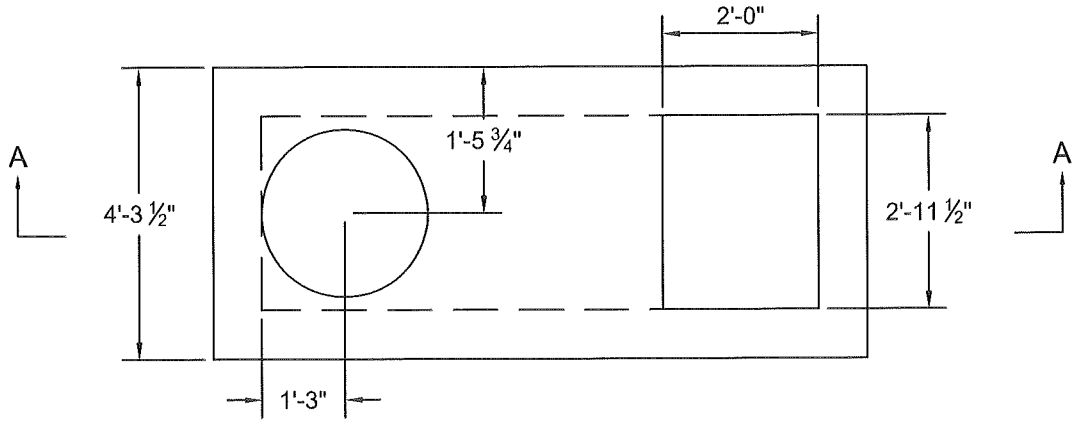
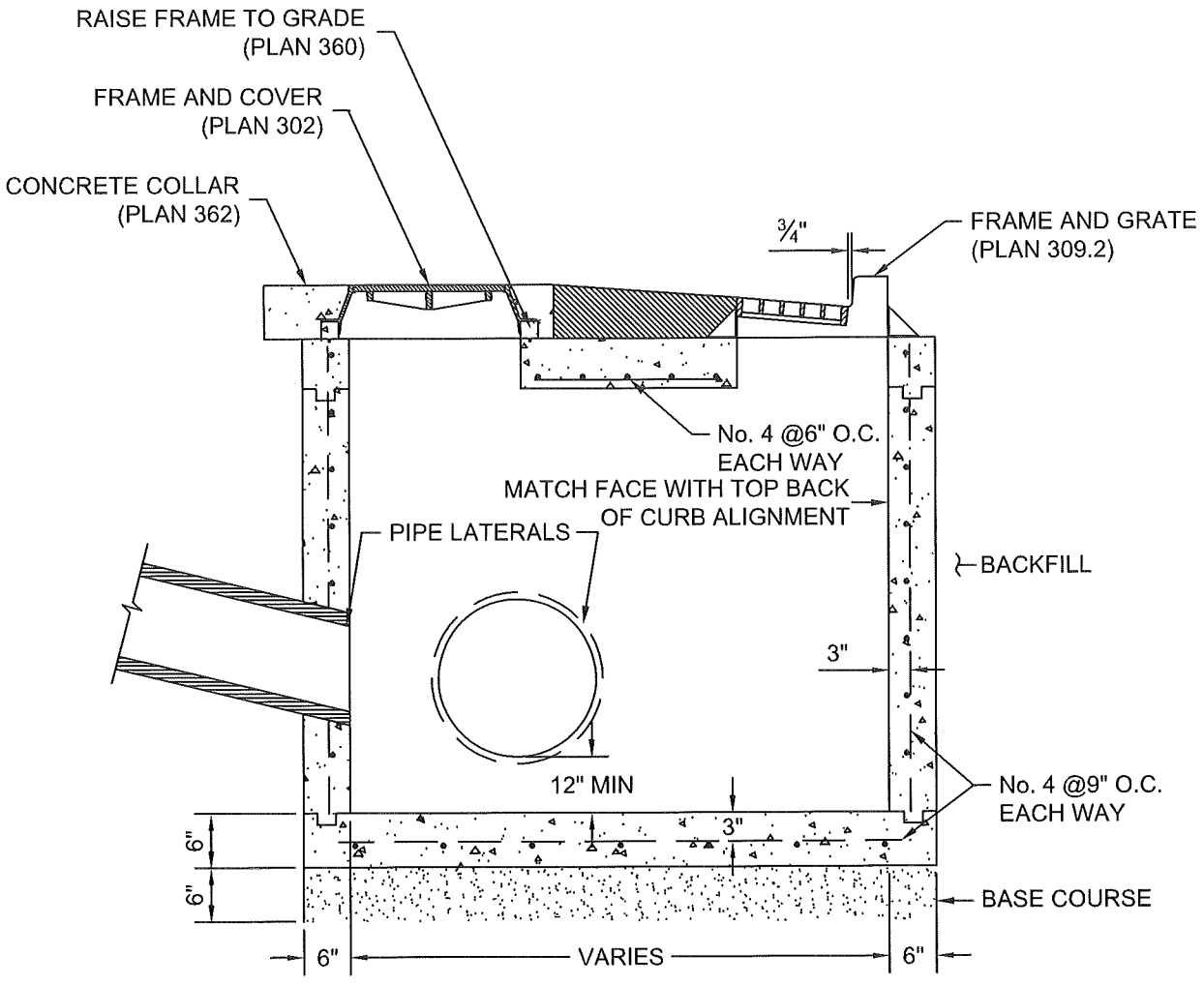


PLAN



SECTION A-A

Combination catch basin and cleanout box

This drawing replaces
APWA Plan 316
August 2018

SHEET 316
DATE SEPTEMBER, 2018

COMBINATION CATCH BASIN AND CLEANOUT BOX

CITY OF SOUTH SALT LAKE STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE MAY, 25TH 2020

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE

Concrete deck

1. GENERAL
   A. Deck is made for round manhole riser grade rings.

2. PRODUCTS
   A. Concrete: Class 4000, APWA Section 03 30 04.
   B. Reinforcement: Deformed, 60 ksi yield grade steel, ASTM A615.

3. EXECUTION
   A. Concrete Placement: APWA Section 03 30 10. Apply a curing agent.
   B. Reinforcement: Placement APWA Section 03 20 00.

SSL Plan 345

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

CONCRETE DECK

SHEET 345

DATE SEPTEMBER 2018

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGXUN LI
CHECKED BY
SCALE
DATE SEPT. 10TH 2018

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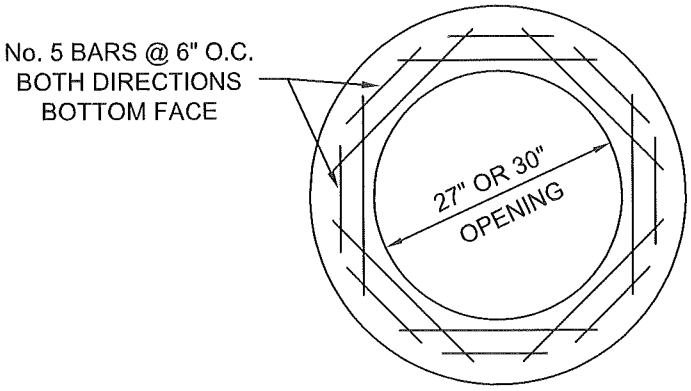
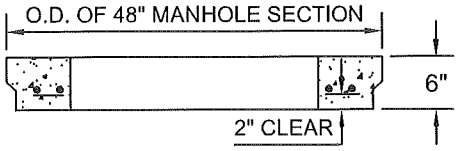


48" DECK PLAN



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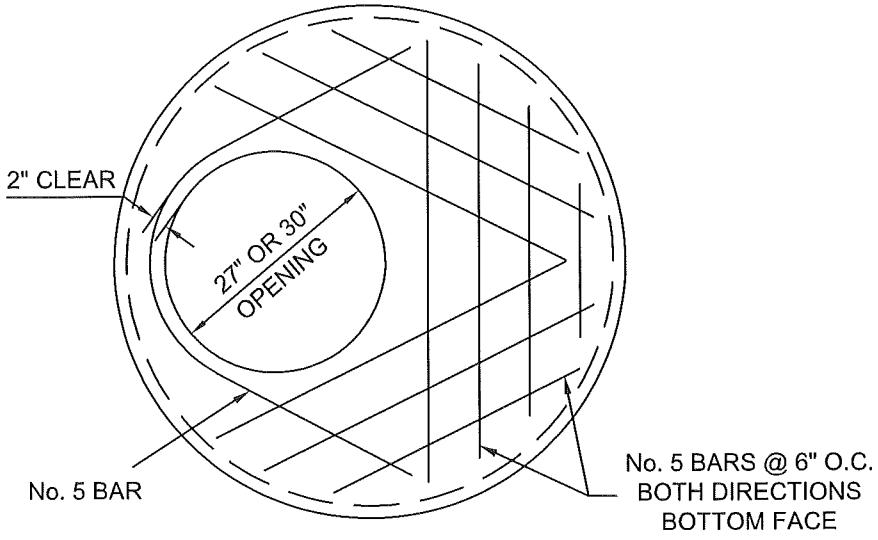
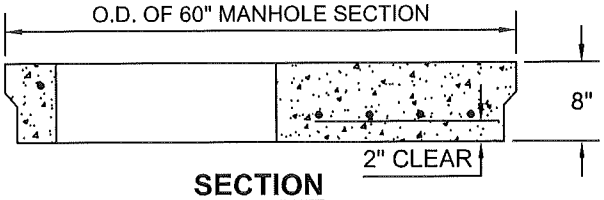


60" DECK PLAN



SECTION

Concrete deck

This drawing replaces
APWA Plan 345
August 2018

SHEET 345
DATE SEPTEMBER, 2018

CONCRETE DECK

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINDQUN LI
CHECKED BY
SCALE
DATE MAY. 20TH 2020

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
1				
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Cover collar for storm drains

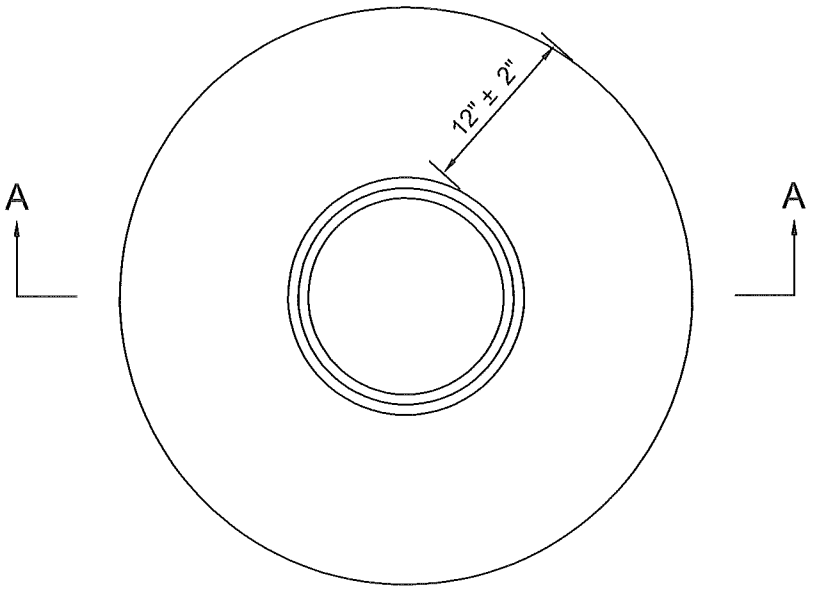
1. GENERAL
   A. In a pavement surface, the concrete will support the frame under traffic loadings.

2. PRODUCTS
   A. Concrete: Class 4000, APWA Section 03 30 04.
   B. Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00.

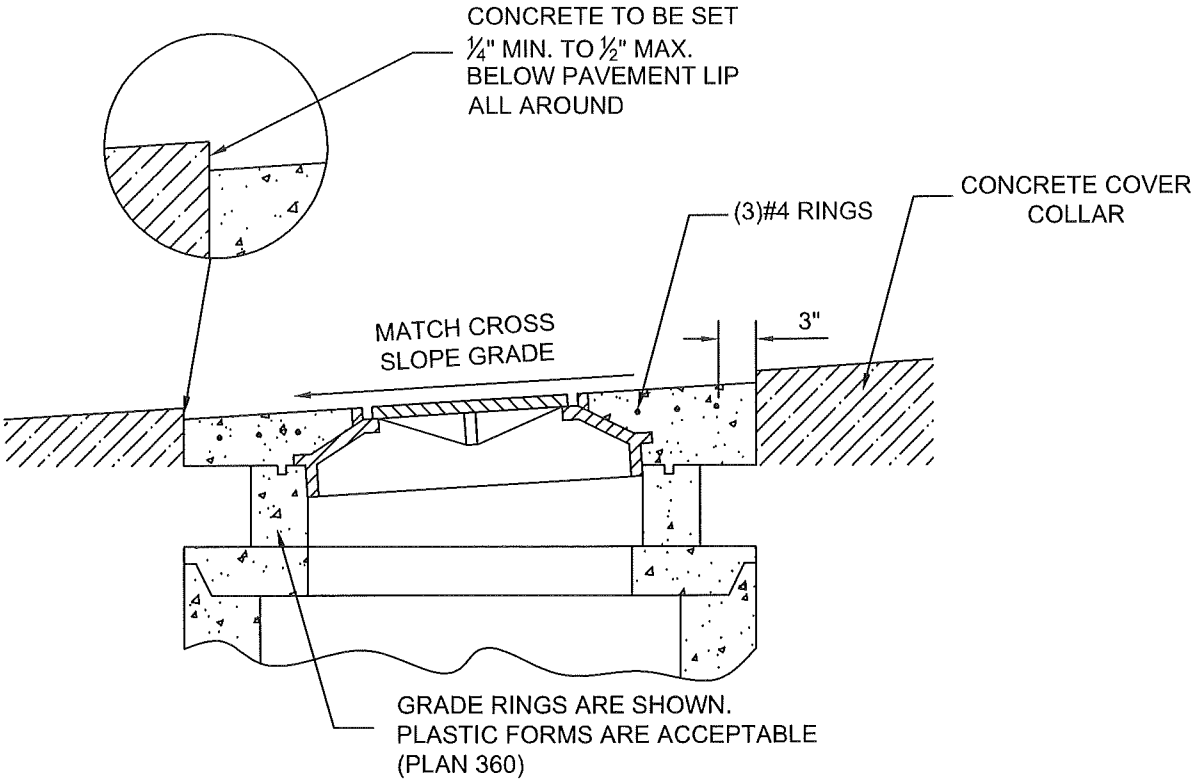
3. EXECUTION
   A. Pavement Preparation: Provide a neat vertical and concentric joint between concrete and existing bituminous concrete surfaces. Clean edges of all dirt, oil, and loose debris.
   B. Concrete Placement: APWA Section 03 30 10. Fill the annular space around the frame and cover casting with concrete. Apply a broom finish. Apply a curing agent.

SSL Plan 362

SHEET 362
DATE SEPTEMBER 2018
COVER COLLAR FOR STORM DRAINS
CITY OF SOUTH SALT LAKE STANDARD DRAWINGS
SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115
DRAWN BY UNKNOWN
CHECKED BY
SCALE
DATE SEPT. 10TH, 2018
NO. | AUTHORIZED BY | REVISION | MADE BY | DATE



PLAN
(ROUND FRAME)



SECTION A-A

Cover collar for storm drains

This drawing replaces
APWA Plan 362
August 2018

SHEET 362
DATE SEPTEMBER, 2018

COVER COLLAR FOR STORM DRAINS

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE MAY. 26TH 2020

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
1				
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Area drain

1. GENERAL
   A. Provide an underground drainage system to convey drain water from areas back of sidewalk to the curb face.

2. PRODUCTS
   A. Backfill: Native soil.
   B. Concrete: Class 4000, APWA Section 03 30 04.
   C. Casting: Grey iron class 35 minimum, ASTM A48, coated with asphalt based paint or better.
   D. Area Drain Pipe: PVC unless specified elsewhere.
   E. Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00.

3. EXECUTION
   A. Concrete Placement: APWA Section 03 30 10. Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
   B. Backfill Placement: Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.

SSL Plan 372

SHEET 372
DATE SEPTEMBER 2018

AREA DRAIN

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE
ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY: LINGXIN LI
CHECKED BY:
SCALE:
DATE: SEPT. 10TH 2018

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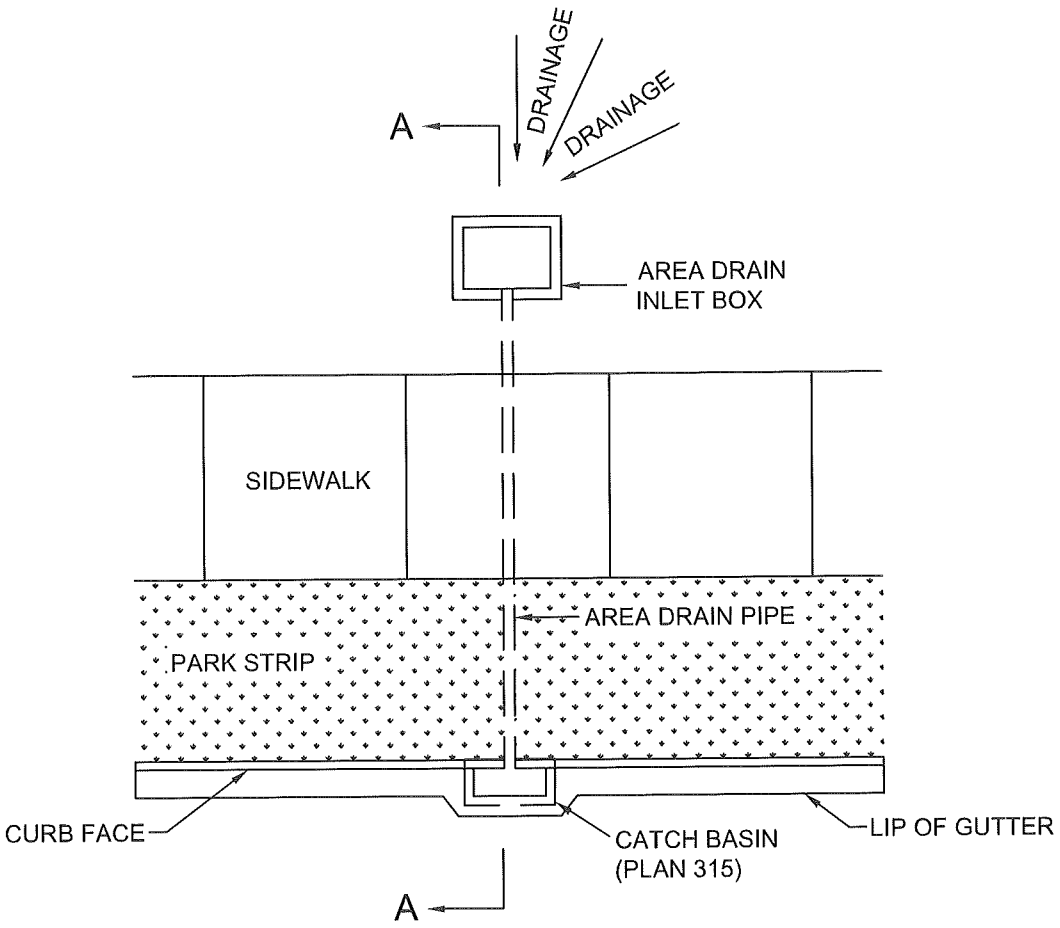
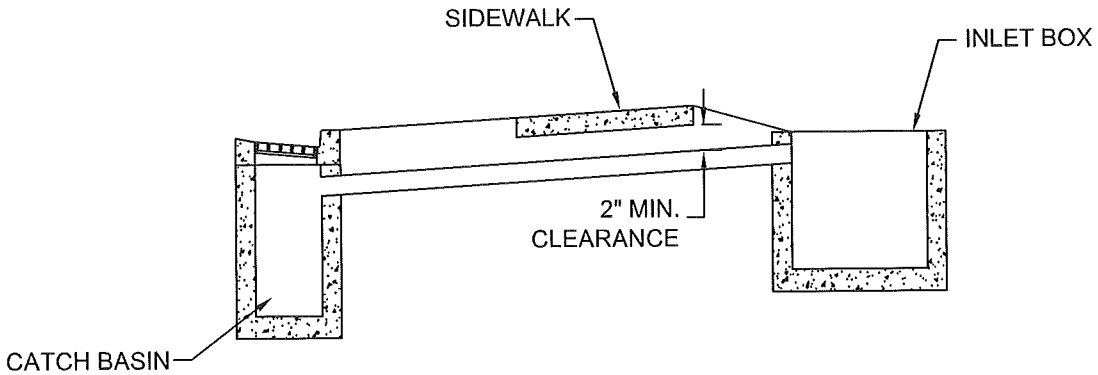


PLAN
(ROUND FRAME)



SECTION A-A

Area drain

This drawing replaces
APWA Plan 372
August 2018

SHEET 372
DATE SEPTEMBER, 2018

AREA DRAIN

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGXUN LI
CHECKED BY
SCALE
DATE MAY. 25TH 2020

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
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PART 4

SANITARY SEWER

30" Frame and cover

1. GENERAL
   A. The frame and cover fits the manhole in APWA Plan 411.

2. PRODUCTS
   A. Casting: Grey iron class 35 minimum, ASTM A48, coated with asphalt based paint or better (except on machined surfaces).
      1) Cast the heat number on the frame and cover.
      2) Give the frame and cover a machine finish so the cover will not rock.
      3) √ designates machined surface.
      4) Cast the words "SEWER" on the cover in upper case flush with the surface finish.

3. EXECUTION
   A. Except in paved streets, provide locking manhole covers in easements, alleys, parking lots, and all other places. Drill and tap two holes to a depth of 1-inch at 90 degrees to pry hole and install 3/4 x 3/4-inch allen socket set screws.

SSL Plan 402

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

30" FRAME AND COVER

SHEET 402

DATE SEPTEMBER 2018

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINDAUN U
CHECKED BY
SCALE
DATE SEPT. 19TH 2018

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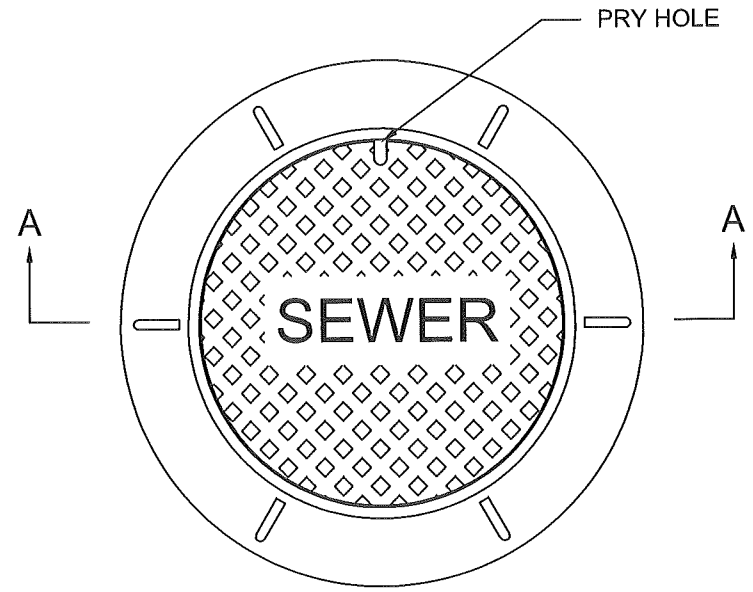

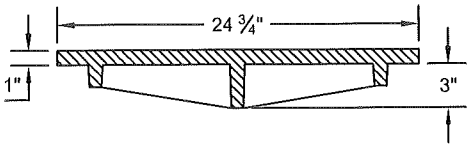

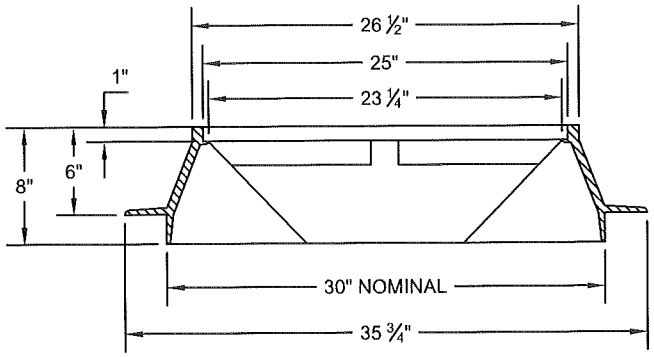

SECTION A-A

30" Frame and cover

This drawing replaces
APWA Plan 402
August 2018

SHEET 402
DATE SEPTEMBER, 2018

30" FRAME AND COVER

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE MAY. 20TH 2020

NO	AUTHORIZED BY	REVISION	MADE BY	DATE
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PART 6

IRRIGATION AND LANDSCAPING

Stationary head

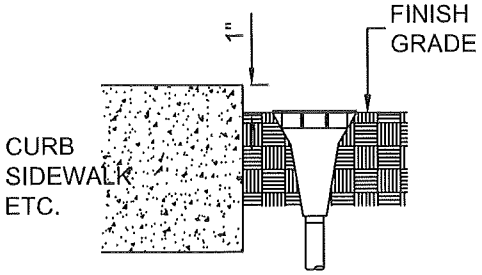
1. GENERAL
   A. Before backfilling around head, get ENGINEER's inspection of head installation.

2. PRODUCTS
   A. Heads: Plastic or steel.

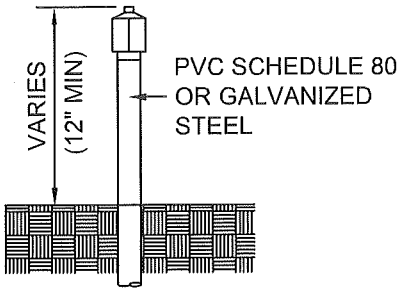
3. EXECUTION
   A. Adjust heads to final landscape grade and adjust throttle controls to obtain required coverage over final landscape grade.
   B. Keep flush heads 1/2-inch below edge of pavement surfaces and flush with surrounding sod or seeded areas.
   C. Compact backfill around heads to prevent settling.
   D. Cut sod around head to fit.

SSL Plan 621

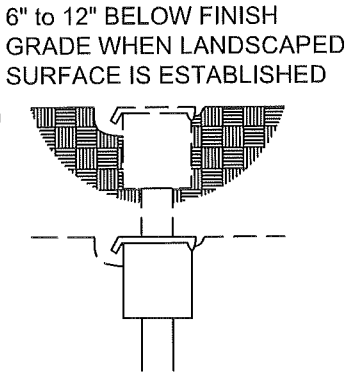
SHEET 621
DATE SEPTEMBER 2018
STATIONARY HEAD
CITY OF SOUTH SALT LAKE STANDARD DRAWINGS
SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E. MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115
DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE SEPT. 10TH 2018
NO. | AUTHORIZED BY | REVISION | MADE BY | DATE



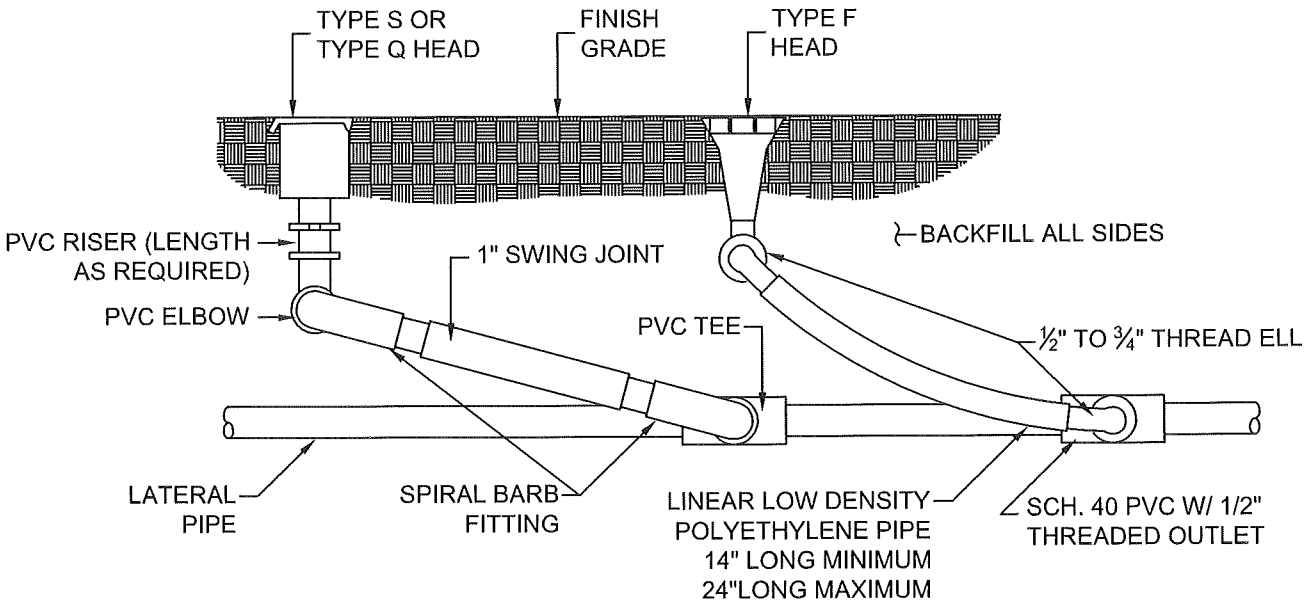
TYPE F
FLUSH HEAD



TYPE S
SHRUB HEAD



TYPE Q
QUICK COUPLER



SECTION

Stationary head

This drawing replaces
APWA Plan 621
September 2018

SHEET 621
DATE SEPTEMBER, 2018

STATIONARY HEAD

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE
ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE SEPT. 16TH 2018

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
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Pop-up head

1. GENERAL
   A. Before backfilling around head, get ENGINEER's inspection of head installation.

2. PRODUCTS
   A. Heads: Plastic, brass, or steel.

3. EXECUTION
   A. Adjust heads to final landscape grade and adjust throttle controls to obtain required coverage over final landscape grade.
   B. Keep flush heads 1/2-inch below edge of pavement surfaces and flush with surrounding sod or seeded areas.
   C. Compact backfill around heads to prevent settling.
   D. Cut sod around head to fit.

SSL Plan 622

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

POP-UP HEAD

SHEET 622

DATE SEPTEMBER 2018

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINCOLN LI
CHECKED BY
SCALE
DATE SEPT. 16TH 2018

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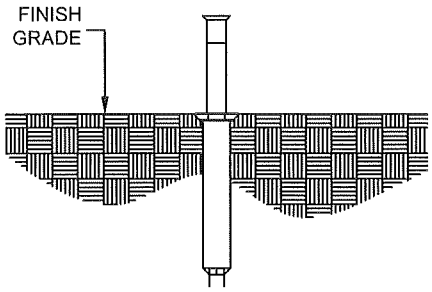
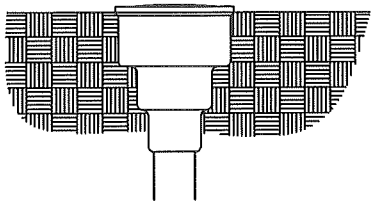
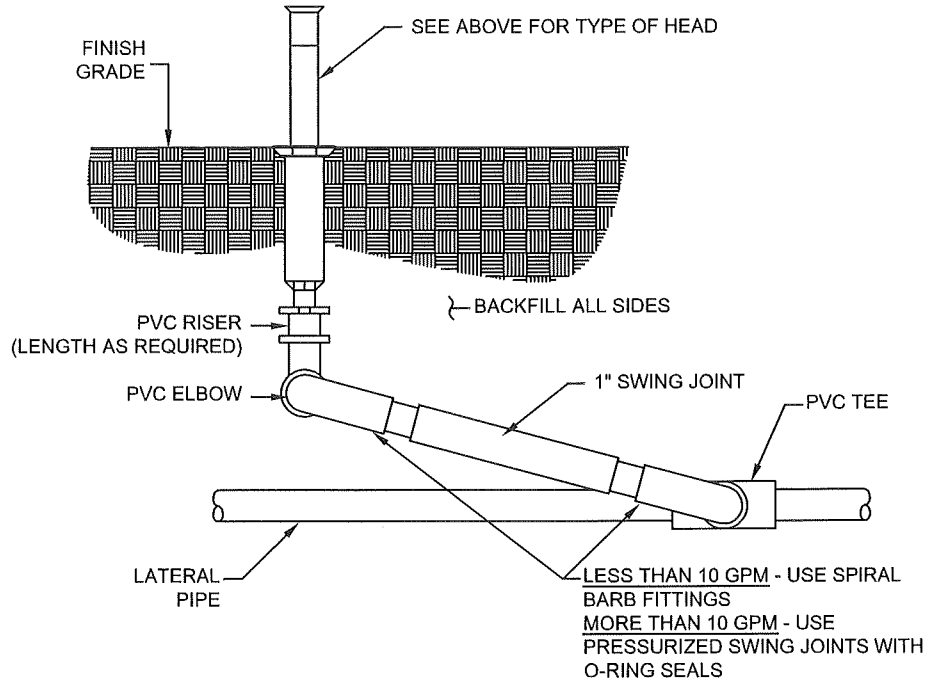


TYPE N
NOZZLE HEAD



TYPE R
ROTOR HEAD



SECTION

Pop-up head

This drawing replaces
APWA Plan 622
September 2018

SHEET 622
DATE SEPTEMBER, 2018

POP-UP HEAD

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE
ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE SEPT. 10TH 2018

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE

Backflow preventer

1. GENERAL
   A. Test the backflow preventer within 10 days of installation by a licensed backflow device tester and report results to ENGINEER.
   B. Tester is to assure CONTRACTOR and ENGINEER that the backflow preventer system meets the Utah Safe Drinking Water Act.

2. PRODUCTS
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   C. Concrete: Class 4000, APWA Section 03 30 04.
   D. Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00
   E. Paint: Epoxy based. Color to be selected by ENGINEER.

3. EXECUTION
   A. Install per plumbing code. It must not be susceptible to flooding and must be accessible at all times for testing, repair, inspection, etc.
   B. Install backfill around concrete box. Compact in 8-inch lifts to 95 percent or greater relative to a standard proctor density, APWA Section 31 23 26.
   C. Except machined surfaces, coat all items in atmosphere with epoxy paint.
   D. Concrete Placement: APWA Section 03 30 10. Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.

SSL Plan 631.1

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

BACKFLOW PREVENTER

631.1 SHEET
SEPTEMBER 2018 DATE

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY
CHECKED BY
SCALE
DATE SEPT. 10TH 2018

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
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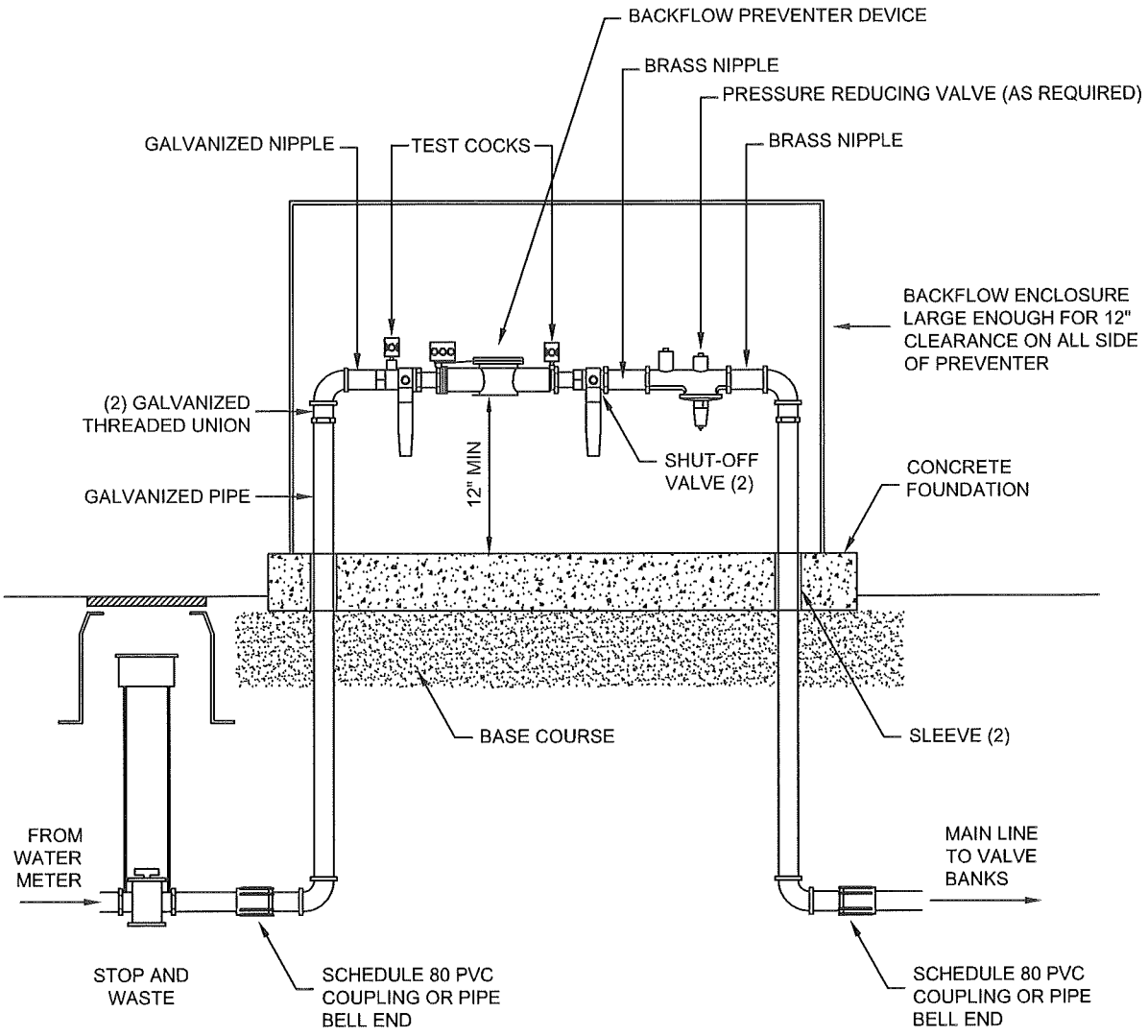
LESS THAN 3" DIAMETER



Backflow preventer

This drawing replaces
APWA Plan 631.1
September 2018

SHEET 631.1
DATE SEPTEMBER, 2018

BACKFLOW PREVENTER

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE SEPT. 10TH 2018

NO. | AUTHORIZED BY | REVISION | MADE BY | DATE

Backflow preventer

1. GENERAL
   A. Test the backflow preventer within 10 days of installation by a licensed backflow device tester and report results to ENGINEER.
   B. Tester is to assure CONTRACTOR and ENGINEER that the backflow preventer system meets the Utah Safe Drinking Water Act.

2. PRODUCTS
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   C. Concrete: Class 4000, APWA Section 03 30 04.
   D. Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00
   E. Paint: Epoxy based. Color to be selected by ENGINEER.

3. EXECUTION
   A. Install per plumbing code. It must not be susceptible to flooding and must be accessible at all times for testing, repair, inspection, etc.
   B. Install backfill around concrete box. Compact in 8-inch lifts to 95 percent or greater relative to a standard proctor density, APWA Section 31 23 26.
   C. Except machined surfaces, coat all items in atmosphere with epoxy paint.
   D. Concrete Placement: APWA Section 03 30 10. Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.

SSL Plan 631.2

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

BACKFLOW PREVENTER

SHEET 631.2

DATE SEPTEMBER 2018

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE SEPT. 18TH 2018

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
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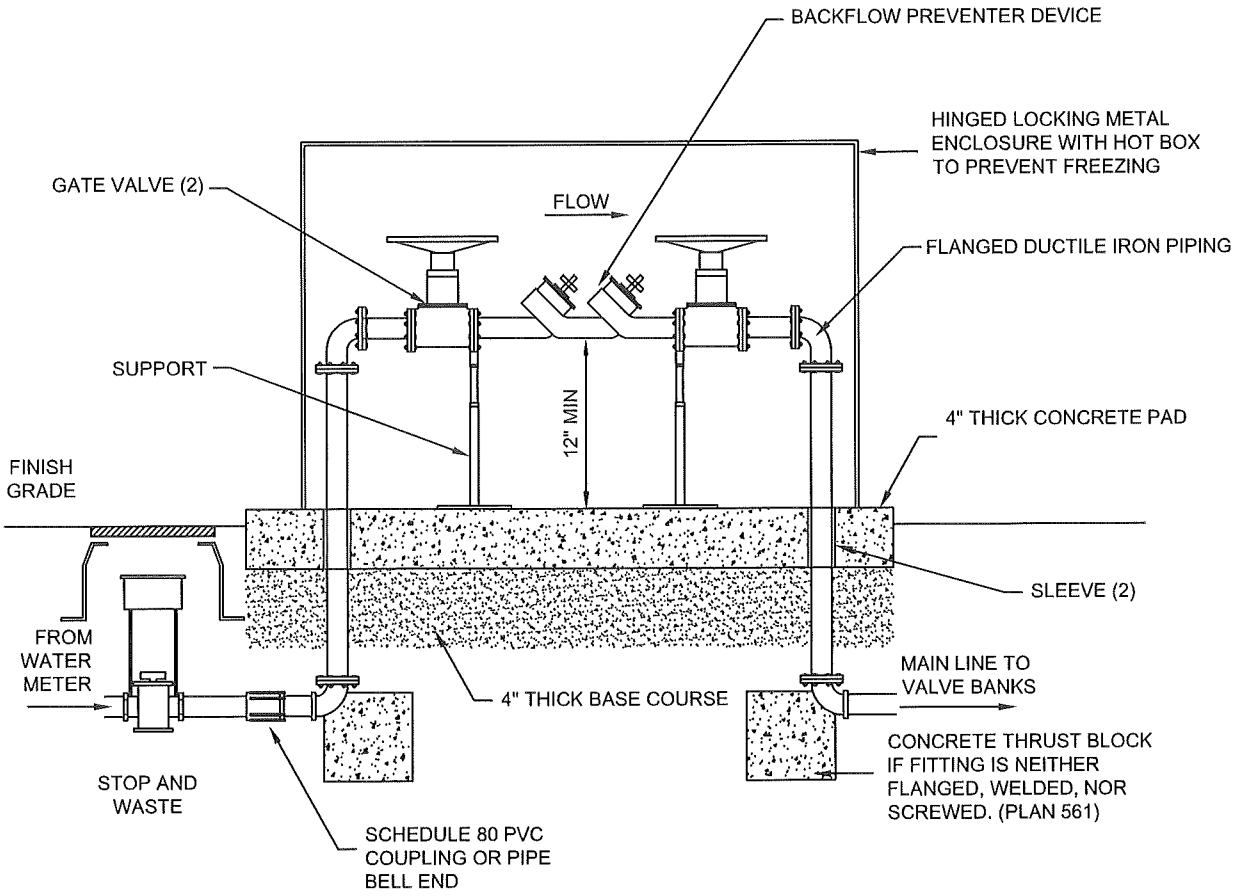
3" AND LARGER



Notes:

1. Notes for APWA Standard Plan 631.2 shall apply to this drawing.

Backflow preventer

This drawing replaces
APWA Plan 631.2
September 2018

SHEET 631.2
DATE SEPTEMBER, 2018

BACKFLOW PREVENTER

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE SEPT. 10TH 2018

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
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Isolation valve

1. GENERAL
   A. Before backfilling around the isolation valve, get ENGINEER's inspection of valve installation. System must be pressurized during inspection.

2. PRODUCTS
   A. Backfill: APWA Section 31 05 13.
      1) Gravel with a maximum particle size 2-inches.
      2) Native soil.
   B. Gate Valve: Bronze, double disk wedge type with integral taper seats and non-rising stem.
   C. Concrete: Class 4000, APWA Section 03 30 04.

3. EXECUTION
   A. Install backfill material around pipe and valve box and compact to prevent settling.
   B. Install automatic controllers and wiring per manufacturer's recommendations.
   C. Place concrete, APWA Section 03 30 10
   D. Return salvaged valves to ENGINEER unless specified otherwise.

SSL Plan 635

SHEET 635
DATE SEPTEMBER 2018
ISOLATION VALVE
CITY OF SOUTH SALT LAKE STANDARD DRAWINGS
SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115
DRAWN BY LINGKUN LI
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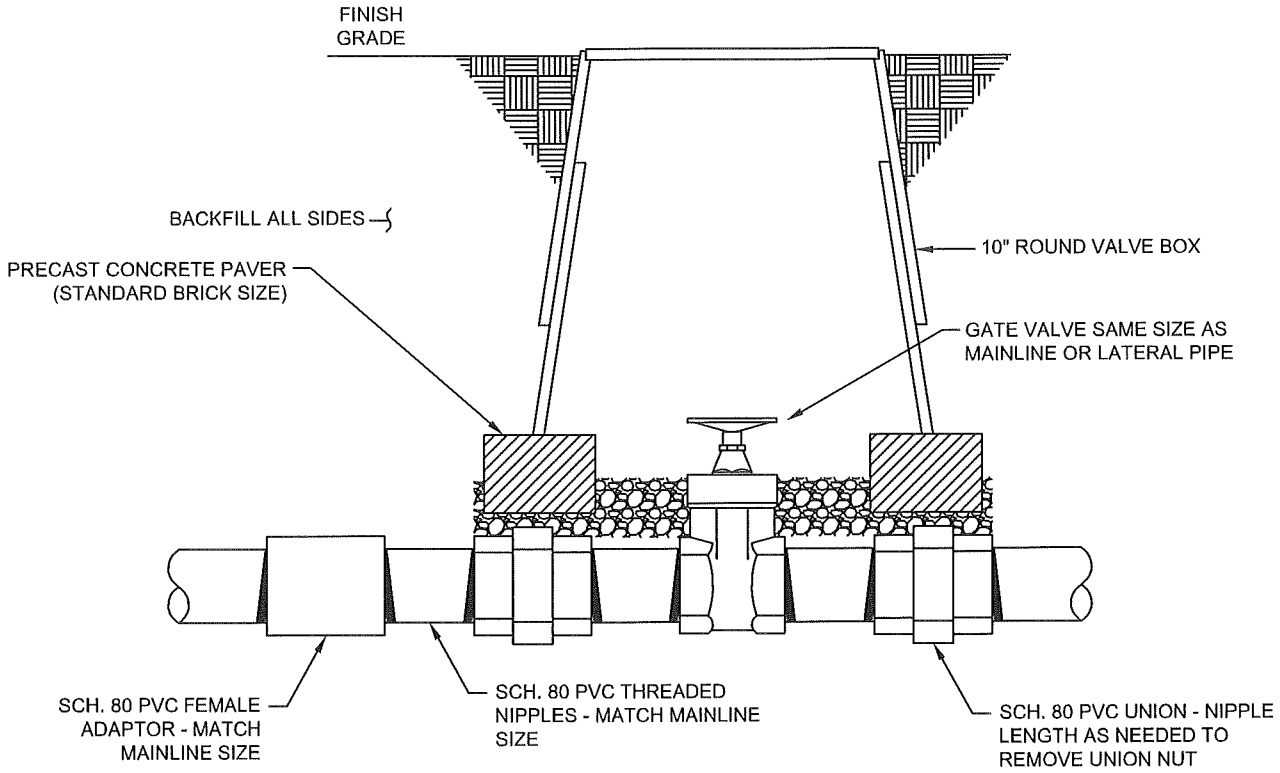

Isolation valve

This drawing replaces
APWA Plan 635
September 2018

SHEET 635
DATE SEPTEMBER, 2018

ISOLATION VALVE

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE SEPT. 10TH 2018

NO.	REVISION	MADE BY	DATE

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Wire runs for landscape irrigation

1. GENERAL
   A. Before backfilling, get ENGINEER's inspection of valve installation.

2. PRODUCTS
   A. Control Wire: UF-UL listed copper.
   B. Insulation: PVC for direct burial.

3. EXECUTION
   A. Backfill: Place backfill in trench. Water jetting is NOT allowed. Compact to 95 percent or greater relative to a standard proctor density, APWA Section 31 23 26.
   B. Lateral Pipe: Where lateral pipe runs parallel to a mainline (pressure) pipe, do not install over main line pipe.
   C. Control Wire: Provide 12-inches of expansion loop wire at each valve and every 100 feet of wire length. Use waterproof wire connectors at all splices.

SSL Plan 651

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

WIRE RUNS FOR LANDSCAPE IRRIGATION

DATE SEPTEMBER 2018

SHEET 651

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGRUN LI
CHECKED BY
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DATE SEPT. 10TH 2018

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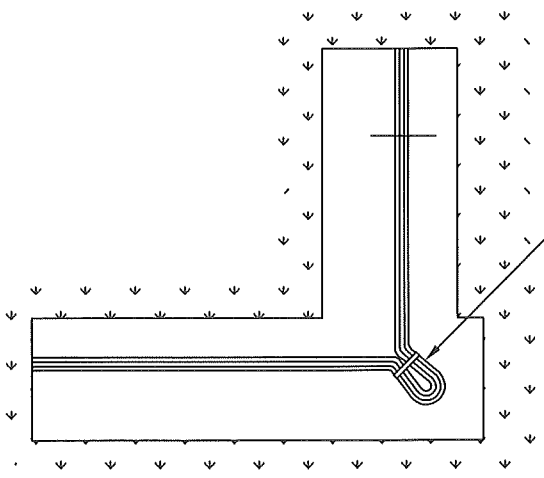
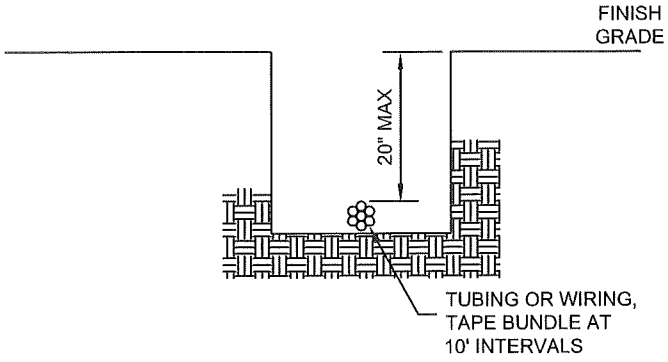
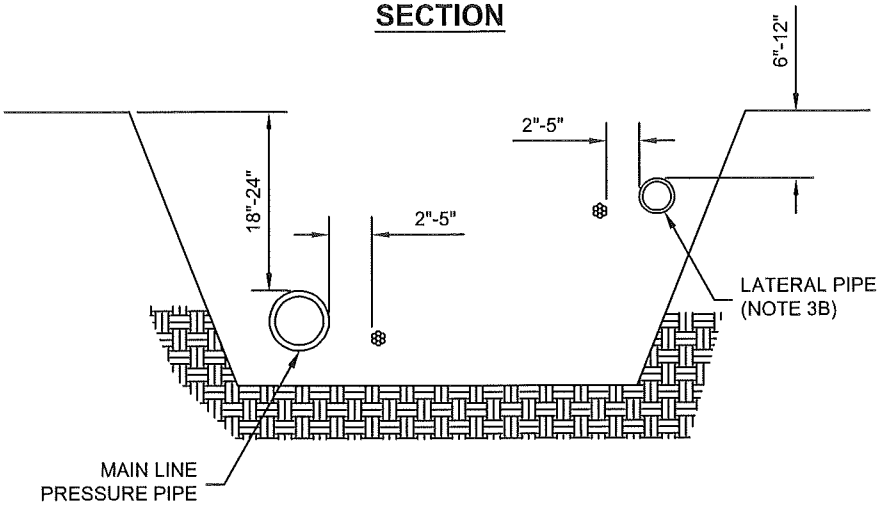


PLAN



SECTION



SECTION

Wire runs for landscape irrigation

This drawing replaces
APWA Plan 651
September 2018

SHEET 651
DATE SEPTEMBER, 2018

WIRE RUNS FOR LANDSCAPE IRRIGATION

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE SEPT. 10TH, 2018

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
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Tree in park strip

1. GENERAL
   A. Definitions:
      1) Large Tree: Over 50 feet tall at maturity.
      2) Medium Tree: Between 30 and 50 feet tall at maturity.
      3) Small Tree: Up to 30 feet tall at maturity.
      4) Tree Size: Average caliper diameter measured 6" above the root ball.

2. PRODUCTS
   A. Tree:

Size	Width of Planting Area
Large	8 feet or larger
Medium	5 feet or larger
Small	3 feet or larger

   B. Mulch: APWA Section 32 93 43.

3. EXECUTION
   A. Tree Selection and Planting Location: Consult ENGINEER to prevent the damage to existing infrastructures and in comply with the Utah Manual on Uniform Traffic Control Devices (MUTCD) sight distance.
   B. Root Ball:
      1) Prune circling roots, protruding root stubs, and fibrous matted roots flush with the root ball. Handle root ball with care. Minimize crumbling, cracking, and splitting.
      2) After placing the tree in the hole remove wire and burlap if stability of the root ball allows. If not, remove only the top one or two rows of wire and an equal amount of burlap. Leave no twine or burlap on or near the surface of the ball or around the trunk. Cut vertical slits in burlap that remains. Do not fold burlap into the hole.
   C. Containers: Slide root balls out of containers. Do not pull on the trunk. If is too larger, cut the container off after the tree is placed in the planting site.
   D. Backfill and Watering:
      1) Use soil removed from the hole as backfill.
      2) Compact backfill in 6" layers. Water. Allow water to soak deeply into the soil. Make sure ball gets thoroughly wet.

SSL Plan 681.1

SHEET 681.1
DATE JANUARY 2019
TREE IN PARK STRIP
CITY OF SOUTH SALT LAKE STANDARD DRAWINGS
SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115
DRAWN BY LINGXIN LI
CHECKED BY
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DATE JAN. 31ST 2019
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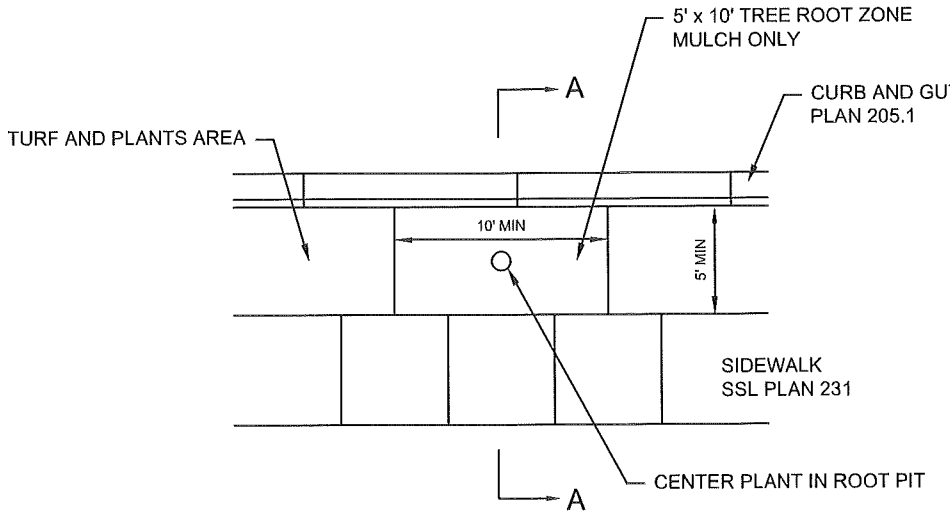
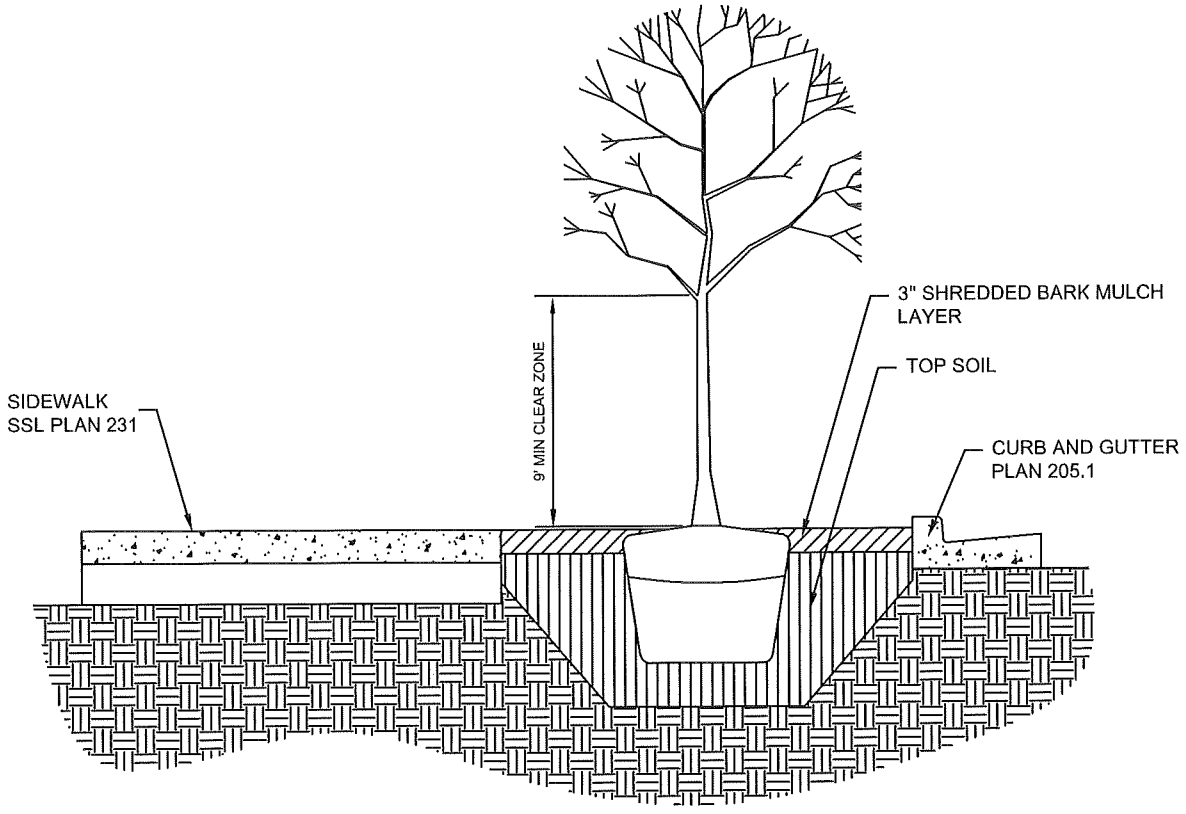


PLAN



SECTION A-A

Tree in park strip

SHEET 681.1
DATE JANUARY, 2019

TREE IN PARK STRIP

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY	LINGKUN LI
CHECKED BY	
SCALE	
DATE	JAN. 31ST 2019

NO.	REVISION	MADE BY	DATE
	AUTHORIZED BY		

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGXUAN LI
CHECKED BY
SCALE
DATE JAN. 31ST 2019

NO	AUTHORIZED BY	REVISION	MADE BY	DATE
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Tree in planter

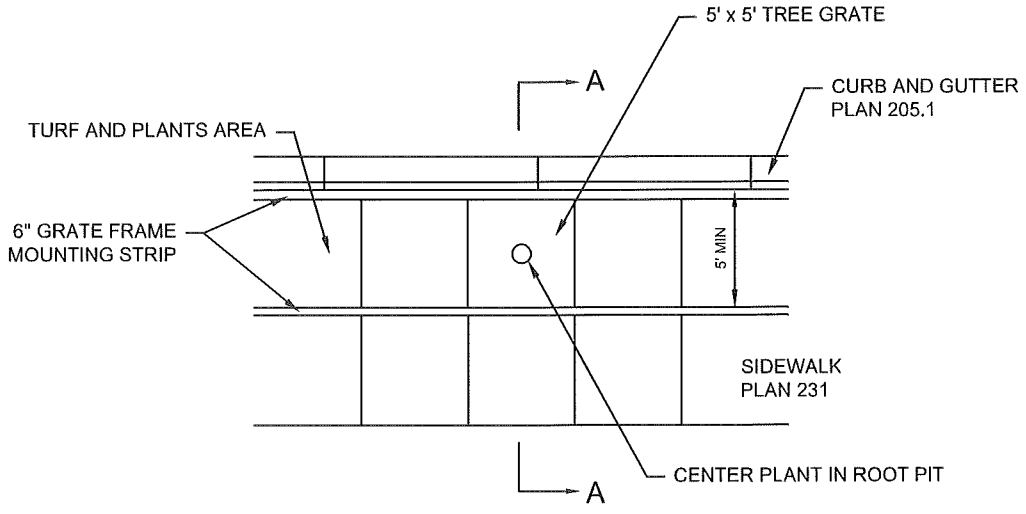
1. GENERAL
   A. Definitions:
      1) Large Tree: Over 50 feet tall at maturity.
      2) Medium Tree: Between 30 and 50 feet tall at maturity.
      3) Small Tree: Up to 30 feet tall at maturity.
      4) Tree Size: Average caliper diameter measured 6" above the root ball.

2. PRODUCTS
   A. Tree:

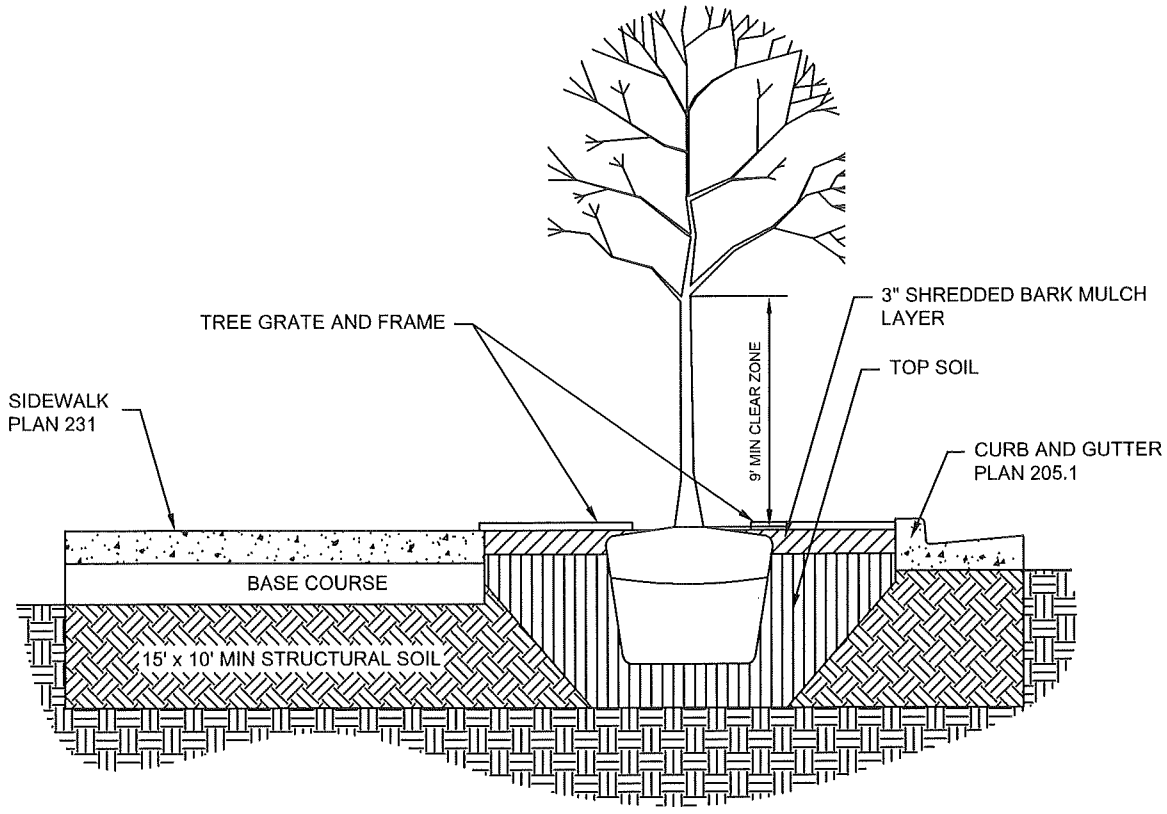
Size	Width of Planting Area
Large	8 feet or larger
Medium	5 feet or larger
Small	3 feet or larger

   B. Mulch: APWA Section 32 93 43.

3. EXECUTION
   A. Tree Selection and Planting Location: Consult ENGINEER to prevent the damage to existing infrastructures and in comply with the Utah Manual on Uniform Traffic Control Devices (MUTCD) sight distance.
   B. Root Ball:
      1) Prune circling roots, protruding root stubs, and fibrous matted roots flush with the root ball. Handle root ball with care. Minimize crumbling, cracking, and splitting.
      2) After placing the tree in the hole remove wire and burlap if stability of the root ball allows. If not, remove only the top one or two rows of wire and an equal amount of burlap. Leave no twine or burlap on or near the surface of the ball or around the trunk. Cut vertical slits in burlap that remains. Do not fold burlap into the hole.
   C. Containers: Slide root balls out of containers. Do not pull on the trunk. If is too larger, cut the container off after the tree is placed in the planting site.
   D. Backfill and Watering:
      1) Use soil removed from the hole as backfill.
      2) Compact backfill in 6" layers. Water. Allow water to soak deeply into the soil. Make sure ball gets thoroughly wet.



PLAN



SECTION A-A

Tree in planter

SHEET 681.2
DATE JANUARY, 2019

TREE IN PLANTER

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

NO.	REVISION	MADE BY	DATE
	AUTHORIZED BY		

DRAWN BY LINGXUN LI
CHECKED BY
SCALE
DATE JAN. 31ST 2019

Tree in landscape

1. GENERAL
   A. Definitions:
      1) Large Tree: Over 50 feet tall at maturity.
      2) Medium Tree: Between 30 and 50 feet tall at maturity.
      3) Small Tree: Up to 30 feet tall at maturity.
      4) Tree Size: Average caliper diameter measured 6" above the root ball.

2. PRODUCTS
   A. Tree:

Size	Width of Planting Area
Large	8 feet or larger
Medium	5 feet or larger
Small	3 feet or larger

   B. Mulch: APWA Section 32 93 43.

3. EXECUTION
   A. Tree Selection and Planting Location: Consult ENGINEER to prevent the damage to existing infrastructures and in comply with the Utah Manual on Uniform Traffic Control Devices (MUTCD) sight distance.
   B. Root Ball:
      1) Prune circling roots, protruding root stubs, and fibrous matted roots flush with the root ball. Handle root ball with care. Minimize crumbling, cracking, and splitting.
      2) After placing the tree in the hole remove wire and burlap if stability of the root ball allows. If not, remove only the top one or two rows of wire and an equal amount of burlap. Leave no twine or burlap on or near the surface of the ball or around the trunk. Cut vertical slits in burlap that remains. Do not fold burlap into the hole.
   C. Containers: Slide root balls out of containers. Do not pull on the trunk. If is too larger, cut the container off after the tree is placed in the planting site.
   D. Backfill and Watering:
      1) Use soil removed from the hole as backfill.
      2) Compact backfill in 6" layers. Water. Allow water to soak deeply into the soil. Make sure ball gets thoroughly wet.

SSL Plan 681.3

681.3 SHEET
JANUARY 2019 DATE
TREE IN LANDSCAPE
CITY OF SOUTH SALT LAKE STANDARD DRAWINGS
SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115
DRAWN BY LINGXUAN LI
CHECKED BY
SCALE
DATE JAN. 31ST 2019
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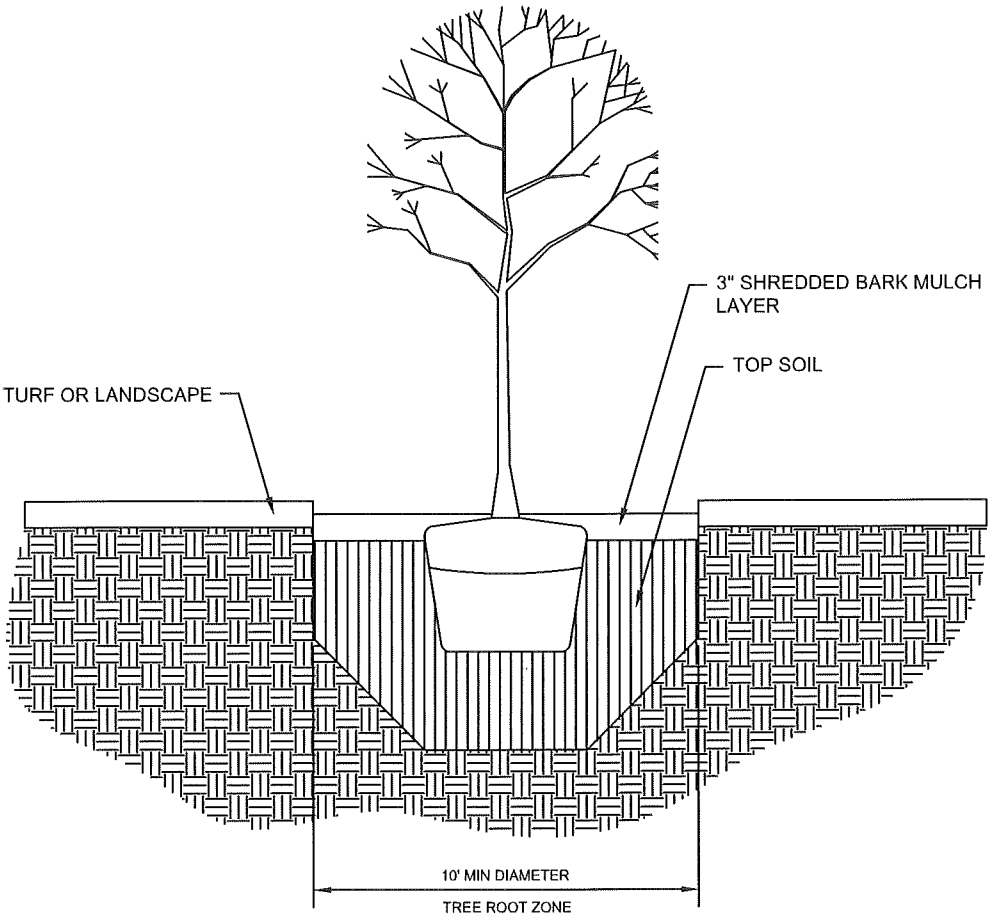

Tree in landscape

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

TREE IN LANDSCAPE

SHEET 681.3
DATE JANUARY, 2019

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGJUN LI
CHECKED BY
SCALE
DATE JAN. 31ST 2019

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Shrubs and bushes

1. GENERAL
   A. Before placing the shrub or bush, get ENGINEER's inspection of excavation.
   B. Perform work in conformity with applicable requiremnets of American Association of Nurserymen, Inc. (AAN).

2. PRODUCTS
   A. Commercial Fertilizer: Uniform in composition meeting FS O-F-241 requirements.
   B. Wood or Wood Cellulose Fiber: Free of growth or germination inhibiting ingredients.

3. EXECUTION
   A. Set shrubs and bushes at nursery depth.
   B. Install and compact all backfill material to prevent settling.

SSL Plan 683

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SHRUBS AND BUSHES

SHEET 683

DATE SEPTEMBER 2018

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E. MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGXUN LI
CHECKED BY
SCALE
DATE SEPT. 16TH 2018

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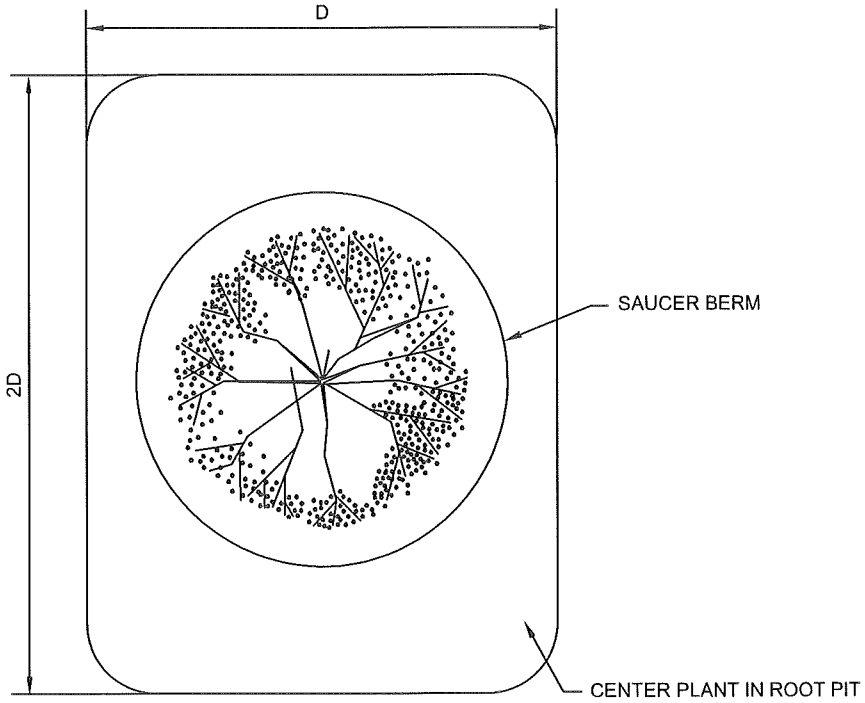
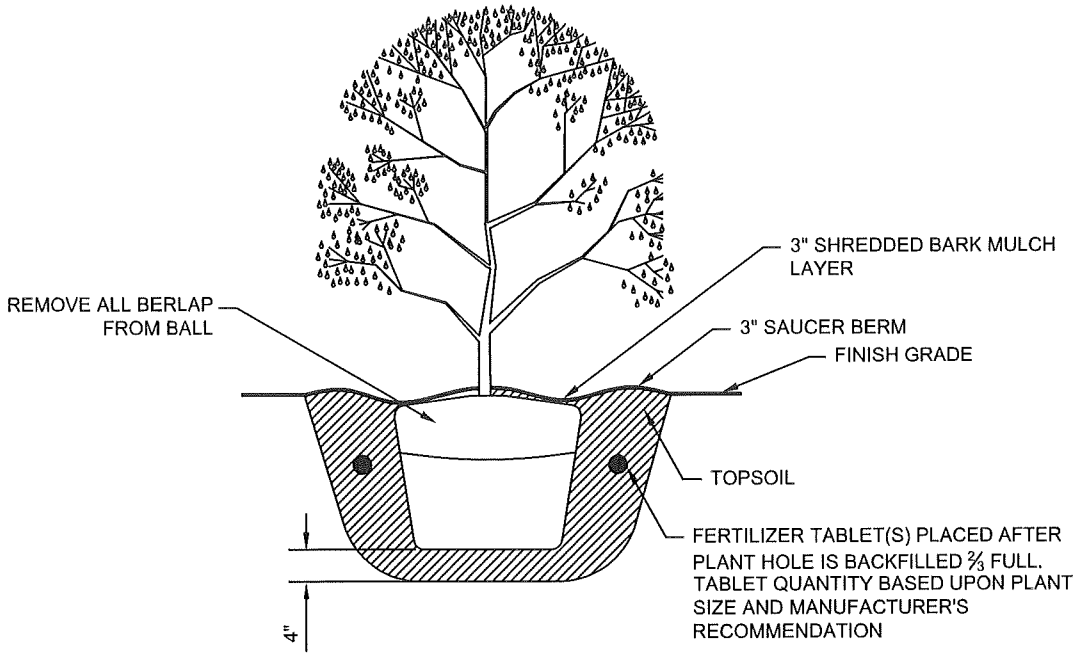


PLAN



SECTION

Shrubs and bushes

This drawing replaces
APWA Plan 683
September 2018

SHEET 683
DATE SEPTEMBER, 2018

SHRUBS AND BUSHES

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE SEPT. 10TH 2018

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
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PART 7

LIGHTING, TRAFFIC CONTROL

Street light pole terminal

1. GENERAL
   A. The drawing is a typical arrangement. Installation varies according to the service provided.

2. PRODUCTS
   A. Conduit: Galvanized pipe above ground.
   B. Bolts, Nuts, Washers, Nails, etc.: Galvanized steel.

3. EXECUTION
   A. Drip Loop Wiring: For risers where CONTRACTOR is required to pull low voltage cable, (120140 volts, 3 or 4 wires) extend enough wire from the conduit so agency can attach it to the 2' drip loop.
   B. Service Disconnect: APWA Section 26 13 13.
   C. Ground: Meet NEC requirements.
   D. Landscaped Restoration: Rake trench backfill to match existing grade. Replace vegetation to match pre-construction conditions. Follow APWA Section 32 92 00 (turf or grass) or APWA Section 32 93 13 (ground cover) requirements.

SSL Plan 736

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

STREET LIGHT POLE TERMINAL

SHEET 736

DATE MARCH 2020

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGXUN LI
CHECKED BY
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DATE MAR. 15TH 2020

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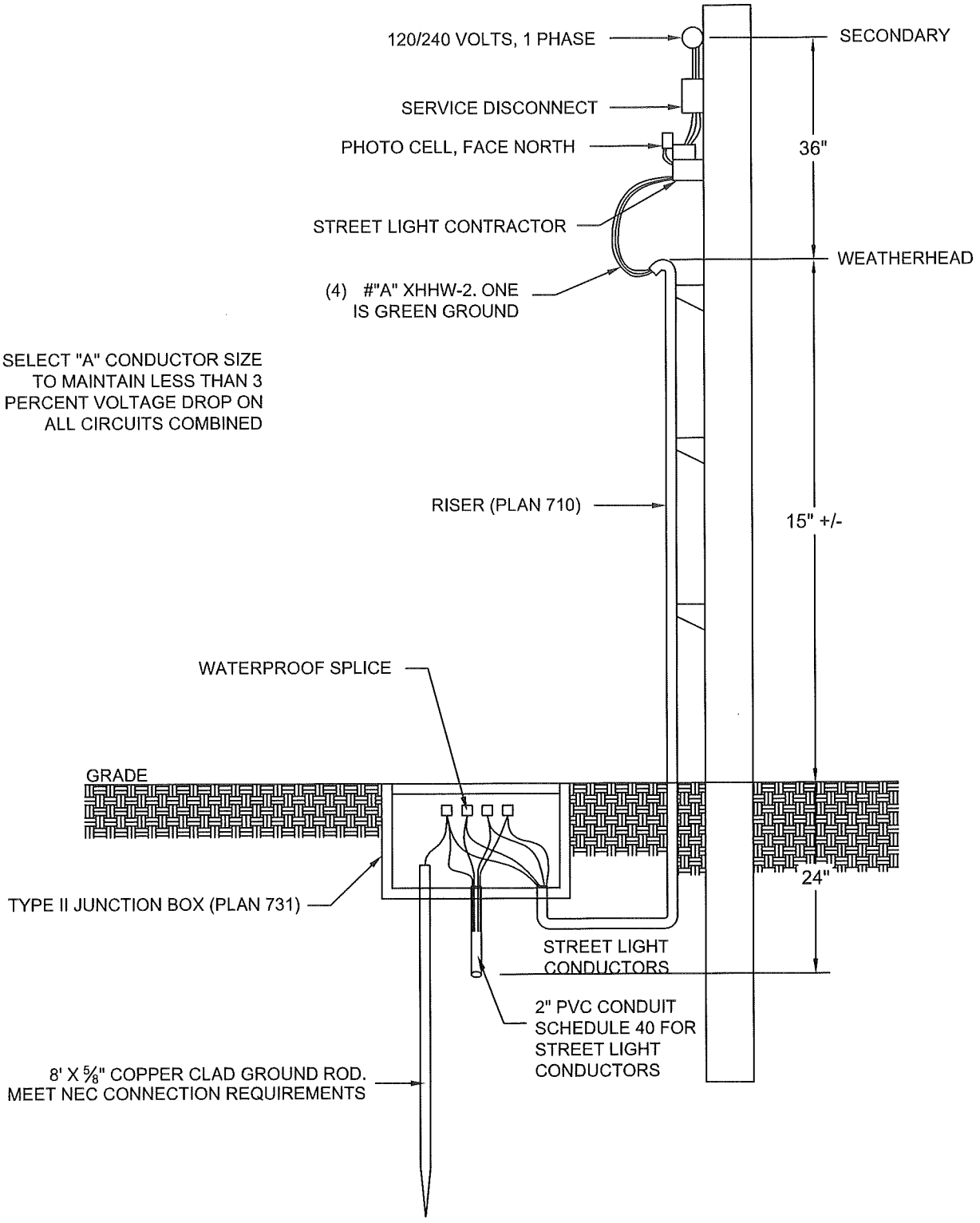

Street light pole terminal

This drawing replaces
APWA Plan 736
March 2020

SHEET 736
DATE MARCH, 2020

STREET LIGHT POLE TERMINAL

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE
ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE MAR. 10TH, 2020

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE

Street light meter pedestal

1. GENERAL
   - A. Install a concrete foundation for a meter pedestal.
   - B. Verify position and location with ENGINEER before proceeding.

2. PRODUCTS
   - A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   - B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
   - C. Concrete: Class 4000, APWA Section 03 30 04.
   - D. Conduit: PVC, NEMA TC6, Type I for encased burial in concrete, Type II for direct burial. Fittings conform to NEMA TC9.
   - E. Junction Box: Buried type, plastic body and cover in non-vehicular areas or pre-cast concrete in vehicular areas with screw-on cast iron cover both equipped with stainless steel nuts, bolts, screws and washers.
   - F. Expansion Joint Filler: 1/2-inch thick type F1 full depth, APWA Section 32 13 73.
   - G. Bolts, Nuts, Washers, Accessories: Stainless or galvanized steel, APWA Section 05 05 23.

3. EXECUTION
   - A. Pedestal Foundation Orientation:
     - 1) Not within 18 inches of top back of curb (no exceptions).
     - 2) Not within 12 inches of edge of sidewalk. If less than 12" fill space with 4 inches of concrete and finish to match adjacent surfaces.
     - 3) When the cabinet door is opened all the way, the rotation does not block the sidewalk. There is a paved area for a technician to stand on when working at the pedestal (not in someone's grass or flower bed) and the technician is standing in the right-of-way.
   - B. Trenching: Place all conduits in the same trench where possible. Backfill compaction is 95 percent or greater relative to a standard proctor.
   - C. Wire: Attach the ground side of the power supply to the control cabinet ground terminal. Identify and label all field terminals.
   - D. Conduit:
     - 1) Before concrete placement, place all conduits in the same trench.
     - 2) Provide 1-inch minimum spacing between conduits in cabinet base.
     - 3) Cap or plug conduits at both ends until used.
     - 4) Seal all conduits inside junction box and cabinet after wiring is complete.
   - E. Ground: Meet NEC requirements.
   - F. Base Course and Backfill Placement: Compaction is 95 percent or greater relative to a standard proctor density, APWA Section 31 23 26.
   - G. Concrete Placement: APWA Section 03 30 10. Provide 1/2-inch radius edges. Apply a broom finish.
   - H. Landscape Restoration: Rake trench backfill to match existing grade. Replace vegetation to match pre-construction conditions. Follow APWA Section 32 92 00 (turf or grass) or APWA Section 32 93 13 (ground cover) requirements.

SHEET 737
DATE MARCH 2020
STREET LIGHT METER PEDESTAL
CITY OF SOUTH SALT LAKE STANDARD DRAWINGS
SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115
DRAWN BY UNKNOWN
CHECKED BY
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DATE MAR. 19TH 2020
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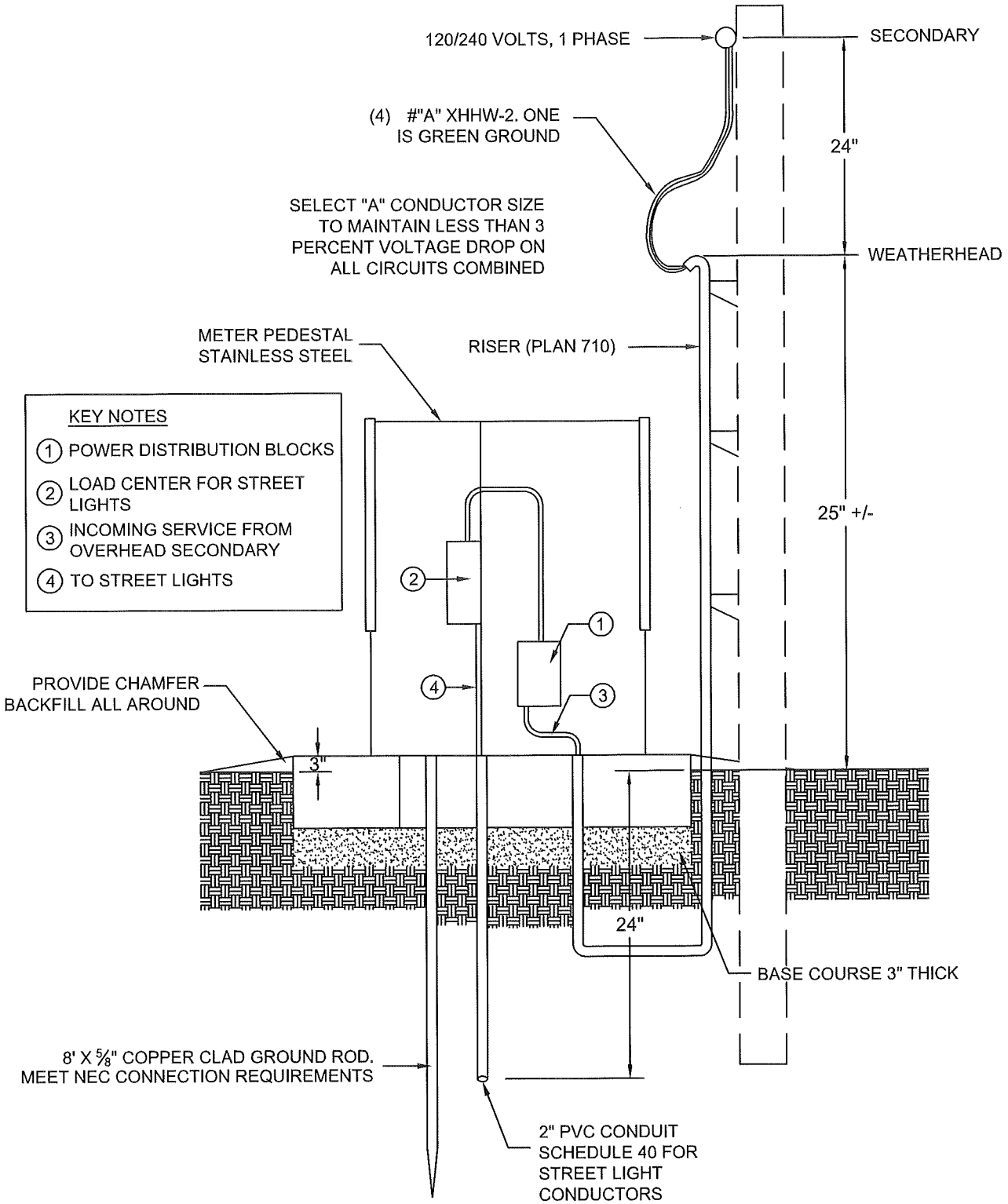

Street light meter pedestal

This drawing replaces
APWA Plan 737
March 2020

SHEET 737
DATE MARCH, 2020

STREET LIGHT METER PEDESTAL

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE MAR. 10TH 2020

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Screw-in base street light pole

1. GENERAL
   A. Before screwing in the base, use key holing procedure or other procedure to verify position of underground utilities and pipelines.

2. PRODUCTS
   A. Concrete: Class 4000, APWA Section 03 30 04.
   B. Ground Cover: Match existing, APWA Section 32 93 13.
   C. Screw-in Base: Material and dimensions to meet or exceed manufacturer's recommendations.
   D. Conduit: PVC, Schedule 40.
   E. Bolts, Nuts, Washers, Accessories: Stainless or galvanized steel, APWA Section 05 05 23.

3. EXECUTION
   A. Keyhole to verify pole placement and protect utilities, APWA Section 31 23 16.
   B. Before concrete placement, place all conduits in same trench where possible.

SSL Plan 741

SCREW-IN BASE STREET LIGHT POLE

CITY OF SOUTH SALT LAKE STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

SHEET 741
DATE MAY, 2020

DRAWN BY UNKNOWN
CHECKED BY
SCALE
DATE MAY 20TH 2020

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
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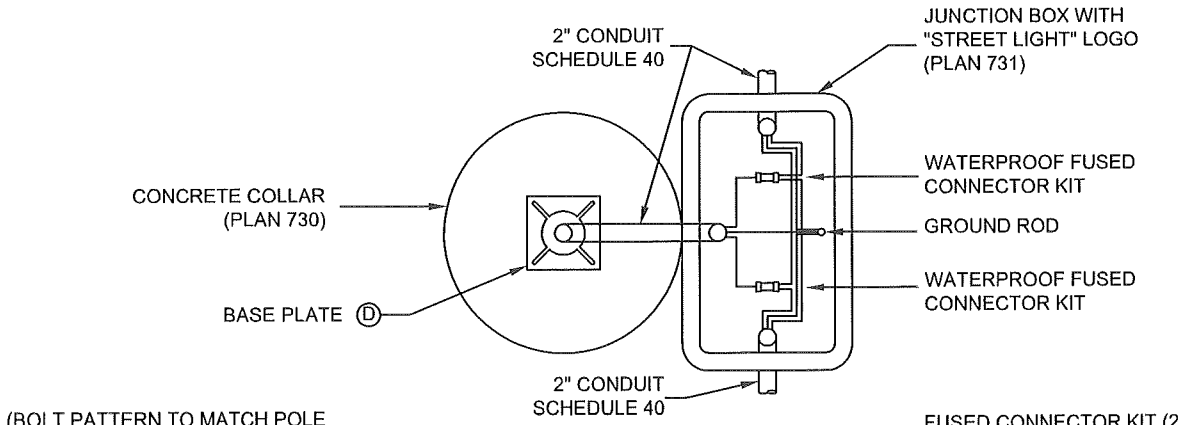
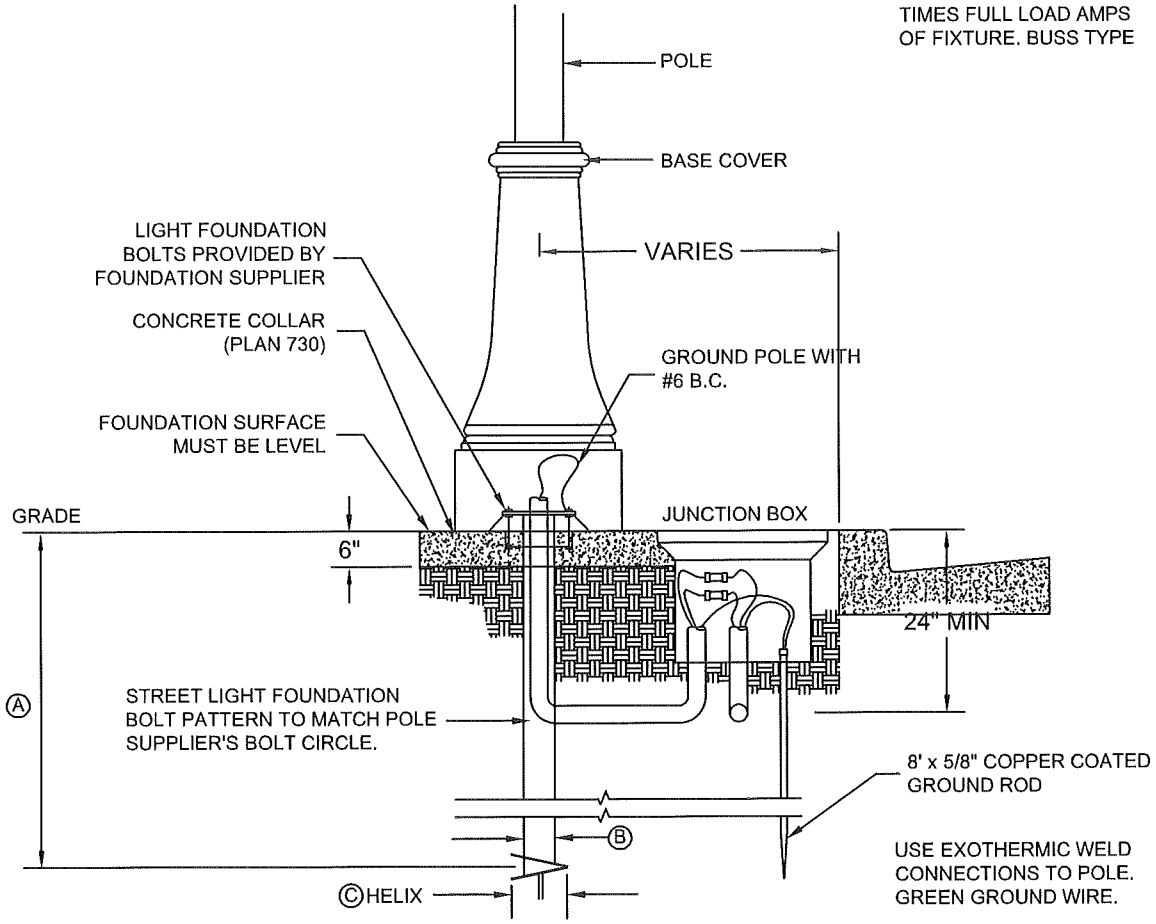


PLAN

FUSED CONNECTOR KIT (2 EACH FOR 208, 240 , OR 280 VOLTS. FUSE AT 3 TIMES FULL LOAD AMPS OF FIXTURE. BUSS TYPE



POLE SIZE	LENGTH Ⓐ	SHAFT Ⓑ	HELIX Ⓒ	PLATE Ⓓ
8' - 15'	60"	6.6"	12"	3/4' x 12" SQ
16' - 20 '	60"	6.6"	12"	1' x 15 3/4" SQ
21' - 30'	84"	6.6"	14"	1' x 15 3/4" SQ

ELEVATION

Screw-in base street light pole

This drawing replaces
APWA Plan 741
May 2020

SHEET 741
DATE MAY, 2020

SCREW-IN BASE STREET LIGHT POLE

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE MAY, 26TH 2020

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
1				
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Direct burial street light pole

1. GENERAL
   A. Before drilling, use key holing procedure or other procedure to verify position of underground utilities and pipelines.

2. PRODUCTS
   A. Concrete: Class 4000, APWA Section 03 30 04.
   B. Backfill: Granular backfill borrow or topsoil, APWA Section 31 05 13. Limit particle size to 1-1/2-inches.
   C. Ground Cover: APWA Section 32 93 13.
   D. Flowable Fill: Target is 60 psi in 28 days with 90 psi maximum in 28 days, APWA Section 31 05 15. It must flow easily requiring no vibration for consolidation.

3. EXECUTION
   A. Keyhole to verify pole placement and protect utilities, APWA Section 31 23 16.
   B. Excavation: Use vacuum extraction or excavate by hand if utilities are in the site vicinity.
   C. Flowable Fill: Use a fill material that flows easily and vibration is not required. Cure to initial set before placing concrete collar. Cure the fill for 7 days before erecting luminaire arms.
   D. Before concrete placement, place all conduits in same trench where possible.

SSL Plan 742

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

DIRECT BURIAL STREET LIGHT POLE

SHEET 742

DATE MAY, 2020

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE MAY 20TH 2020

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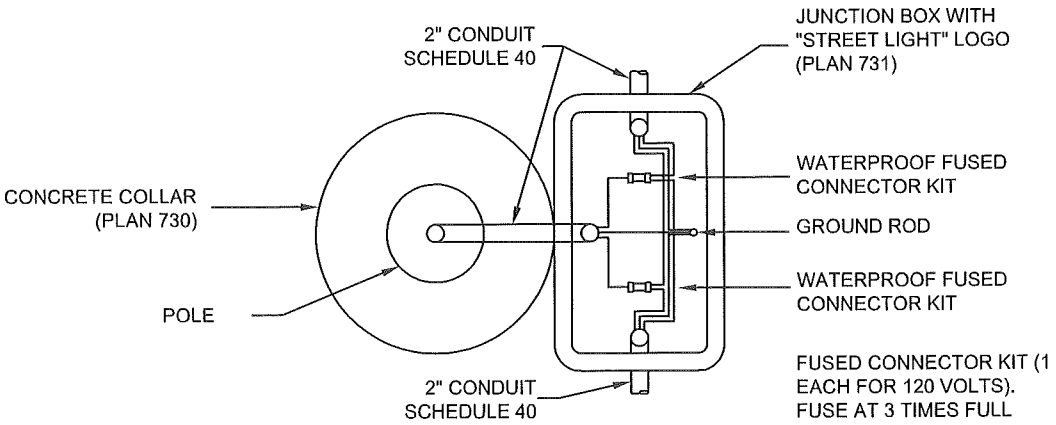
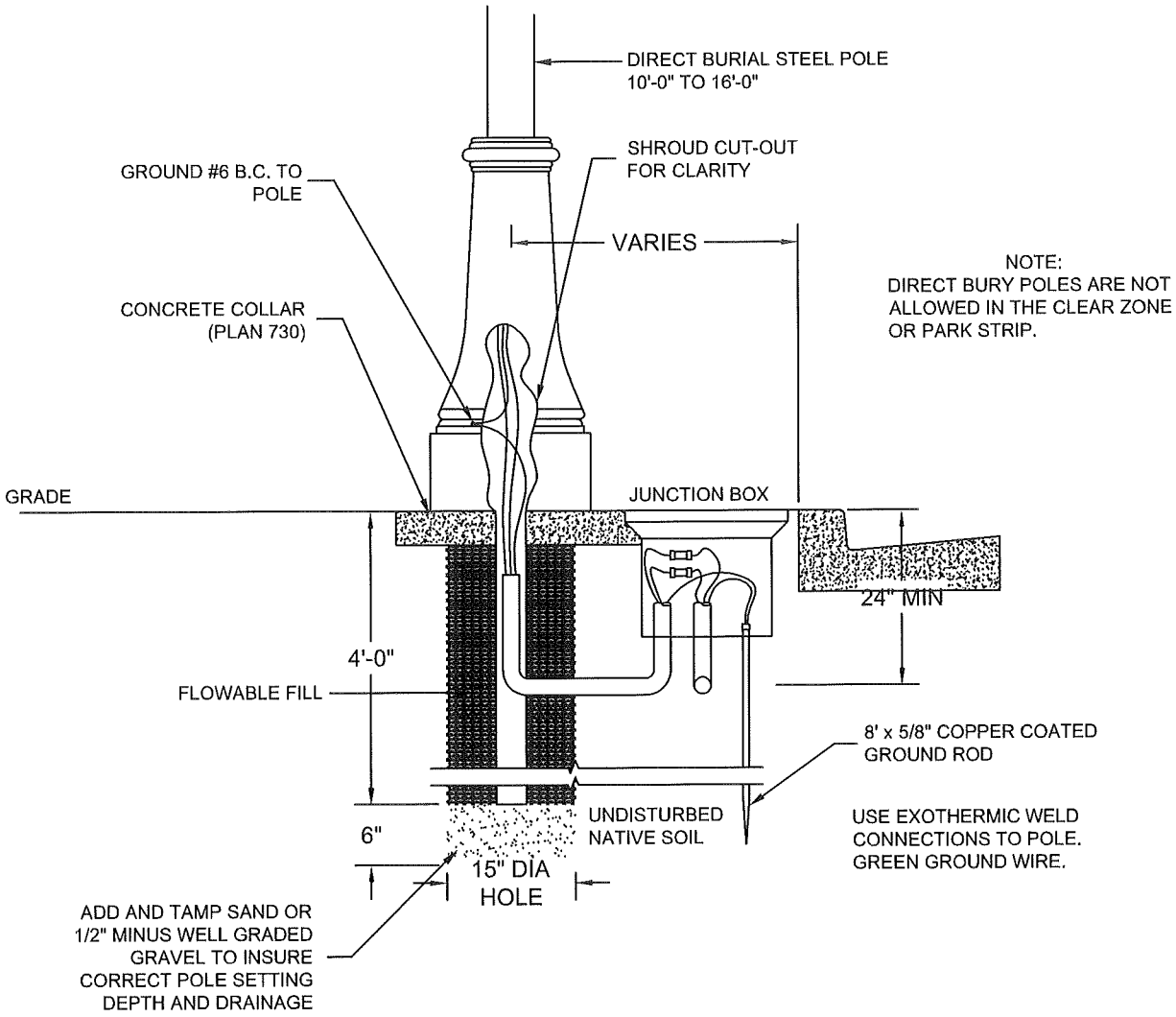


PLAN



ELEVATION

Direct burial street light pole

This drawing replaces
APWA Plan 742
May 2020

SHEET 742
DATE MAY, 2020

DIRECT BURIAL STREET LIGHT POLE

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGJUN LI
CHECKED BY
SCALE
DATE MAY. 29TH 2020

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE

Concrete base for street light pole

1. GENERAL
   A. Match longitudinal grades of foundation cap with top of existing curb.
   B. Establish grade from which foundation elevation is measured.
      1) Existing Curb and No Sidewalk: Grade is 1/4-inch per foot slopred upward from the top of the back of curb.
      2) Existing Curb and Sidewalk: Straight grade from top back of curb to near edge of sidewalk.
      3) Inside of Existing Median. Straight grade between top of back of one curb to top of back of other curb.
   C. When foundation cap is located in an area to be paved, the cap is to be placed below grade with bolts extending above top of cap to accommodate paving surface.

2. PRODUCTS
   A. Reinforcement: Galvanized or epoxy coated, deformed, 60 ksi yield grade steel, ASTM A615.
   B. Anchor Bolt: Galvanized steel with galvanized washer and nut, APWA Section 05 05 23.
   C. Concrete: Class 4000, APWA Section 03 30 04.

3. EXECUTION
   A. Keyhole to verify pole placement and protect utilities, APWA Section 31 23 16.
   B. Excavation: Use vacuum extraction or excavate by hand if utilities are in the site vicinity.
   C. Formwork: Use a circular form for the top 18-inches of foundation. If ground water is encountered, excavate additional depth and install sewer rock. Pump out water and provide a circular form for full length of foundation.
   D. Before Concrete Placement:
      1) Do not weld reinforcing steel, anchor bolts, or galvanized steel conduit.
      2) Place all conduits in same trench.
      3) Use a template to hold anchor bolts in the proper positions and to the proper heights until concrete is placed and sets.
      4) Protect conduits from plugging by sealing conduit ends before concrete placement.
   E. Concrete Placement: APWA Section 03 30 10. Provide 1/2-inch radius edges. Cure concrete for 7 days before erecting pole.

SSL Plan 743

CONCRETE BASE FOR STREET LIGHT POLE

CITY OF SOUTH SALT LAKE STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY: LINQIUN LI
CHECKED BY:
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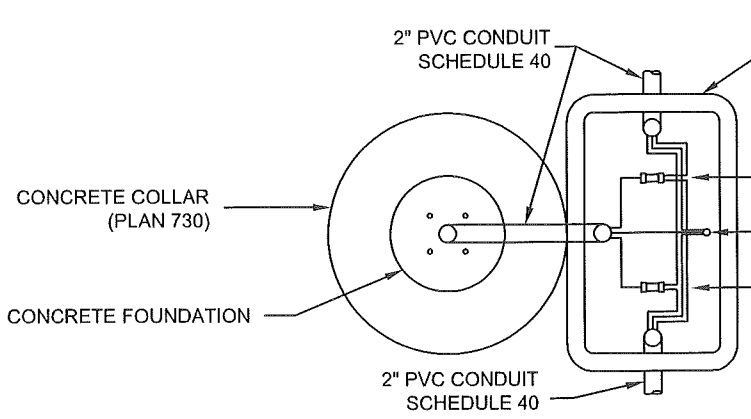
DATE: MAY. 20TH 2020

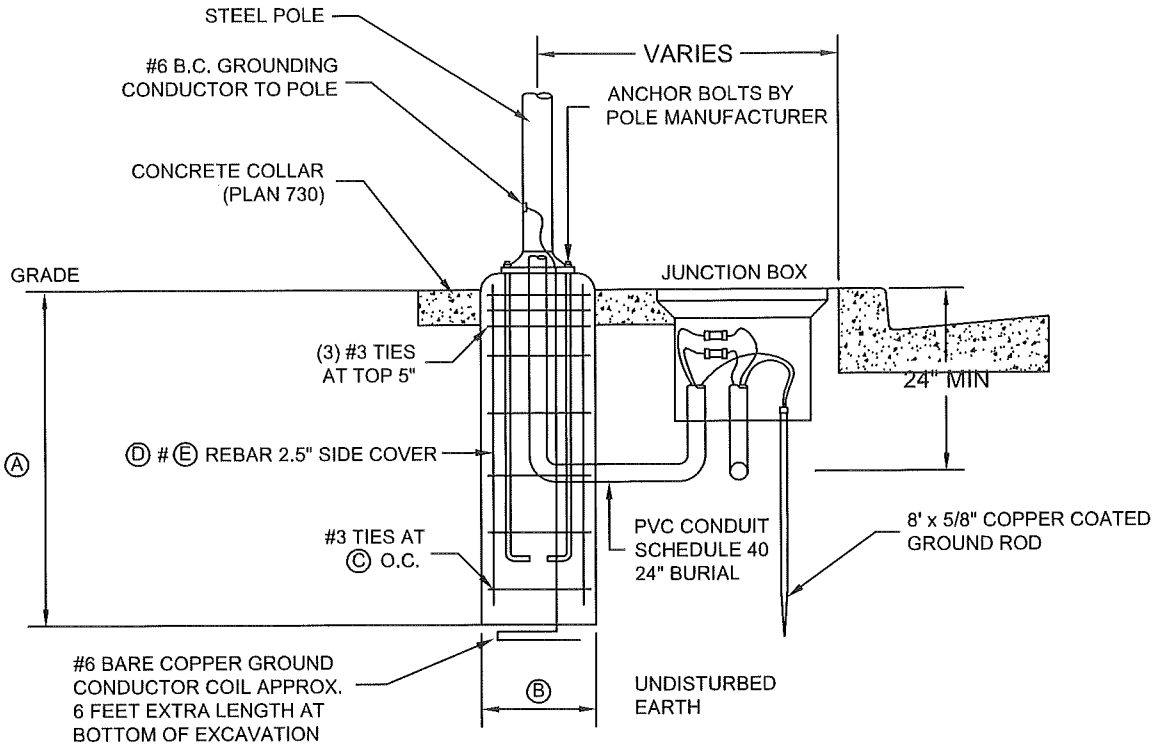
NO.	AUTHORIZED BY	REVISION	MADE BY	DATE

SHEET 743
DATE MAY, 2020



PLAN

FUSED CONNECTOR KIT (2 EACH FOR 208, 240 , OR 280 VOLTS. FUSE AT 3 TIMES FULL LOAD AMPS OF FIXTURE. BUSS TYPE



POLE SIZE	DEPTH Ⓐ	DIAMETER Ⓑ	SPACING Ⓒ	VERTICAL Ⓓ	REBAR SIZE Ⓔ
10' - 15'	4'-0"	18"	12"	8	6
16' - 25'	6'-0"	24"	12"	8	6
26' - 50'	9'-0"	30"	12"	8	6

ELEVATION

Concrete base for street light pole

This drawing replaces
APWA Plan 743
May 2020

SHEET 743
DATE MAY, 2020

CONCRETE BASE FOR STREET LIGHT POLE

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGXUN LI
CHECKED BY
SCALE
DATE MAY. 20TH 2020

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE

TRAFFIC CALMING

Narrow travel lane

1. GENERAL
   A. The drawing is a typical arrangement. Construction varies according to the architectural and engineering design.

2. PRODUCTS
   A. Pavement Markings: Paint. APWA Section 32 17 23.

3. EXECUTION
   A. Pavement Markings: Follow APWA Section 32 17 23.

SSL Plan 771

NARROW TRAVEL LANE

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE
ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY: LINGRUN LI
CHECKED BY:
SCALE:
DATE: DEC. 3RD 2020

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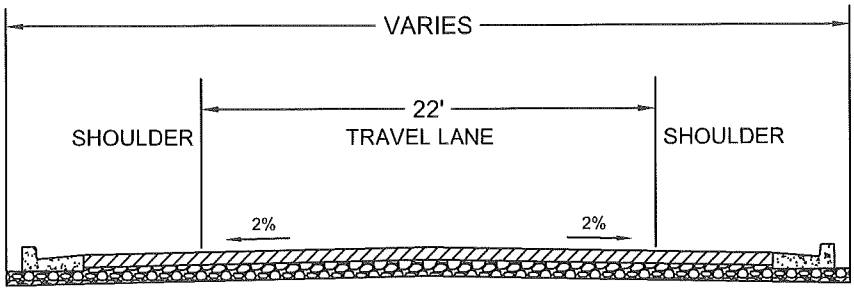
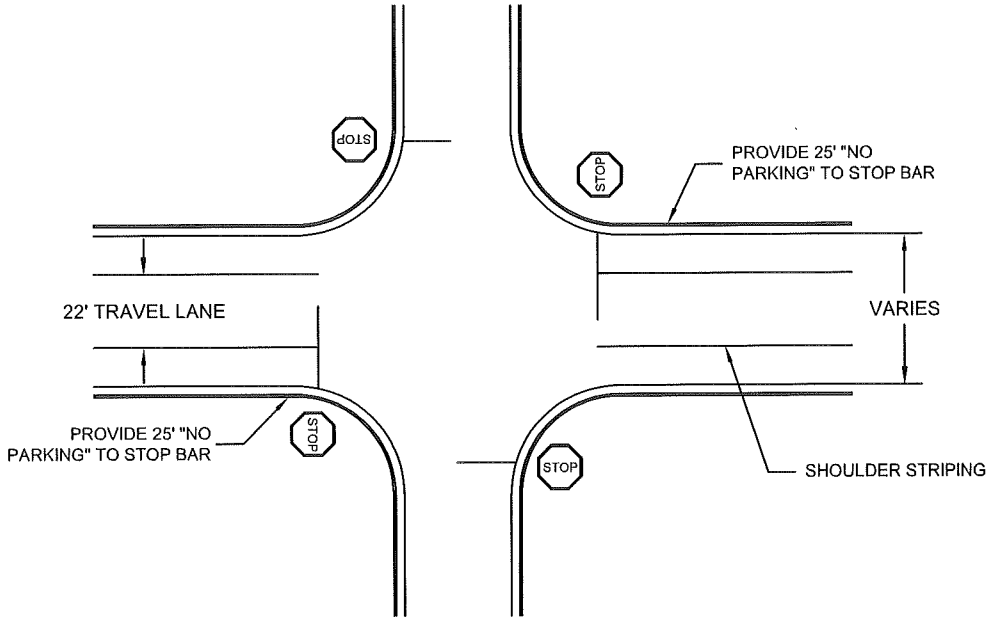
SHEET: 771
DATE: DECEMBER 2020

LOCAL ROAD ONLY



SECTION



INTERSECTION

Narrow travel lane

SHEET 771
DATE DECEMBER, 2020

NARROW TRAVEL LANE

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE DEC. 3RD 2020

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3				
4				
5				

Speed radar feedback sign

1. GENERAL
   A. The drawing is a typical arrangement. Construction varies according to the architectural and engineering design.

2. PRODUCTS
   A. Speed Limit Sign: Manual on Uniform Traffic Control Devices (MUTCD) R2-1 sign, 25 mph.
   B. Feedback flashing strip.

3. EXECUTION
   A. Location: Residential area only. Consult ENGINEER for location and spacing.

SSL Plan 772.1

SHEET 772.1
DATE DECEMBER 2020

SPEED RADAR FEEDBACK SIGN

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGXUAN LI
CHECKED BY
SCALE
DATE DEC. 3RD 2020

NO	AUTHORIZED BY	REVISION	MADE BY	DATE
1				
2				
3				
4				
5				

LOCAL ROAD

Notes:

1. This sign shall be used on local road only.
2. Standard Utah MUTCD Sign R2-1. Solar powered flashing is preferred.
3. Mounting Height: 7 ft minimum, measured vertically from the bottom of the sign to the near edge of the traveled way, or the top of the curb. Unless approved by City Engineer.

Speed radar feedback sign

SHEET 772.1
DATE DECEMBER, 2020

SPEED RADAR FEEDBACK SIGN

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE DEC.-4TH-2020

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
1				
2				
3				
4				
5				

Speed radar feedback sign

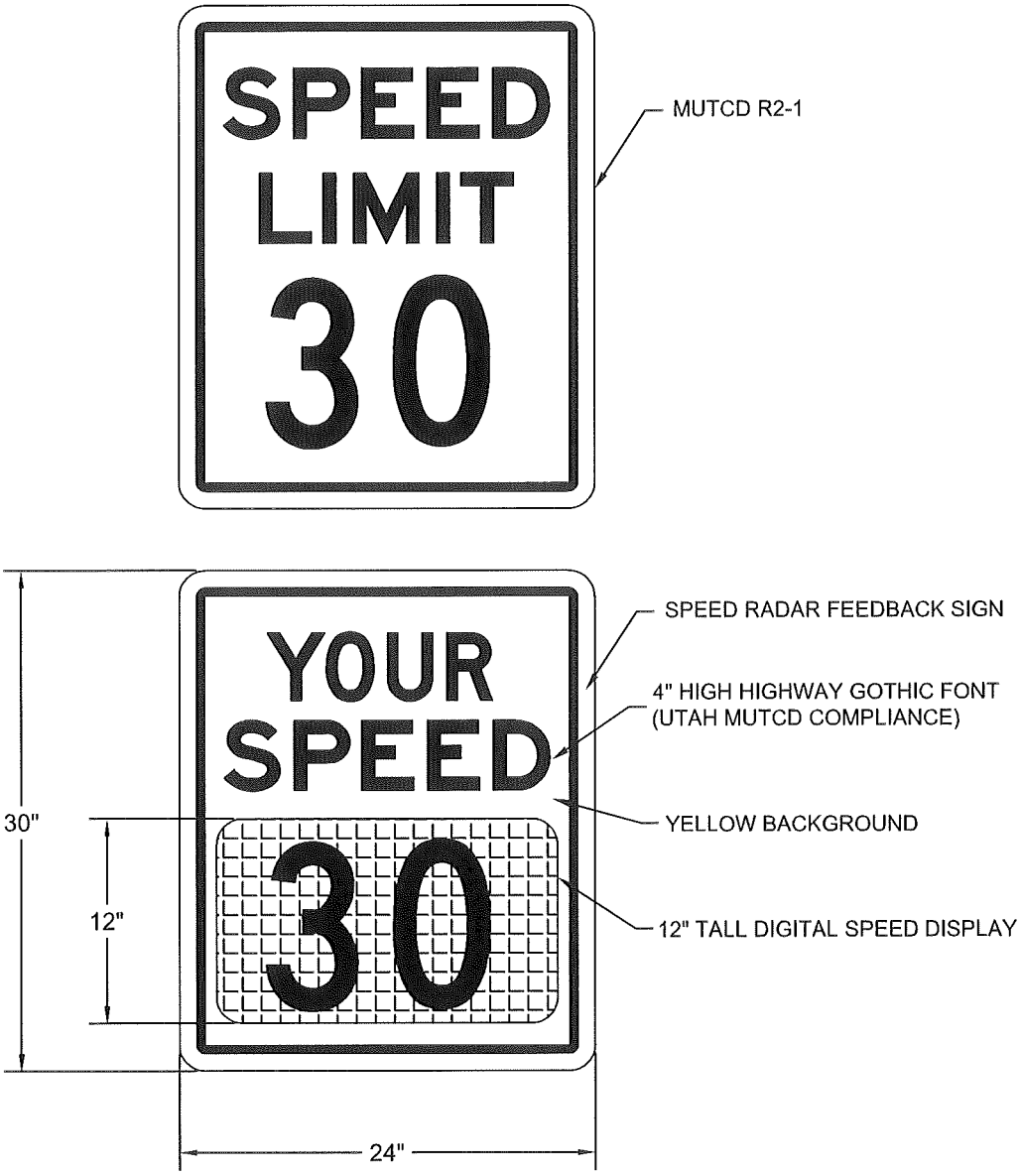
1. GENERAL
   A. The drawing is a typical arrangement. Construction varies according to the architectural and engineering design.

2. PRODUCTS
   A. Speed Limit Sign: Manual on Uniform Traffic Control Devices (MUTCD) R2-1 sign.
   B. Speed Feedback Sign: Dimensions match MUTCD R2-1 sign.

3. EXECUTION
   A. Location: Collector roads only. Consult ENGINEER for location and spacing.

SSL Plan 772.2

SHEET 772.2
DATE DECEMBER 2020
SPEED RADAR FEEDBACK SIGN
CITY OF SOUTH SALT LAKE STANDARD DRAWINGS
SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115
DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE DEC. 3RD 2020
NO. | AUTHORIZED BY | REVISION | MADE BY | DATE



COLLECTOR

Notes:

1. This sign shall be used on roads classified as "Collector".
2. Standard static speed limit sign Utah MUTCD Sign R2-1. Solar powered feedback sign is preferred.
3. Speed feedback sign shall be mounted below speed limit sign.
4. Mounting Height: 7 ft minimum, measured vertically from the bottom of the sign to the near edge of the traveled way, or the top of the curb. Unless approved by City Engineer.

Speed radar feedback sign

SHEET 772.2
DATE DECEMBER, 2020

SPEED RADAR FEEDBACK SIGN

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE DEC. 4TH 2020

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
1				
2				
3				
4				
5				

Bulb-out

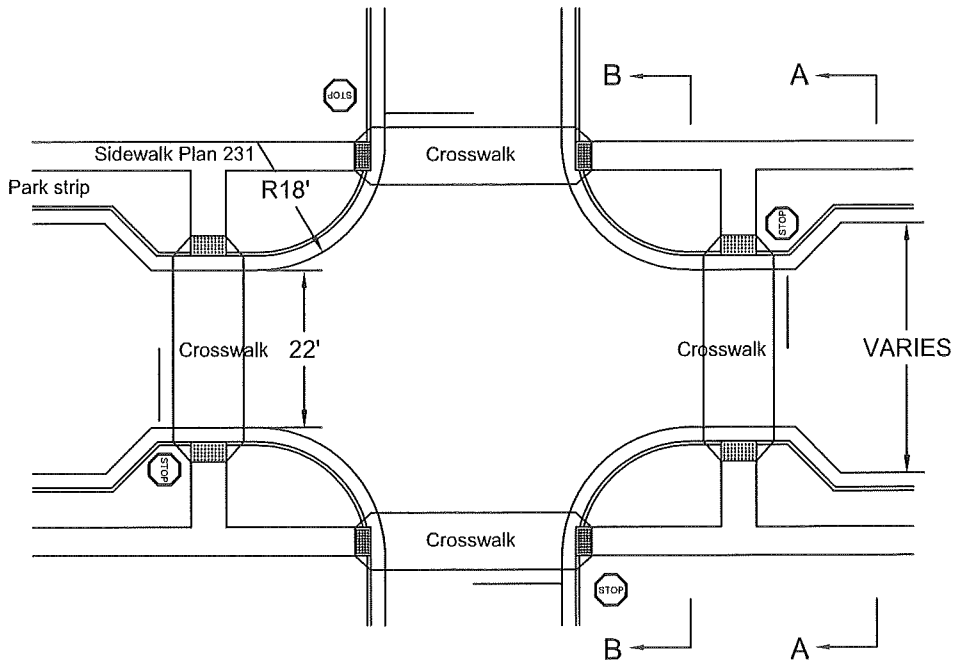
1. GENERAL
   A. The drawing is a typical arrangement. Construction varies according to the architectural and engineering design.
   B. Variance from specified dimensions and slopes must be acceptable to the ENGINEER. System configuration may be changed at ENGINEER's discretion.
   C. Additional requirements are specified in APWA Section 32 16 13.

2. PRODUCTS
   A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
   B. Expansion Joint Filler: 1/2-inch thick type F1 full depth, APWA Section 32 13 73.
   C. Concrete: Class 4000, APWA Section 03 30 04. If necessary, provide concrete that achieves design strength in less than 7 days. Use caution; however, as concrete crazing (spider cracks) may develop if air temperature exceeds 90 degrees F.
   D. Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00.

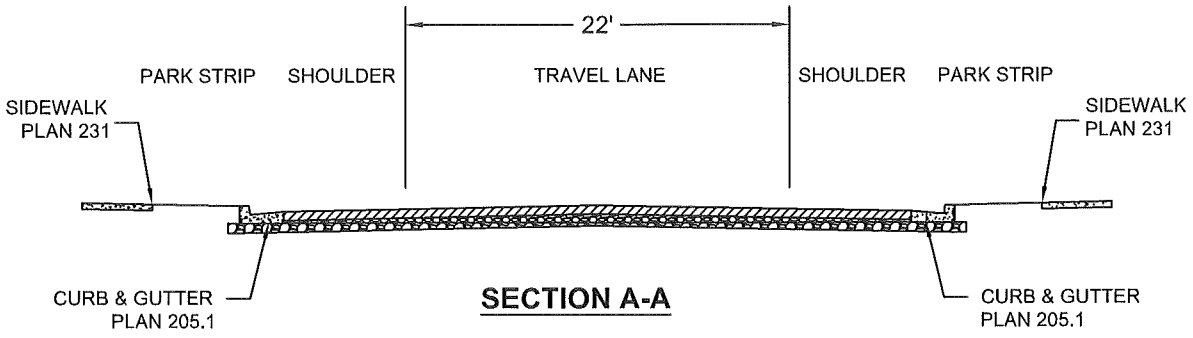
3. EXECUTION
   A. Base Course Placement: APWA Section 32 05 10. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
   B. Concrete Placement: APWA Section 03 30 10.
      1) Install expansion joints vertical, full depth, with top of filler set flush with concrete surface.
      2) Install contraction joints vertical, 1/8-inch wide or 1/4 slab thickness if the slab is greater than 8-inches thick. Maximum length to width ratio for non-square panels is 1.5 to 1. Maximum panel length (in feet) is 1.5 times the slab thickness (in inches).
      3) Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.

SSL Plan 773

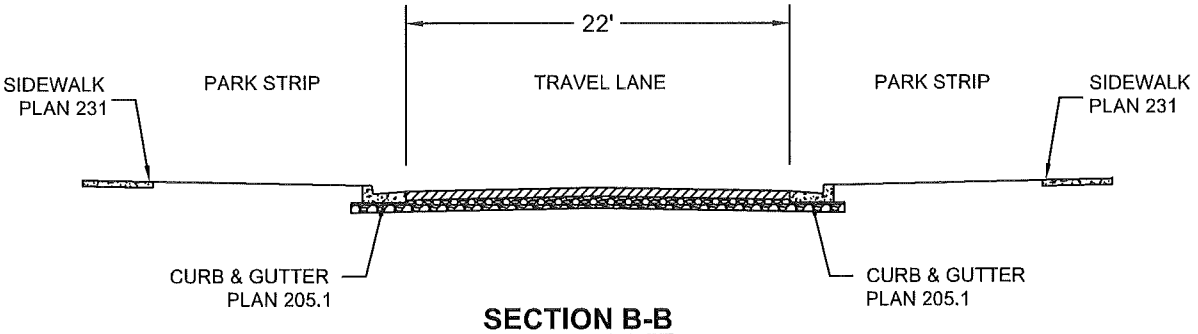
SHEET 773
DATE DECEMBER 2020
BULB-OUT
CITY OF SOUTH SALT LAKE STANDARD DRAWINGS
SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115
DRAWN BY LINGXIN LI
CHECKED BY
SCALE
DATE DEC. 3RD 2020
NO. | AUTHORIZED BY | REVISION | MADE BY | DATE



INTERSECTION



SECTION A-A



SECTION B-B

Bulb-out

SHEET 773
DATE DECEMBER, 2020

BULB-OUT

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

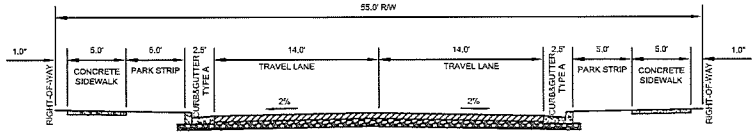
SOUTH SALT LAKE
ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

DRAWN BY LINGKUN LI
CHECKED BY
SCALE
DATE DEC. 3RD 2020

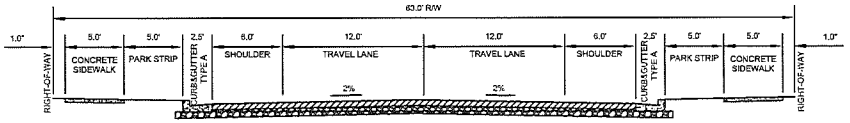
NO.	REVISION	DATE	MADE BY	DATE	AUTHORIZED BY

PART 9

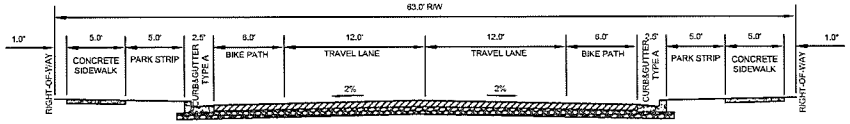
STREET



LOCAL
(RESIDENTIAL, NO ON STREET PARKING)



LOCAL
(RESIDENTIAL, ON STREET PARKING)



MINOR COLLECTOR - 2 L CONFIGURATION

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
1				
2				
3				
4				
5				

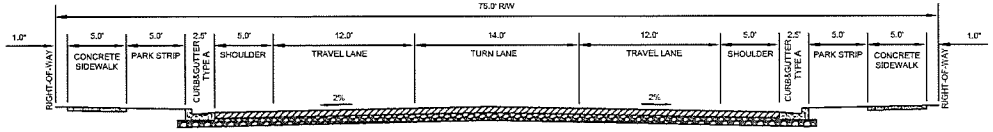
DRAWN BY: LINGKUN LI
CHECKED BY:
SCALE:
DATE: SEPT. 10TH 2018

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

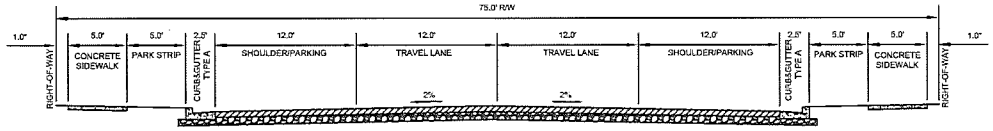
CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

55 FT AND 63 FT RIGHT-OF-WAY
STREET SECTIONS

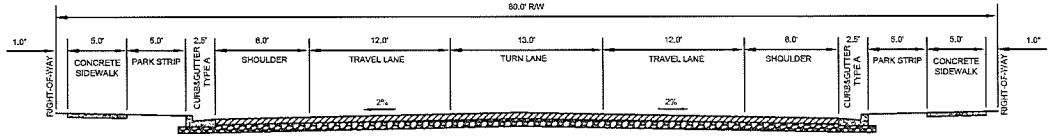
SHEET: 901.1
DATE: SEPTEMBER, 2018



MAJOR COLLECTOR - 3 L CONFIGURATION



MINOR ARTERIAL - 2 L
(COMMERCIAL / RESIDENTIAL / INDUSTRIAL)



MINOR ARTERIAL - 3 L
(COMMERCIAL / RESIDENTIAL / INDUSTRIAL)

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
1				
2				
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4				
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6				

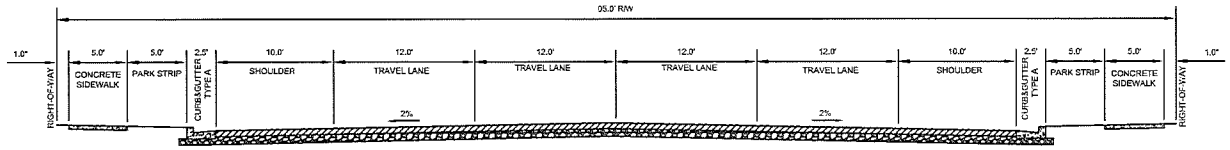
DRAWN BY: LINGKUN LI
CHECKED BY:
SCALE:
DATE: SEPT. 10TH 2018

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

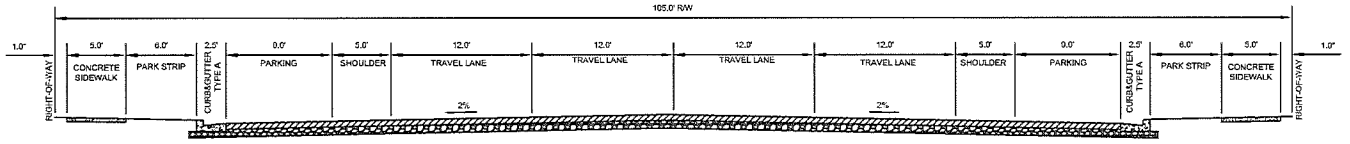
CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

75 FT AND 80 FT RIGHT-OF-WAY
STREET SECTIONS

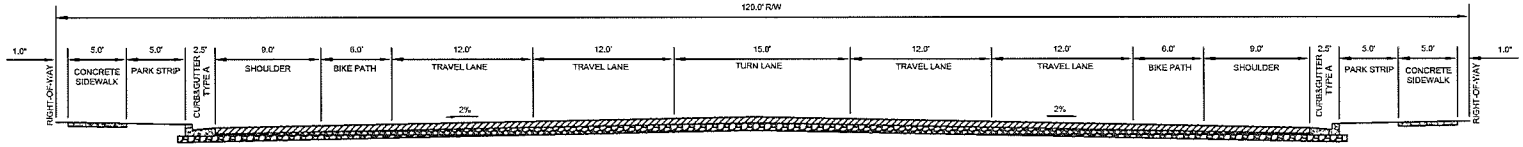
SHEET
901.2
DATE
SEPTEMBER, 2018



MINOR ARTERIAL - 4 L
(COMMERCIAL / RESIDENTIAL / INDUSTRIAL)



MAJOR ARTERIAL - 4 L
(COMMERCIAL / RESIDENTIAL)



MAJOR ARTERIAL - 5 L
(COMMERCIAL / RESIDENTIAL)

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
1				
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5				
6				

DRAWN BY: LINGKUN LI
CHECKED BY:
SCALE:
DATE: SEPT. 10TH 2018

SOUTH SALT LAKE ENGINEERING DEPARTMENT
220 E MORRIS AVENUE
SOUTH SALT LAKE, UTAH 84115

CITY OF SOUTH SALT LAKE
STANDARD DRAWINGS

95 FT, 105 FT, AND 120 FT
RIGHT-OF-WAY
STREET SECTIONS

SHEET
901.3
DATE
SEPTEMBER, 2018

A: SWPPP Template (Utah) – Instructions

DWQ has developed this Storm Water Pollution Prevention Plan (SWPPP) template for construction sites permitted under the Construction General Storm Water Permit (CGP). The template gives you a framework to ensure that your SWPPP addresses the necessary elements required by the permit. It may be helpful to use this template with EPA's guidance on *Developing Your Storm Water Pollution Prevention Plan* (EPA SWPPP Guide). Both are available on DWQ's construction storm water website at https://deq.utah.gov/water-quality/general-construction-storm-water-updes-permits

This template covers most of the SWPPP elements that the Utah CGP requires, however, you are encouraged to customize this template to reflect unique conditions at the site or address a requirement not covered in the provided sections.

Using the SWPPP Template

Each section of this template includes instructions and space for project information. You should read the instructions for each section before you complete that section. If you require additional clarification, the instructions often reference a permit section where you can find the exact wording for the requirement as well as other resources that may be useful. For a cleaner document you may want to delete instructions when finished. This template was developed in Word so that you can easily add tables and additional text. Some sections may require only a brief description or not apply at all to your project, while others may require several pages of explanation.

Tips for completing the SWPPP template

- If there is more than one key player affecting storm water for your project, consider coordinating development of your SWPPP with the other key players.
- Make sure you inform subcontractors about limitations or special requirements if their work intersects with SWPPP requirements. You might write a section of your SWPPP specifically for a subcontractor and deliver that section to the sub-contractor before his work commences.
- Modify this SWPPP template so that it addresses the requirements in your construction general permit and meets the needs of your project. Be sure to include important aspects of the SWPPP that go beyond the boundaries of the project.
- EPA's guidance on Developing Your Storm Water Pollution Prevention Plan (SWPPP Guide) can be accessed here: https://www3.epa.gov/npdes/pubs/sw_swppp_guide.pdf

Storm Water Pollution Prevention Plan

for:

Insert Project Name
Insert Project Site Location/Address
Insert City, State, Zip Code
Insert Project Site Telephone Number (if applicable)

Operator:

Insert Company or Organization Name
Insert Name
Insert Address
Insert City, State, Zip Code
Insert Telephone Number
Insert Fax/Email

Primary SWPPP Contact

Insert Company or Organization Name
Insert Name
Insert Address
Insert City, State, Zip Code
Insert Telephone Number
Insert Fax/Email

SWPPP Preparation Date:

__/__/__

UPDES Permit Tracking Number*:

UTR_____

**This is the unique number assigned to your project after you have applied for coverage under the Utah Pollutant Discharge Elimination System (UPDES) construction general permit. If this template is filled out first, you can leave the tracking number blank until after you have applied for coverage.*

Contents

Appendix I – Construction General Permit

SECTION 1: CONTACT INFORMATION/ RESPONSIBLE PARTIES

Instructions (CGP 6.1 and 7.3.1):

- Identify the staff members that are part of the project's storm water team as well as their responsibilities. Include documentation showing training the members of the team who will conduct inspections have received. The storm water team is comprised of individuals who are responsible for the development of the SWPPP, any later modifications to it, installing and maintaining storm water controls, conducting site inspections, and making corrective actions where required.
- Each member of the storm water team must have ready access to either an electronic or paper copy of the 2024 CGP and the SWPPP.
- Starting January 1, 2021: A SWPPP writer for a site greater than 5 acres, with a perennial surface water within 50 feet of the project, or with a steep slope (70% or 35 degrees or more) must hold a certification to demonstrate that they are a "qualified person" per CGP Part 7.2. A certification page is located in Section 11.
- The following personnel, at a minimum, must receive training on their responsibilities (CGP Part 6.1/6.2):
  - ✓ Personnel who are responsible for the design, installation, maintenance, and/or repair of storm water controls (including pollution prevention measures);
  - ✓ Personnel responsible for the application and storage of treatment chemicals;
  - ✓ Personnel who are responsible for conducting inspections (must hold a certification) as required in Part 4.1.; and
  - ✓ Personnel who are responsible for taking corrective actions as required in Part 5.
- A sample training log is provided in Appendix F. Certifications can also be recorded in this appendix.
- For more on training, see *SWPPP Guide*, Chapter 8.

1.1 Storm Water Team

Name and/or Position, and Contact	Responsibilities, Qualifications, and Training
Insert name of responsible person Insert Company Name Insert Position Insert Telephone Number Insert Email	Insert Responsibility, Qualifications, and Trainings
Insert name of responsible person Insert Company Name Insert Position Insert Telephone Number Insert Email	Insert Responsibility, Qualifications, and Trainings
Insert name of responsible person Insert Company Name Insert Position Insert Telephone Number Insert Email	Insert Responsibility, Qualifications, and Trainings

[Insert or delete rows as necessary.]

SECTION 2: NATURE OF CONSTRUCTION ACTIVITIES

2.1 Construction Site Estimates

Instructions (CGP 7.3.2.b-c):

- Estimate the area to be disturbed by excavation, grading, or other construction activities, including dedicated off-site borrow and fill areas.

The following are estimates for the construction site.

Total project area (lot size): acres
Construction site area to be disturbed: acres

2.2 Construction Activity Descriptions

Instructions (CGP 7.3.2.a, d & g):

- Briefly describe the nature of the construction activity and approximate time frames.
- For more information see CGP Part 7.3.2 and *EPA SWPPP Guide*, Chapter 3.A.

Describe the general scope of the work for the project, major phases of construction, etc:
INSERT TEXT HERE
Describe any on-site and off-site construction support activity areas:
INSERT TEXT HERE
Typical site business days and times:
INSERT TEXT HERE

2.3 Phase/Sequence of Construction Activity

Instructions (CGP 7.3.2.e):

- Describe the intended construction sequencing and timing of major activities, including any opportunities for phasing grading and stabilization activities to minimize the overall amount of disturbed soil that will be subject to potential erosion at one time. Also, describe opportunities for timing grading and stabilization so that all or a majority of the soil disturbance occurs during a time of year with less erosion potential (i.e., during the dry or less windy season).
- For more information, see *EPA SWPPP Guide*, Chapter 4, ESC Principle 2. It might be useful to develop a separate, detailed site map for each phase of construction.

Phase I

- Describe phase and activities
- Duration of phase (start date, end date)
- List BMPs associated with this phase
- Describe stabilization methods for this phase (describe any temporary stabilization methods that will be used before final stabilization)

Phase II

- Describe phase and activities
- Duration of phase (start date, end date)
- List BMPs associated with this phase
- Describe stabilization methods for this phase (describe any temporary stabilization methods that will be used before final stabilization)

[Repeat as needed]

2.4 Maps

Instructions (CGP 7.3.3):

- Attach site maps. For most projects, a series of site maps is recommended. The first should show the undeveloped site and its current features. An additional map or maps should be created to show the developed site or for more complicated sites show the major phases of development.

These maps should include the following:

- Boundaries of the property
- Locations of earth-disturbing activities, including demolition, and note any phasing;
- Direction(s) of storm water flow and approximate slopes before and after major grading activities;
- Type and extent of pre-construction cover (vegetative cover, pavement, etc.);
- Locations of stockpiles and material storage;
- Water crossings and all water of the state within one mile downstream of the site's discharge point;
- Designated points where vehicles enter onto paved roads;
- Locations of structures and other impervious surfaces upon completion of construction;
- On-site and off-site construction support activity areas covered by the permit;
- Storm water and authorized non-storm water discharge locations to inlets or waters of the state;
- Locations of all potential pollutant-generating activities;
- Locations of storm water controls, including natural buffer areas; and
- Locations where polymers, flocculants, or other treatment chemicals will be used and stored.
- For more information, see *EPA SWPPP Guide*, Chapter 3.C.

The SWPPP site map(s) are filed in Appendix A

SECTION 3: WATER QUALITY

3.1 Discharge Information

Instructions (CGP 1.4):

- A Municipal Separate Storm Sewer System (MS4) is a storm water conveyance system owned and operated by a state, city, town, county, district, association, or other public body. If you discharge to one of these systems mark "yes" and identify which MS4.You must submit your SWPPP to this MS4 for review. A list of MS4s that are currently designed under a Utah municipal storm water permit can be found here: DWQ-2021-003341

Does your project/site discharge storm water into a Municipal Separate Storm Sewer System (MS4)? ☐ Yes ☐ No

List the MS4 that receives the discharge from the construction project: INSERT TEXT HERE

3.2 Receiving Waters

Instructions (CGP 1.1.6 and 3.1):

- In the below table, list the name of the first waters of the state that would receive discharges from your site. Multiple rows are provided in case your site discharges in multiple locations which flow to different waters of the state. For discharges that enter a storm sewer system prior to discharge, the first waters of the state to which you discharge is the water body that receives the storm water discharge from the storm sewer system. You may need to contact the storm sewer system owner to find out where it discharges to.
- See http://wq.deq.utah.gov for impairment or quality information. Use this to identify the status in column 2 of Table 1. Select the waterbody you wish to look-up and find the results from the 20XX Assessment on the left hand side.
- For more information on TMDLs and impaired waters visit https://deq.utah.gov/water-quality/watershed-monitoring-program/approved-tmdls-watershed-management-program or www.epa.gov/tmdl/impaired-waters-and-stormwater.
- If any of the waters of the state you listed are impaired, provide specified information about pollutants causing the impairment in column 3 of Table 1. Your SWPPP should specifically include measures to prevent the discharge of these pollutants.
- If any of the waters of the state you listed are identified as a Category 1 or 2 water (a Category 1 water is only found within Forest Service boundaries) provide the category in column 3 of Table 1.
- For more information, see CGP Part 3.1 and 3.2 and *EPA SWPPP Guide*, Chapter 3.B.

Names of Receiving Waters

Name of Receiving Water (first waters of the state that receives storm water or where storm system discharges to)	Is the water impaired or high quality?	If high quality: Is it Category 1 or 2? If impaired: List pollutants that the waterbody is impaired for
1.	☐ Not high quality/impaired ☐ Impaired, has approved TMDL ☐ Impaired, no TMDL ☐ High quality	
2.	☐ Not high quality/impaired ☐ Impaired, has approved TMDL ☐ Impaired, no TMDL ☐ High quality	

[Insert or delete rows as necessary.]

3.3 Impaired Waters

Instructions (CGP 3.2):

- If you discharge to an impaired water as listed in the above table, provide information on additional efforts that will be taken to control the release of impairment causing pollutants. This is especially important for projects discharging to a surface water with an EPA approved TMDL for sediment or nutrients and an extra effort must be provided to prevent sediment from leaving the site.

Description of additional precautions taken if discharging to impaired waters of the state. State if no impairment causing pollutants are on site:

INSERT TEXT HERE

3.4 High Water Quality

Instructions (CGP 3.2):

- If you discharge to a high-quality water as listed in the above, provide information on additional efforts that will be taken to control the release of pollutants. Per CGP Part 1.1.6 you can discharge to a Category 1 water if your discharge is temporary and limited and where best management practices will be employed to minimize pollution effects. Discharge to Category 2 waters is allowed only if the discharge will not lower the water quality of the water body.

Description of additional precautions taken to minimize pollution effects if you are discharging to a high quality surface water:

INSERT TEXT HERE

SECTION 4: POLLUTION PREVENTION STANDARDS

4.1 Potential Sources of Pollution

Instructions (CGP 7.3.2.f):

- Identify and list all potential sources of sediment, which may reasonably be expected to affect the quality of storm water discharges from the construction site.
- Identify and describe all potential sources of pollution or pollutant-generating activity (e.g., paving operations; concrete, paint, and stucco washout and waste disposal; solid waste storage and disposal), other than sediment, which could be exposed to rainfall or snowmelt, and may reasonably be expected to discharge from the construction site.

  For more information, see *EPA SWPPP Guide*, Chapter 3.A.

Pollutant-Generating Activity	**Pollutants or Pollutant Constituents** (that could be discharged if exposed to storm water)	**Location on Site** (or reference SWPPP site map where this is shown)

[Include additional rows as necessary.]

4.2 Non-Storm Water Discharges

Instructions (CGP 7.3.4):

- Identify all allowable sources of non-storm water discharges and how they will be controlled. A list of allowable non-storm water discharges is found in the CGP Part 1.2.2.
- For more information, see *EPA SWPPP Guide*, Chapter 3.A.

Check allowable non-storm water discharges that are present and describe the measures used to reduce them or prevent them from contributing pollutants to discharges:

Authorized Non-Storm Water Discharges	Present	Comments/Controls
Discharges from emergency fire-fighting activities	☐ Y ☐ N	
Fire hydrant flushing	☐ Y ☐ N	
Properly managed landscape irrigation (excludes fertilizer injector systems)	☐ Y ☐ N	
Properly managed vehicle and equipment wash water with no soaps, solvents, or detergents	☐ Y ☐ N	
Water used to control dust	☐ Y ☐ N	
Drinking water, including uncontaminated water line flushing	☐ Y ☐ N	
External building washdown with no soaps, solvents, detergents, or hazardous substances	☐ Y ☐ N	
Pavement wash waters with no detergents or toxic or hazardous materials. Must have a sediment basin, sediment trap, of similarly effective control prior to discharge.	☐ Y ☐ N	
Uncontaminated air conditioning or compressor condensate	☐ Y ☐ N	
Uncontaminated, non-turbid discharges of ground water (from natural sources) or spring water	☐ Y ☐ N	
Uncontaminated foundation or footing drains	☐ Y ☐ N	

4.3 Dewatering Practices

Instructions (CGP 1.2.4 and 2.3.7):

If you will be discharging storm water that is removed from excavations, trenches, foundations, vaults, or other similar points of accumulation, it must be permitted by UPDES permit UTG070000 (Construction Dewatering and Hydrostatic Testing Permit) unless it can be managed onsite through percolation or evaporation. The permit can be found at https://deq.utah.gov/water-quality/general-construction-storm-water-updes-permits in the bottom table. Call DWQ at 801-536-4300 for more information.

- Include schedule and general locations of dewatering. Dewatering locations must be on the site map.

☐ Check box if section not applicable to this site (Note: If not applicable skip to next section)

Describe the general scope of dewatering practices for the project and any BMPs used to manage the dewatering practices:

INSERT TEXT HERE

4.3.1: (Place name of BMP here – reference to detailed instructions in Appendix H if necessary)

BMP Description:

Installation Schedule/Instructions:	
Maintenance and Inspection:	
Responsible Staff:	
Design Specifications and Drawings:	

4.4 Natural Buffers or Equivalent Sediment Controls

Instructions (CGP Part 7.3.5.b (1), 2.2.1, and Appendix A):

This section only applies if waters of the state is located within 50 feet your construction activities. If this is the case, review CGP Part 2.2.1 and Appendix A of the CGP for information on how to comply with the buffer requirements.

- Describe the compliance alternative that was chosen to meet the buffer requirements and include any required documentation supporting the alternative selected. The compliance alternative selected must be maintained throughout the duration of permit coverage. However, if you select a different compliance alternative during your period of permit coverage, you must modify your SWPPP to reflect this change.
- If you qualify for one of the exceptions in CGP Part A.2.2, include documentation related to your qualification for such exceptions.
- Review Appendix A of the CGP for step-by-step instructions and examples on how to comply with the different buffer alternatives.

Buffer Compliance Alternatives

Are there any waters of the state within 50 feet of your project's earth disturbances?

☐ YES ☐ NO

(Note: If "no", no further documentation is required. Delete the rest of Section 4.3 below this point.)

List the water body: INSERT TEXT HERE

Check the compliance alternative that you have chosen:

☐ I will provide and maintain a 50-foot undisturbed natural buffer around waters of the state.

☐ It is infeasible to provide and maintain a full 50-foot undisturbed natural buffer. I will provide and implement erosion and sediment controls to achieve the required sediment load reduction for my conditions.

- Reason that a 50' buffer could not be maintained: INSERT TEXT HERE
- Width of buffer that will be retained: INSERT TEXT HERE
- Additional controls used to achieve equivalent sediment load reduction of a 50' buffer: INSERT TEXT HERE
- Description of the calculations and assumptions used to determine sediment load reductions: INSERT TEXT HERE

☐ The project qualifies as "small residential lot" disturbing less than an acre. The natural buffer is preserved in accordance with CGP A.2.3., storm water is treated by site erosion and sediment controls before discharge, natural buffers are shown on the site map, and buffer areas are marked on site. Select one of the 2 alternatives for small residential lots:

☐ Alternative 1: Using Table A-1 in CGP for requirements

- Width of buffer that will be retained: INSERT TEXT HERE
- Additional controls to be used: INSERT TEXT HERE

☐ Alternative 2: Using Tables A-2 through A-7 in CGP for requirements

- Width of buffer that will be retained: INSERT TEXT HERE
- Sediment Risk Level Determined: INSERT TEXT HERE
- Additional controls to be used: INSERT TEXT HERE

☐ I qualify for one of the exceptions in Part A.2.2. (If you have checked this box, provide information on the applicable buffer exception that applies, below.)

☐ There is no discharge of storm water through the area between the disturbed portions of the site and waters of the state that is located within 50 feet.

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

☐ For a linear project, site constraints (e.g., limited right-of-way) make it infeasible for me to meet any of the compliance alternatives.

- Reason it is infeasible: INSERT TEXT HERE
- Buffer width retained or supplemental controls used: INSERT TEXT HERE

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

- Describe earth disturbances in buffer area: INSERT TEXT HERE

(Note: This exception does not apply to portions upland of the Section 404 permitted work.)

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

- Describe earth disturbances in buffer area: INSERT TEXT HERE

SECTION 5: EROSION AND SEDIMENT CONTROLS – BMPS

5.1 List of Erosion and Sediment BMPs on Site

Instructions (CGP Part 2.2 and 7.3.5):

- Identify best management practices (BMPs) that will be implemented on site to control erosion and sediment transport from storm water.
- Use the below CGP requirements and the pollutant generating activates identified in SWPPP section 4.1. to determine where BMPs are necessary. Fill out the rightmost column with BMPs you are selecting. Some requirements may not apply to your site.
- For each BMP you must provide a description of the control, any design specifications, routine maintenance specifications, a schedule for storm water control implementation/installation, and the staff responsible for maintaining the BMP. These details are listed in the BMP section below the table.
- BMPs are listed as examples, you may use BMPs not listed.
- Details and design specifications can be provided in this section or in Appendix H if they are large.
- Perimeter control maintenance must include removal of sediment before it has accumulated to one-half the above-ground height of the control.
- For more information, see *EPA SWPPP Guide*, Chapter 4.
- BMP guidance may be found in your MS4's or other local jurisdiction's design manual, guidance manuals listed in Appendix D of the *EPA SWPPP Guide*, or EPA's National Menu of BMPs https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater#constr

CGP Requirement	Example BMPs	EPA SWPPP Guide Section	BMPs Selected (Name and Reference Number if applicable)
Preserve vegetation where possible and direct storm water to vegetated areas when feasible (CGP 2.2.2.)	Phasing to minimize disturbance, signs/fences to protect areas not being disturbed.	Chapter 4, ESC Principle 1	
Install sediment controls along perimeter areas that receive pollutant discharges (CGP 2.2.3.).	Silt fence, fiber rolls, earth berms	Chapter 4, ESC Principle 7	
Minimize sediment track-out (CGP 2.2.4.)	Restrict access, stabilize exits, track-out pads, tire washing station, clean-up sediments	Chapter 4, ESC Principle 9	
Manage stockpiles with perimeter controls and locate away from storm water conveyances (CGP 2.2.5.)	Sediment barriers downgradient, proper location, covered stockpiles, diverting storm water from stockpiles	Chapter 4, ESC Principle 4	
Minimize dust (CGP 2.2.6.)	Water application, mulching, chemical dust suppression techniques		
Minimize steep slope disturbance (CGP 2.2.7.)	Erosion control blankets, tackifiers, protect slopes from disturbance	Chapter 4, ESC Principle 5	
Preserve topsoil (CGP 2.2.8.)	Stockpile topsoil	Chapter 4, ESC Principle 1	
Minimize soil compaction where final cover is vegetation (CGP 2.2.9.)	Restrict vehicle access, recondition soils before seeding		
Protect storm drain inlets (CGP 2.2.10.)	Inserts, rock-filled bags, covers	Chapter 4, ESC Principle 6	
Slow down runoff with erosion controls and velocity dissipation devices (CGP 2.2.11.)	Check dams, riprap	Chapter 4, ESC Principle 3	

Appropriately design any sediment basins or impoundments (CGP 2.2.12.)	Design to receive a 2-year 24-hour storm or 3,600 cubic feet per acre; include design specifications	Chapter 4, ESC Principle 8	
Follow requirements for any treatment chemicals (polymers, flocculants, coagulants, etc.)	Store in leak proof containers and cover, proper training, minimize use		
Stabilize exposed portions of site with 14 days of inactivity (CGP 2.2.14).	Seeding, erosion control blankets, gravel, hydromulch	Chapter 9	

5.1.1: (Place name of BMP here – reference to detailed instructions in Appendix H if

BMP Description/Instructions:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
Design Specifications and Drawings:	

5.1.2: (Place name of BMP here – reference to detailed instructions in Appendix H if necessary)

BMP Description/Instructions:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
Design Specifications and Drawings:	

5.1.3: (Place name of BMP here – reference to detailed instructions in Appendix H if necessary)

BMP Description/Instructions:	
Installation Schedule:	
Maintenance and Inspection:	

Responsible Staff:	
Design Specifications and Drawings:	

5.1.4: (Place name of BMP here – reference to detailed instructions in Appendix H if necessary)	
BMP Description/Instructions:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
Design Specifications and Drawings:	

5.1.5: (Place name of BMP here – reference to detailed instructions in Appendix H if necessary)	
BMP Description/Instructions:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
Design Specifications and Drawings:	

[Repeat as needed]

5.2 Linear Site Perimeter Control Exemption

Instructions (CGP 7.3.5.b (2)):

- For areas where perimeter controls are not feasible on a linear construction site, include a description of why it is not feasible and other practices that will be implemented to minimize discharges of pollutants from the site.

☐ Check box if section not applicable to this site (Note: If not applicable skip to next section)

If the site is linear and perimeter controls are not feasible, describe other practices in use:
INSERT TEXT HERE

5.3 Final Stabilization

Instructions (CGP 7.3.5.b (6) and 2.2.14.b):

- Describe procedures for final stabilization. If final cover is vegetation, you must establish uniform perennial vegetation that provides 70% or more of the vegetative cover that existed prior to earth-disturbing activities. Exception: Arid, semi-arid, and drought-stricken areas are required to be seeded/planted so that the before mentioned vegetative requirement is expected to be met within 3 years. Establishment of vegetation is not required; however additional erosion controls may be needed.
- You can amend or add to this section as areas of your project are finally stabilized.
- Update your site plans to indicate areas that have achieved final stabilization.

Description of final stabilization practices and schedule:

Type of stabilization (vegetation/landscaped, graveled, paved, etc.)	Location	Implementation Schedule

SECTION 6: BMPS - POLLUTION PREVENTION/OPERATIONAL CONTROLS

6.1 Spill Prevention and Response

Instructions (CGP Part 7.3.5.b (7) and 2.3.6):

- Describe the spill prevention and control plan. Include ways to reduce the chance of spills, stop the source of spills, contain and clean up spills, dispose of materials contaminated by spills, and train personnel responsible for spill prevention and control.
- Some projects/site may be required to develop a Spill Prevention Control and Countermeasure (SPCC) plan under a separate regulatory program (40 CFR 112). If you are required to develop an SPCC plan, or you already have one, you should include references to the relevant requirements from your plan.
- The plan must include the materials and method of containment and for flowing liquid, cleanup, disposal and follow the minimum spill controls below.
- For more information, see *EPA SWPPP Guide*, Chapter 5, P2 Principle 6.

Describe spill procedures and materials available for expeditious containment, clean-up and disposal of spills:
INSERT TEXT HERE OR REFERENCE DOCUMENT

Identify the employee responsible for detection and response of spills and leaks:
INSERT TEXT HERE

Any discharges in 24 hours equal to or in excess of the reportable quantities listed in 40 CFR 117, 40 CFR 110, and 40 CFR 302 will be reported to the National Response Center and the Division of Water Quality (DWQ) as soon as practical after knowledge of the spill is known to the permittees. The permittee shall submit within 7 calendar days of knowledge of the release a written description of: the release (including the type and estimate of the amount of material released), the date that such release occurred, the circumstances leading to the release, and measures taken and/or planned to be taken to the Division of Water Quality (DWQ), 288 North 1460 West, P.O. Box 144870, Salt Lake City, Utah 84114-4870. The Storm Water Pollution Prevention Plan must be modified within 14 calendar days of knowledge of the release to provide a description of the release, the circumstances leading to the release, and the date of the release. In addition, the plan must be reviewed to identify measures to prevent the recurrence of such releases and to respond to such releases, and the plan must be modified where appropriate.

Agency	Phone Number
National Response Center	(800) 424-8802
Division of Water Quality (DWQ) 24-Hr Reporting	(801)-231-1769 (801) 536-4123
Utah Department of Health Emergency Response	(801) 580-6681

Material	Media Released To	Reportable Quantity
Engine oil, fuel, hydraulic & brake fluid	Land	25 gallons
Paints, solvents, thinners	Land	100 lbs (13 gallons)
Engine oil, fuel, hydraulic & brake fluid	Water	Visible Sheen
Antifreeze, battery acid, gasoline, engine degreasers	Air, Land, Water	100 lbs (13 gallons)
Refrigerant	Air	1 lb

6.2 Pollution Prevention Controls

Instructions (CGP Part 2.3 and 7.3.5):

- Describe the key good housekeeping and pollution prevention (P2) BMPs that will be implemented to control pollutants in storm water (CGP Part 2.3).
- Use the below CGP requirements and the pollutant generating activates identified in SWPPP section 4.1. which were not addressed with the erosion and sediment BMPs to determine where BMPs are necessary.
- For each BMP you must provide a description of the control, any design specifications, routine maintenance specifications, a schedule for storm water control implementation/installation, and the staff responsible for maintaining the BMP.
- BMPs are listed as examples, you may use BMPs not listed.
- Details and design specifications can be provided in this section or in Appendix H.
- For more information, see *EPA SWPPP Guide*, Chapter 5.
- Consult your state or local jurisdiction design manual or resources in Appendix D of the *SWPPP Guide*.
- For more information or ideas on BMPs, see EPA's National Menu of BMPs https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater#constr

CGP Requirements	Example BMPs	EPA SWPPP Guide Section	BMPs Selected (Name and Reference Number if applicable)
Equipment and vehicle fueling (CGP 2.3.1)	Spill kits, SPCCP, drip pans, locate activities away from conveyances, use secondary containment	Chapter 5, P2 Principle 4	
Equipment and vehicle washing (CGP 2.3.2)	Locating away from surface waters and storm water conveyances, directing wash waters to a sediment basin or	Chapter 5, P2 Principle 5	

	sediment trap, using filtration devices		
Storage, handling, and disposal of building products and waste (CGP 2.3.3)	Cover (plastic sheeting / temporary roofs), secondary containment, leakproof containers, proper dumpsters, secured portable toilets, locate away from storm water conveyances	Chapter 5, P2 Principle 1 and 2	
Washing of stucco, paint, concrete, form release oils, curing compounds, etc. (CGP 2.3.4)	Leak proof containers, lined pits, locate away from storm water conveyances	Chapter 5, P2 Principle 3	
Properly apply fertilizer (CGP 2.3.5)	Follow manufacture specifications, document deviations in applications, avoid applications to frozen ground, before heavy rains, or storm water conveyances		

6.2.1.: (Place name of BMP here – reference to detailed instructions in Appendix H if necessary)

BMP Description/Instructions:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
Design Specifications and Drawings:	

6.2.2.: (Place name of BMP here – reference to detailed instructions in Appendix H if necessary)

BMP Description/Instructions:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
Design Specifications and Drawings:	

6.2.3.: (Place name of BMP here – reference to detailed instructions in Appendix H if necessary)	
BMP Description/Instructions:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
Design Specifications and Drawings:	

6.2.4: (Place name of BMP here – reference to detailed instructions in Appendix H if necessary)	
BMP Description/Instructions:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
Design Specifications and Drawings:	

6.2.5: (Place name of BMP here – reference to detailed instructions in Appendix H if necessary)	
BMP Description/Instructions:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
Design Specifications and Drawings:	

6.2.6: (Place name of BMP here – reference to detailed instructions in Appendix H if necessary)	
BMP Description/Instructions:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
Design Specifications and Drawings:	

[Repeat as needed]

SECTION 7: SPECIAL CONDITIONS

Instructions:

The conditions listed below require additional details or actions added to your SWPPP. If they do not apply you may delete them from this SWPPP.

7.1 Emergency Related Projects

Instructions (CGP 1.4.1):

- For emergency activities that require immediate authorization but last longer than 30 days, a NOI may be submitted within 30 days of starting work.
- To be an emergency related project it must be considered a public emergency, and the cause must be documented along with the description of necessary construction to reestablish effected public services.

Emergency-Related Project? ☐ Yes ☐ No

DESCRIBE THE NATURE OF THE PUBLIC EMERGENCY AND WHY IMMEDIATE AUTHORIZATION WAS NECESSARY.

7.2 UIC Class 5 Injection Wells

Instructions (CGP 7.3.7):

- If you are using any of the following storm water controls at your site as they are described below, you must document any contact you have had with DWQ for implementing the requirements for underground injection wells in the Safe Drinking Water Act and DEQ's implementing regulation at UAC R317-7-2.
- There may be additional local requirements related to such structures
- For the State UIC Contact at DWQ call (801) 536-4300.

☐ Check box if section not applicable to this site (Note: If not applicable skip to next section)

Class V UIC Wells on site (all must be reported to DWQ for inventory):

☐ Infiltration trenches (if storm water is directed to any shaft or hole that is deeper than its widest surface dimension or has a subsurface fluid distribution system)

☐ Commercially manufactured pre-cast or pre-built subsurface detention vault/infiltration system

☐ Drywell, seepage pit, or improved sinkhole (if storm water is directed to any shaft or hole that is deeper than its widest surface dimension or has a subsurface fluid distribution system)

Description of your Class V Injection Well and any local requirements:

INSERT DESCRIPTION AND ANY DWQ OR LOCAL REQUIREMENTS

Description of any additional BMPs used in conjunction with the UIC well.

7.2.1: (Place name of BMP here – reference to detailed instructions in Appendix H if necessary)	
BMP Description/Instructions:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
Design Specifications and Drawings:	

7.3 Chemical Treatment

Instructions (see CGP 2.2.13 and 7.3.5.b (5)):

- If you are using treatment chemicals at your site, provide details for each of the items below. This information is required as part of the SWPPP requirements in CGP Part 7.3.5.b.

☐ Check box if section not applicable to this site (Note: If not applicable skip to next section)

Soil Types

List all the soil types (including soil types expected to be found in fill material) that are expected to be exposed during construction and that will be discharged to locations where chemicals will be applied: INSERT TEXT HERE

Treatment Chemicals

List all treatment chemicals that will be used at the site and explain why these chemicals are suited to the soil characteristics: INSERT TEXT HERE

Describe the dosage of all treatment chemicals you will use at the site or the methodology you will use to determine dosage: INSERT TEXT HERE

Provide information from any applicable Safety Data Sheets (SDS): INSERT TEXT HERE

Describe how each of the chemicals will be stored: INSERT TEXT HERE

Include references to applicable state or local requirements affecting the use of treatment chemicals, and copies of applicable manufacturer's specifications regarding the use of your specific treatment chemicals and/or chemical treatment systems: INSERT TEXT HERE

Special Controls for Cationic Treatment Chemicals (if applicable)

If you have been authorized by DWQ to use cationic treatment chemicals, identify the specific controls and implementation procedures you are required to implement to ensure that your use

of cationic treatment chemicals will not lead to a violation of water quality standards or harm aquatic life: INSERT TEXT HERE

Schematic Drawings of Storm Water Controls/Chemical Treatment Systems

Provide schematic drawings of any chemically enhanced storm water controls or chemical treatment systems to be used for application of treatment chemicals: INSERT TEXT HERE

Training

Describe the training that personnel who handle and apply chemicals have received prior to permit coverage, or will receive prior to the use of treatment chemicals: INSERT TEXT HERE

SECTION 8: INSPECTIONS & CORRECTIVE ACTIONS

8.1 Inspections

Instructions (CGP Part 4.2, 4.3 and 4.4):

- Select an inspection schedule. These are minimum frequencies; you may inspect more frequently. If so, describe what your schedule would be.
- For more on this topic, see *EPA SWPPP Guide*, Chapters 6 and 8.
- Also, see suggested inspection form in Appendix B of the *EPA SWPPP Guide*.

Minimum Inspection Schedule Requirements:

Standard Frequency:
☐ Once every 7 calendar days.
☐ Once every 14 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater. Rain gauge/weather station used: Gauge or station for rainfall depth
Increased Frequency (if applicable):
☐ *Sites discharging to impaired or high-quality waters:* Once every 7 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater.
Decreased Frequency (if applicable):
☐ *Arid areas:* once a month and within 24 hours of a 0.5-inch storm event or greater.
☐ *Semi-arid areas*: once a month and within 24 hours of a 0.5-inch storm event or greater during the dry season: List months for dry season (also select the inspection schedule followed outside of the dry season).
☐ *Frozen conditions with work suspended – must have 3 months of continuous expected frozen conditions based on historical averages:* no inspections List months of suspended inspections(also select the inspection schedule followed when not frozen)
☐ *Frozen conditions with continued activities - must have 3 months of continuous expected frozen conditions based on historical averages*: once per month List months of frozen conditions (also select the inspection schedule followed when not frozen)
Other:
☐ Describe alternative frequency: List alternative schedule, must meet minimum requirements

Inspection Reports are filed in Appendix C

8.2 Corrective Actions

Instructions:

- A sample corrective action report is provided in Appendix D.
- Whenever a storm water control requires repair or replacement (beyond routine maintenance), a control necessary for permit compliance was never installed or was installed incorrectly, your discharges cause an exceedance of applicable water quality standards, or a prohibitive discharge has occurred, you must log corrective actions taken.
- This log should describe actions taken, date completed, whether a SWPPP modification was required.
- In some cases, corrective actions may be documented on the inspection form. This is an acceptable alternative if corrective actions that occur outside of inspections are also documented.

Correction Action Report is filed in Appendix D.

8.3 Delegation of Authority

Instructions:

- Identify the individual(s) or specifically describe the position where the construction site operator has delegated authority for the purposes of signing inspection reports, SWPPP documents, corrective action logs, or other information for reporting purposes.
- Each inspection report must be signed in accordance with CGP Part 9.9.2 of the permit.
- If a delegation letter is necessary, see Appendix E of this template and keep a signed copy with this SWPPP.
- For more on this topic, see *EPA SWPPP Guide*, Chapter 7.

See the signed delegation of authority forms in Appendix E.

SECTION 9: RECORDKEEPING

9.1 Recordkeeping

Instructions (CGP 7.4, 9.8 and 9.18):

- The following is a list of records you must have accessible on site (electronically or paper) for inspectors to review:
  - ✓ A copy of the construction general permit (Appendix I)
  - ✓ The signed and certified NOI form or permit application form (Appendix B)
- Copies of the SWPPP and all reports required by the permit must be retained for at least three years from the date that the site is finally stabilized.
- For more on this subject, see *EPA SWPPP Guide*, Chapter 6.C.

9.2 Log of Changes to the SWPPP

Instructions (CGP Part 7.5):

- Create a log here of changes and updates to the SWPPP. You should include additions of new BMPs, replacement of failed BMPs, significant changes in the activities or their timing on the project, changes in personnel, changes in inspection and maintenance procedures, updates to site maps, and so on.
- Instead of using the table, SWPPPs can also be redlined to show changes if the redlines are initialed and dated.

Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and Title]

SECTION 10: CERTIFICATION

Instructions:

- The SWPPP should be signed and certified by the owner and the general contractor. Attach a copy of the NOI and a copy of the General Storm Water Permit for Construction Activity. You can get a copy of the General Storm Water Permit for Construction Activity on the same web page that this template was obtained (https://deq.utah.gov/water-quality/general-construction-storm-water-updes-permits)

Owner

I certify under the 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:

General Contractor

I certify under the 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:

SECTION 11: SWPPP PREPARER CERTIFICATION

Instructions:

- Starting January 1, 2021: A SWPPP writer for a site greater than 5 acres, with a perennial surface water within 50 feet of the project, or with a steep slope (70% or 35 degrees or more) must hold a certification to demonstrate that they are a "qualified person" per CGP Part 7. 2.

SWPPP Preparer

I certify under the 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 – Site Maps

Appendix B – NOI

Appendix C – Inspection Reports

Appendix D –Corrective Action Log

Appendix E – Subcontractor Certifications/Agreements/Delegation of Authority (see CGP 9.9.2)

Appendix F – Training Logs and Certifications (see CGP 6)

Appendix G – Additional Information (i.e., other permits such as dewatering, stream alteration, wetland; and out of date swppp documents)

Appendix H – BMP Instruction and Detail Specifications

Appendix I – Construction General Permit

Appendix A: Site Maps

Include any site maps in this appendix. For site map requirements review SWPPP section 7.3.3.

Appendix B: NOI

Include a copy of your NOI in this appendix. The NOI must be signed.

Appendix C: Inspection Reports

Place all completed inspection reports in this appendix. You may also put blank inspection reports here to be completed.

You are encouraged to create your own inspection forms for each site. Inspection reports must have the following information:

1) The inspection date.
2) The UPDES ID number (UTRXXXXX).
3) Name and title of personnel making the inspections.
4) Summary of inspection findings and any necessary corrective actions:
    a. Are storm water controls properly installed and operational? If failed, then why?
    b. Presence of any conditions that could lead to spills or leaks.
    c. Locations where new or modified controls are necessary.
    d. Signs of visible erosion or sediment depositing related to your discharges.
    e. Any incidents of noncompliance.
    f. Visual quality of any discharges occurring.
5) Rainfall amount if the inspection was triggered by a precipitation event.
6) If it was unsafe to inspect any areas of the site, a description of the area and reason.

Appendix D: Corrective Action Log

An example corrective action log has been included in this appendix. Review SWPPP section 5.4 for corrective action requirements. You can also create your own form or include corrective actions on your inspection form.

Appendix D – *Sample* Corrective Action Log

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

Appendix E: Subcontractor Certifications/Agreements/Delegation of Authority (CGP 9.9.2)

A sample subcontractor agreement form and delegation of authority form have been included in this appendix. If these are used, keep complete signed forms here.

SUBCONTRACTOR CERTIFICATION
STORM WATER POLLUTION PREVENTION PLAN

Project Number: _____

Project Title: _____

Operator(s): _____

As a subcontractor, you are required to comply with the Storm water 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 request.

Each subcontractor engaged in activities at the construction site that could impact storm water must be identified and sign the following certification statement:

I certify under the penalty of the 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: _____

Delegation of Authority

I, _____, 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 UPDES "General Permit for Storm Water Discharges Associated with Construction Activity" (CGP), at the construction site:

_____, Permit No. UTR_____

The designee is authorized to sign all reports required by the Permit and other information requested by the Director of the Utah Division of Water Quality, or by an authorized representative of the Executive Secretary.

Name of Person or Position: _____

Owner/Operator: _____

Mailing Address: _____

City, State, Zip Code: _____

Phone Number: _____

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in Part 9.9.2 of the CGP, and that the designee above meets the definition of a "duly authorized representative" as set forth in Part 9.2.2(b) of the CGP.

I certify under penalty of the 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 gather and evaluate 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: _____

Appendix F: Training Logs and Certifications (see CGP 6)

A sample training log has been included in this appendix to keep track of training that have been provided. At a minimum, storm water team members that require training should be provided with the following if it relates to their duties (CGP Part 6.3.):

- The permit deadlines associated with installation, maintenance, and removal of storm water controls and with stabilization;
- The location of all storm water controls on the site required by this permit and how they are to be maintained;
- The proper procedures to follow with respect to the permit's pollution prevention requirements; and
- When and how to conduct inspections, record applicable findings, and take corrective actions

Certifications for SWPPP inspectors or writers can also be placed in this appendix.

Appendix F – *Sample* SWPPP Training Log

Storm Water Pollution Prevention Training Log

Project Name:

Project Location:

Instructor's Name(s):

Instructor's Title(s):

Course Location: _____ Date: _____

Course Length (hours): _____

Storm Water Training Topic: *(check as appropriate)*

- ❑ **Erosion Control BMPs**
- ❑ **Emergency Procedures**
- ❑ **Sediment Control BMPs**
- ❑ **Good Housekeeping BMPs**
- ❑ **Non-Storm Water 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 G: Additional Information

Use this appendix for additional information such as other permits (dewatering, stream alteration, etc.) or out of date SWPPP documents.

Appendix H: BMP Instruction and Detail Specifications

Use this appendix if complete BMP specifications are not provided in Section 5 or 6 of the SWPPP.

Appendix I: Construction General Permit

If all storm water team members access the CGP via the internet while on site, the following link to access the Construction General Permit is sufficient:

http://construction.stormwater.utah.gov

Otherwise, include a printed copy of the Construction General Permit in this appendix.

(This SWPPP Template is for the **Common Plan** Permit Only, and does **NOT** address SWPPP requirements found in the CGP.)

Common Plan SWPPP for

Facility Site/Project Name

Facility Site/Project Address

Facility Site/Project City, State, Zip

Owner/Contractor Street Address

Owner Street Address

Owner City, State, Zip

Contractor Name (if not the same as Owner)

Contractor Street Address

Contractor City, State, Zip

Date

SWPPP Preparation Date

1. Project Information

Project Name: Click here to enter text.
Address: Click here to enter text.
City: Click here to enter text. **State:** UT **Zip:** Zip Code
Latitude: Degrees, Decimal Minutes
Longitude: Degrees, Decimal Minutes
UPDES Permit Tracking Number: Click here to enter text.

Owner: Click here to enter text.
Contact Person: Click here to enter text.
Address: Click here to enter text.
City: Click here to enter text. **State:** State **Zip:** Zip Code
Telephone Number: Contact Person Phone
Email Address: Contact Person Email

General Contractor: Click here to enter text.
Contact Person: Click here to enter text.
Address: Click here to enter text.
City: Click here to enter text. **State:** State **Zip:** Zip Code
Telephone Number: Contact Person Phone
Email Address: Contact Person Email

Answering "yes" to the question below means the project is not eligible for this permit.
Is the project in Indian Country? **Yes** ☐ **No** ☐

Answering "no" to the question below means the project is not eligible for this permit.
Is the project a residential building on a single lot and disturbing one acre or less? **Yes** ☐ **No** ☐

2. Pollution Sources/Best Management Practices

Answer yes or no whether the following features are located at your site. If yes, select the BMP(s) that will be used to protect each feature. If no, continue to the next question. Attach necessary illustrated details for proper installation in Appendix G, and show locations of all controls on Site Map in Appendix A.

2.1 **Is there a SWPPP sign on site?** (see permit part 1.10) **Yes** ☐ **Required**
The sign must include the UPDES tracking number, the owner or general contractor name, phone number and email, and if the SWPPP is on-line, instructions on how to view it. The size requirement is to be readable from a publicly accessible point.

2.2 **Will there be construction dewatering on the site?** (see permit part 2.7) **Yes** ☐ **No** ☐
BMP(s): ☐ Dewatering of the construction area is needed and a separate dewatering permit has been obtained to treat and discharge water. *Construction Dewatering (if discharged offsite) must be covered by UPDES Permit UTG070000.*
☐ Water from the dewatering of the construction area will be infiltrated on site.

2.3 **Will there be non-storm water discharges on the site?** (see permit part 1.3) **Yes** ☐ **No** ☐
Allowable discharges include: Flushing of drinking water or irrigation water (not including wash or cleaning waters), water used for dust control, spring water or groundwater not exposed to construction activities, water from emergency fire-fighting activities, and water from foot drains not exposed to construction activities. (see permit part 2.4.5 & 2.9).

Please list all anticipated non-storm water discharges: Click here to enter text.
What will you do to manage the non-storm water discharges? *Please list direct discharges, contained non-storm water discharges, and discharges that are treated separately.*

BMP(s):
- ☐ All non-storm water discharges are listed as allowable per permit part 1.3 and discharged
- ☐ All non-storm water discharges that are not allowed are properly contained (see questions 2.12 and 2.16)
- ☐ All non-storm water discharges that are contaminated with sediment only (free of chemicals, oils, etc.) will be treated in a sediment basin or equivalent (see permit part 2.8.1).
- ☐ Other: Click here to enter text.

2.4 **Is it possible for the total area of disturbance to be phased, minimizing the total exposure of disturbed soil at one time?** (see permit part 2.3.1) **Yes** ☐ **No** ☐

If disturbance can be minimized please show the locations on the site map and summarize (here) where disturbances will be delayed for some of the disturbed area: Click here to enter text.

2.5 **What perimeter controls will be used to prevent sediment from leaving the site?** (permit part 2.1.2 & 2.3)

BMP(s):
- ☐ Silt Fence
- ☐ Berms
- ☐ Vegetative Buffer
- ☐ Cut-Back-Curb
- ☐ Staked straw Wattles (Fiber Rolls)
- ☐ Weighted Wattles
- ☐ Other: Click here to enter text.

2.6 **Are surface waters located within 30 feet of your project's earth disturbances?** **Yes** ☐ **No** ☐

Note: *A 30' natural vegetative buffer MUST be maintained by water bodies. If a buffer less than 30' is used, you must demonstrate that the additional controls offer the same protection as a 30' natural vegetative buffer, and select the reason for exemption below.* (see permit part 2.3.5)

BMP(s):
- ☐ 30' Natural Vegetative Buffer

If less than 30' Natural Vegetative Buffer select additional Controls:
- ☐ 2 Silt Fence Barrier
- ☐ 2 Straw Wattle Barriers (Fiber Roll)
- ☐ Other: Click here to enter text.

2.7 **Are there critical or sensitive areas (such as preservation of the drip lines around trees, wetlands, buffer zones by water bodies, etc.) located on or adjacent to the site?** (see permit part 2.2) **Yes** ☐ **No** ☐

BMP(s):
- ☐ Separate and isolate with environmental fencing
- ☐ Other: Click here to enter text.

2.8 **What track out control will be used to prevent dirt from being tracked on streets as vehicles leave the site?** (see permit part 2.4.1)

BMP(s):
- ☐ Track Out Pad
- ☐ Cobble
- ☐ Gravel
- ☐ Rumble Strips
- ☐ Wash Down Pad
- ☐ Delivery Pad
- ☐ Restricted Site Access
- ☐ Selective Access During Dry Weather (Dry soil)
- ☐ Other: Click here to enter text.

2.9 **Do you have storm drain inlets on or down gradient of this site?** (see permit part 2.1.3) **Yes** ☐ **No** ☐

Protection must address the curb inlet opening (throat) as well as the grate.

Where is/are the nearest downstream inlet(s) and how will you protect them: Click here to enter

text.

BMP(s):
- ☐ Rock/Sand-filled Bags
- ☐ Drop Inlet Bags
- ☐ Filter Fabric
- ☐ Gravel or Sand filled Wattles
- ☐ Proprietary inlet devices
- ☐ Other: Click here to enter text.

2.10 **Will curb ramps be used at the site?** (see permit part 2.4.2) **Yes** ☐ **No** ☐

If curb ramps are used it must be done with material [not dirt] that will not wash away in storm water.

BMP(s):
- ☐ Crushed Rock
- ☐ Wood/Steel Ramps
- ☐ Other: Click here to enter text.

2.11 **Will there be stockpiles or spoil piles on the site?** **Yes** ☐ **No** ☐

Note: *Select "Contained by other BMP" if another BMP on your site will contain runoff from the stockpiles. Materials that can be transported with precipitation must not be placed in the street.* (see permit part 2.1.1)

BMP(s):
- ☐ Surrounded by Silt Fence
- ☐ Surrounded by Staked Straw Wattles
- ☐ Covered with Tarp
- ☐ Temporary – Removed same day
- ☐ Contained by other BMP. Explain: Click here to enter text.
- ☐ Other: Click here to enter text.

2.12 **Does the project include installation of concrete, masonry, stucco, and paint (water based)work in this project?** (see permit part 2.4.5 & 2.9.1) **Yes** ☐ **No** ☐

Wash water must be contained, the solids dried, and disposed of at a landfill.

BMP(s):
- ☐ Lined Depression
- ☐ Steel Dumpster
- ☐ Regional Washout (per development)
- ☐ Other: Click here to enter text.

2.13 **How will solid waste be dealt with on the site?** (see permit part 2.4.3)

Light trash in uncovered dumpsters can blow out and scatter with wind and rain may fall on uncovered leachable material in the dumpster and leak out the bottom causing pollutants to escape.

BMP(s):
- ☐ Bag Lightweight Trash
- ☐ Leak Proof Dumpsters
- ☐ Receptacles with Lids
- ☐ Other: Click here to enter text.

2.14 **Will there be a need to dispose of solvents, oil, fuel, etc. liquid waste?** (see permit part 2.9) **Yes** ☐ **No** ☐

BMP(s):
- ☐ Contained and Removed from the site
- ☐ Collected for Reuse
- ☐ Other: Click here to enter text.

2.15 **How will sanitary waste be handled on the site?** (see permit part 2.4.4)

BMP(s):
- ☐ Portable Toilet(s) *(must be staked down on dirt surface & 10' from curb)*
- ☐ Onsite or Adjacent Indoor Bathrooms
- ☐ Portable Toilet Secondary Containment (secured down with straps to heavy weights)
- ☐ Other: Click here to enter text.

2.16 **How will you minimize the discharge of pollutants from spills and leaks?** (see permit part 2.8.3)

BMP(s):
- ☐ Use of drip pans
- ☐ Offsite fueling, and maintenance
- ☐ Spill kit
- ☐ Spill response plan.
- ☐ Other: Click here to enter text.

2.17 **Will there be a need to store construction materials on site?** (see permit 2.8.2) **Yes** ☐ **No** ☐

Minimize the exposure of materials with a pollution risk (certain building and landscaping materials, fertilizers, pesticides, herbicides, detergents).

BMP(s): ☐ Covering Erodible or Liquid Materials ☐ Secondary Containment
☐ Strategic Storage and Staging ☐ Stored off-site
☐ Enclose them in a weather proof shed.
☐ Other: Click here to enter text.

2.18 **Does your site have steep slopes (greater than 70%)?** (see permit part 2.3.2) **Yes** ☐ **No** ☐

BMP(s): ☐ Erosion Control Blanket ☐ Avoid Disturbance on slope
☐ Seeding ☐ Hydroseed
☐ Mulch ☐ Takifiers
☐ Other: Click here to enter text.

2.19 **Are there site conditions that cause storm water flows with highly erosive velocities?** (see permit parts 2.3.3 and 2.3.4) **Yes** ☐ **No** ☐

Flows must be controlled to minimize sediment transport.

BMP(s): ☐ Gravel Check Dam ☐ Straw Wattles (Fiber Rolls) Check Dam
☐ Divert Flows around the Site ☐ Armored channel (riprap, geotextile, other)
☐ Other: Click here to enter text.

2.20 **How will you reduce storm water volume to minimize sediment transport, channel and stream bank erosion?** (see permit parts 2.3.4 and 2.3.3)

BMP(s): ☐ Utilize basin, depression storage of storm water, cut back curb, or other to hold and infiltrate.
☐ Prevent heavy equipment (as much as possible) from compacting soil so storm water will infiltrate easier.
☐ Rip soil after heavy equipment has caused compaction.
☐ Other: Click here to enter text.

2.21 **Is there a need for dust control on the site (regulatory or for practical reasons)?** **Yes** ☐ **No** ☐

BMP(s): ☐ Wetting with Water ☐ Cover dirt piles with a tarp
☐ Use Magchloride, Calcium Chloride or Lignan Sulfonate
☐ Stabilize surface with mulch, gravel or other surface cover
☐ Other: Click here to enter text.

2.22 **Will there be disturbed areas on the site that will need to be temporarily stabilized before the project is completed?** (see permit part 2.6) **Yes** ☐ **No** ☐

Places that are disturbed and then left for over 14 days with no activity, must be temporarily or permanently stabilized.

BMP(s): ☐ Bark or other mulch ☐ Hydro-mulch ☐ Seeding
☐ Tackifier ☐ Staked netting with straw mulch
☐ Other: Click here to enter text.

2.23 **Will the house be sold without any landscaping?** **Yes** ☐ **No** ☐

If so, how will you leave the site for the new home owner so sediment will be contained on site until the home owner completes landscaping? *(the permit can be terminated when the owner occupies the house even though the site is not stabilized).*

BMP(s): ☐ Mulching/Hydro-mulching ☐ Swales ☐ Silt Fence

☐ Wattles ☐ Cut-Back-Curb ☐ Seeding
☐ Vegetated Buffer ☐ Grade Front-Yard Lower than Sidewalk
☐ Other: Click here to enter text.

3. Sequence of Construction Activity

Type of Construction Activity	Approximate Date Range
Start/End of the Project	
Excavation activities	
Foundation/Footings	
Backfill	
Erection of Building	
Utility Lines installed (you may need to separate this into Plumbing lines, electrical lines, gas lines, water lines, Internet lines, etc.)	
Insert more rows for any stage that should be included	
Landscaping (if the house is sold or occupied by owner with landscaping, if not landscaping should not be included)	

4. Site Map

On a blank page (or include a page from the architectural drawings that show site layout and dimensions), please draw a map (and place this map in Appendix A) showing the layout of the site including locations of:

1. boundaries of project/property
2. boundaries of disturbance (including areas outside of property boundaries)
3. show slopes on site (if there are steep areas show steep areas)
4. location of structures/facilities
5. locations of :
    a. stockpiles for soils and materials
    b. construction supplies
    c. portable toilets
    d. garbage/trash containers
    e. egress points/track out pads
    f. concrete washout pits or containers
6. water bodies, wetlands, natural vegetative buffers

7. placement of all BMPs, perimeter, erosion control, sediment control, inlet protection, etc.
8. storm water inlets and storm water discharge points (where storm water drains off the site)
9. areas that will be temporarily or permanently stabilized on the site
10. areas where disturbances will be delayed to minimize total exposed surface at one time.

5. Potential Sources of Pollutants

Potential sources of sediment to storm water runoff:

- Clearing and grubbing operations
- Grading and site excavation operations
- Vehicle tracking
- Topsoil stripping and stockpiling
- Landscaping operations

Potential pollutants and sources, other than sediment, to storm water runoff:

- Combined Staging Area—small fueling activities, minor equipment maintenance, sanitary facilities, and hazardous waste storage.
- Materials Storage Area—general building materials, solvents, adhesives, paving materials, paints, aggregates, trash, and so on.
- Construction Activity—paving, curb/gutter installation, concrete pouring/mortar/stucco, and building construction
- Concrete Washout Area

For all potential construction site pollutants, see Table 2 below.

Table 2. Potential construction site pollutants. Circle all that applies to your site and in the last column identify pollution prevention measures to minimize their discharge.

Material/Chemical	Storm Water Pollutants	Common Location*	Pollution Prevention Methods
Pesticides (insecticides, fungicides, herbicides, rodenticide)	Chlorinated hydrocarbons, organophosphates, carbamates, arsenic	Herbicides used for noxious weed control	
Fertilizer	Nitrogen, phosphorous	Newly seeded areas	
Plaster	Calcium sulphate, calcium carbonate, sulfuric acid	Building construction	
Cleaning solvents	Perchloroethylene, methylene chloride, trichloroethylene, petroleum distillates	No equipment cleaning allowed in project limits	
Asphalt	Oil, petroleum distillates	Streets and roofing	
Concrete	Limestone, sand, pH, chromium	Curb and gutter, building construction	
Glue, adhesives	Polymers, epoxies	Building construction	

Material/Chemical	Storm Water Pollutants	Common Location*	Pollution Prevention Methods
Paints	Metal oxides, Stoddard solvent, talc, calcium carbonate, arsenic	Building construction	
Curing compounds	Naphtha	Curb and gutter	
Wood preservatives	Stoddard solvent, petroleum distillates, arsenic, copper, chromium	Timber pads and building construction	
Hydraulic oil/fluids	Mineral oil	Leaks or broken hoses from equipment	
Gasoline	Benzene, ethyl benzene, toluene, xylene, MTBE	Secondary containment/staging area	
Diesel Fuel	Petroleum distillate, oil & grease, naphthalene, xylenes	Secondary containment/staging area	
Kerosene	Coal oil, petroleum distillates	Secondary containment/staging area	
Antifreeze/coolant	Ethylene glycol, propylene glycol, heavy metals (copper, lead, zinc)	Leaks or broken hoses from equipment	
Sanitary toilets	Bacteria, parasites, and viruses	Staging area	

*(Area where material/chemical is used on-site)

6. Spill Prevention and Response Plan

Describe the spill prevention and control plan to include ways to reduce the chance of spills, stop the source of spills, contain and cleanup spills, dispose of materials contaminated by spills, and train personnel responsible for spill prevention and control. Additionally, fill in all **BLUE** fields below.

Spill Plan:

Click here to enter text.

Any discharges in 24 hours equal to or in excess of the reportable quantities listed in 40 CFR 117, 40 CFR 110, and 40 CFR 302 will be reported to the National Response Center and the Division of Water Quality (DWQ) as soon as practical after knowledge of the spill is known to the permittee. The permittee shall

submit within 14 calendar days of knowledge of the release a written description of: the release (including the type and estimate of the amount of material released), the date that such release occurred, the circumstances leading to the release, and measures taken and/or planned to be taken to the Division of Water Quality (DWQ), 288 North 1460 West, P.O. Box 144870, Salt Lake City, Utah 84114-4870. The Storm Water Pollution Prevention Plan must be modified within14 calendar days of knowledge of the release to provide a description of the release, the circumstances leading to the release, and the date of the release. In addition, the plan must be reviewed to identify measures to prevent the reoccurrence of such releases and to respond to such releases, and the plan must be modified where appropriate.

Agency	Phone Number
National Response Center	(800) 424-8802
Division of Water Quality (DWQ) 24-Hr Reporting	(801) 538-6146; (801) 536-4123
Utah Department of Health Emergency Response	(801) 580-6681
Local Fire Department	(XXX) XXX-XXXX

Minimum spill quantities requiring reporting:

Material	Media Released To	Reportable Quantity
Engine oil, fuel, hydraulic & brake fluid	Land	25 gallons
Paints, solvents, thinners	Land	100 lbs (13 gallons)
Engine oil, fuel, hydraulic & brake fluid	Water	Visible Sheen
Refrigerant	Air	1 lb
Antifreeze, battery acid, gasoline, engine degreasers	Air, Land, Water	100 lbs (13 gallons)

Emphasis to:

1st Priority: Protect all people (including onsite staff)
2nd Priority: Protect equipment and property
3rd Priority: Protect the environment

1. Make sure the spill area is safe to enter and that it does not pose an immediate threat to health or safety of any person.
2. Check for hazards (flammable material, noxious fumes, cause of spill) – if flammable liquid, turn off engines and nearby electrical equipment. If serious hazards are present leave area and call 911. LARGE SPILLS ARE LIKELY TO PRESENT A HAZARD.
3. Stop the spill source and contain flowing spills immediately with spill kits, dirt or other material that will achieve containment.
4. Call co-workers and supervisor for assistance and to make them aware of the spill and potential dangers
5. If spilled material has entered a storm sewer, regardless of containment; contact the City Storm Water Division.
6. Cleanup all spills (flowing or non-flowing) immediately following containment. Clean up spilled material according to manufacturer specifications, for liquid spills use absorbent materials AND DO NOT FLUSH AREA WITH WATER.

7. Properly dispose of cleaning materials and used absorbent material according to manufacturer specifications.
8. Report the reportable quantity to the XXXXXXXXXX City Storm Water Division.

Emergency Numbers

Utah Hazmat Response Officer 24 hrs	(801)-538-3745
City Police Department	(XXX) XXX-XXXX
City Engineering Division	(XXX) XXX-XXXX

7. SWPPP, Inspections and Corrective Action Reports

Inspection Schedule and Procedures: The permit requires inspections once a week (see permit Part 3). You must list and provide details of your BMPs in Appendix G. Inspection reports require reporting on BMPs and how effective they are (download inspection reports from the DWQ construction storm water website under the Common Plan Permit). You may be required to maintain, modify, remove, or apply/install more or different BMPs to control pollutants on the site. Please number your BMPs in Appendix G and refer to those numbers on your inspection reports and corrective action reports when you inspect or report on them.

Describe the general procedures for correcting problems when they are identified. Include responsible staff and time frames for making corrections:

Click here to enter text.

Inspections and Corrective Actions: All inspections and corrective actions must be logged using the "Inspection/Correction Action Log" attached in Appendix E. The log should be filled out completely for each BMP.

8. Training of Sub-Contractors

All sub-contractors, installers of utility connections, and others that perform activities that are affected by permit requirements will be informed about permit requirements that pertain to their scope of work.

Sub-Contractors that have been informed:

Contractor	Date	Topic(s) Covered	Initials of Trainer
Excavator			
Gas utilities			
Plumbing connection			
Electrical connection			

Concrete foundation walls			
Concrete flat work			
Landscaper			
Other: Click here to enter text.			
Other: Click here to enter text.			
Other: Click here to enter text.			
Other: Click here to enter text.			

9. Changes to the SWPPP

All changes to this SWPPP must be redlined, dated, and initialed in the SWPPP document and on the site map.

10. Record Keeping

The following items should be kept at the project site available for inspectors to review:

1. A copy of the Common Plan Permit (Appendix B)
2. The signed and certified NOI form (Appendix C)
3. Inspection reports (Appendix E)

11. Delegation of Authority (if any)

Duly Authorized Representatives or Positions:

Company/Organization: Company of Representative.
Name: Authorized Representative Name.
Position: Representative Title.
Address: Click here to enter text.
City: Click here to enter text. State: State Zip: Zip Code
Telephone: (XXX) XXX-XXXX Fax/Email: (XXX) XXX-XXXX

Owner/General Contractor Signature:_____ Date:_____

Additional Duly Authorized Representatives or Positions:

Company/Organization: Company of Representative.
Name: Authorized Representative Name.
Position: Representative Title.
Address: Click here to enter text.
City: Click here to enter text. State: State Zip: Zip Code
Telephone: (XXX) XXX-XXXX Fax/Email: (XXX) XXX-XXXX

Owner/General Contractor Signature:_____ Date:_____

12. Discharge Information

Does your project/site discharge storm water into a Municipal Separate Storm Sewer System (MS4)?

☐ Yes ☐ No

Municipal Storm Drain System receiving the discharge from the construction project: Click here to enter text.

Receiving Waters (look up http://mapserv.utah.gov/surfacewaterquality/ to identify your receiving water body). If you discharge to a MS4 you may need to contact them to determine the receiving water that their system outfalls to.

Enter the name(s) of the first surface water(s) that receives storm water directly from your site and/or from the MS4 listed above. **Note:** *multiple rows provided in the case that your site has more than one point of discharge in which each flows to different surface waters.*

1. Click here to enter name of receiving waters.
2. Click here to enter name of receiving waters.
3. Click here to enter name of receiving waters.
4. Click here to enter name of receiving waters.

Impaired Waters (refer to http://mapserv.utah.gov/surfacewaterquality/ in the left hand column to determine status of receiving water body).

Select any impaired surface water(s) that your site will discharge to, either directly or through the MS4 selected above.

Impaired Surface Water	Is this surface water impaired?	Pollutant(s) causing the impairment	Has a TMDL been completed?	Pollutant(s) for which there is a TMDL
Click here to enter text.	☐ Yes ☐ No	Click here to enter text.	☐ Yes ☐ No	Click here to enter text.
Click here to enter text.	☐ Yes ☐ No	Click here to enter text.	☐ Yes ☐ No	Click here to enter text.

13. Certification and Notification

I, Name of Authorized Construction Operator Representative, 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.

X _____

Construction Operator:

This SWPPP should be signed and certified by the construction operator(s).

SWPPP Appendices

Ensure the following documentation is attached to the SWPPP:

Appendix A: SWPPP Site Maps

Appendix B: Common Plan Permit

Appendix C: Notice of Intent (NOI), and a copy of the NOT form unless you plan to terminate the permit on-line

Appendix D: Daily Site Check Log

Appendix E: Inspection Reports and Corrective Actions

Appendix F: Additional Information (i.e. permits such as local permits, dewatering, stream alteration, wetland, and out of date SWPPP documents, delegation of authority forms, etc.)

Appendix G: BMP Specifications and Details (label BMPs to match the sections identified in this document.)

APPENDIX A: SWPPP Site Maps

APPENDIX B: Common Plan Permit

Find the permit on https://deq.utah.gov/water-quality/general-construction-storm-water-updes-permits

APPENDIX C: Notice of Intent and Termination.

Find the Notice of Termination Form at https://deq.utah.gov/water-quality/general-construction-storm-water-updes-permits

However, termination of the project can be done on-line at https://secure.utah.gov/stormwater

(You must log in using the same username that you applied for your NOI with. If you completed a paper NOI you must complete a paper NOT.)

APPENDIX D: Daily Self-Inspection Log (permit part 3.2.2).

Daily Inspection Log

Date	Initials	Date	Initials	Date	Initials	Date	Initials

APPENDIX E: Inspection Reports

Include BMPs inspected even if they are in good condition. Corrections must be completed before the next weekly inspection.

Weekly Inspection/Corrective Action Log

Date & Time of Inspection	Weather	BMP # and Name	Description of BMP Condition or Deficiency	Initial	Correction Date (MM/DD/YY)	How the BMP was Corrected	SWPPP Changed (Y/N)

APPENDIX F: Additional Information

For permits such as local permits, dewatering, stream alteration, wetland, and out of date SWPPP documents, delegation of authority forms, etc.

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 Common Plan 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:

APPENDIX G: BMP Specifications and Details

Label BMPs to match the sections identified in this document.

Below are links to various Construction Storm Water BMP Manuals for reference.

Salt Lake County
http://slco.org/uploadedFiles/depot/publicWorks/engineering/final_bmp_constructi.pdf
BEST MANAGEMENT PRACTICES FOR CONSTRUCTION ACTIVITIES

Davis County
http://www.daviscountyutah.gov/docs/librariesprovider20/default-document-library/stormwater-best-management-practices.pdf?sfvrsn=c9cd4053_2
A Guide to Stormwater Best Management Practices

Nevada DOT
https://www.nevadadot.com/home/showdocument?id=9417
Stormwater Quality Manuals: Construction Site Best Management Practices (BMPs) Manual

Caltrans
http://www.dot.ca.gov/hq/construc/stormwater/CSBMP-May-2017-Final.pdf
Construction Site Best Management Practices (BMP) Manual

Oregon
http://www.oregon.gov/deq/FilterPermitsDocs/BMPManual.pdf
Construction Stormwater Best Management Practices Manual

Los Angeles
http://dpw.lacounty.gov/cons/specs/BMPManual.pdf
Construction Site Best Management Practices (BMPs) Manual

Maricopa County (Arizona)
https://www.maricopa.gov/DocumentCenter/View/2368/2015-03-Drainage-Design-Manual-for-Maricopa-County-Volume-III-Erosion-pdf
Drainage Design Manual for Maricopa County (Erosion Control)

Minnesota
https://www.pca.state.mn.us/sites/default/files/wq-strm2-09.pdf
Stormwater Compliance Assistance Toolkit for Small Construction Operators

STATE OF UTAH, DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER QUALITY
195 North 1950 West, P.O. Box 144870, Salt Lake City, Utah 84114-4870 (801) 536-4300

NOI

Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity Under the UPDES General Permit No. UTRC00000 or No. UTRH00000 SEE REVERSE FOR INSTRUCTIONS

mission of this Notice of Intent constitutes notice that the party(s) identified in Section I of this form intends to be authorized by UPDES eneral Permit No. UTR000000 issued for storm water discharges associated with construction activity in the State of Utah. Becoming a permittee obligates such discharger to comply with the terms and conditions of the permit. ALL NECESSARY INFORMATION MUST BE PROVIDED ON THIS FORM.

PERMIT PERIOD	**Permit Start Date:** (automatic) **Permit Expiration Date:** (automatic)
PERMIT TYPE	**Construction General Permit (CGP,** this permit covers any construction project): ..... ☐
	Common Plan Permit (this only covers single lot residential construction disturbing less than an acre): ..... ☐

Is this NOI seeking continuation for previously expired permit coverage at the same site? Y ☐ N ☐

If yes, what is the number of the previous permit coverage? Permit No. UTR_____

I. OWNER INFORMATION

Owner Name: _____ Phone: _____

Address: _____ Status of Owner: _____(see instructions)

City: _____ State: _____ Zip: _____

Contact Person: _____ Phone: _____

GENERAL CONTRACTOR: _____ Phone: _____

Address: _____ Status of General Contractor: _____

City: _____ State: _____ Zip: _____

Contact Person: _____ Phone: _____

II. FACILITY SITE / LOCATION INFORMATION

Is the facility located in Indian Country? Y ☐ N ☐

Name: _____

Project No. (if any): _____

Address: _____ County: _____

City: _____ State: _____ Zip: _____

Latitude: _____ _____ _____ Longitude: _____ _____ _____ .

Method (check one): USGS Topo Map, Scale _____ EPA Web site ☐ GPS ☐ Other _____

III. SITE INFORMATION

Municipal Separate Storm Sewer System (MS4) Operator Name: _____

Receiving Water Body: _____ this is known ☐ this is a guess ☐ (see http://wq.deq.utah.gov/)

Estimate of distance to the nearest water body? _____ ft. ☐ miles. ☐

Is the receiving water designated as impaired or high quality water body (see http://wq.deq.utah.gov/)? Yes ☐ No ☐

List the Number of any other UPDES permits at the site: _____ _____

IV. THIS SECTION IS ONLY FOR PROJECTS INVOLVED IN DEVELOPMENT OF A SUBDIVISION.

List the lots proposed for the development (please add another sheet of paper if there is not enough room to list all lots).

INSTRUCTIONS

Notice Of Intent (NOI) For Permit Coverage Under the UPDES General Construction Permit (CGP) or Common Plan Permit

Who Must File A Notice Of Intent (NOI) Form State law at UAC R317-8-3.9 ›bits point source discharges of storm water from construction activities to a water ›(ies) of the State without a Utah Pollutant Discharge Elimination System (UPDES) permit. The owner and the general contractor of a construction activity that has such a storm water discharge must submit a NOI to obtain coverage under the UPDES Storm Water General Permit. If you have questions about whether you need a permit under the UPDES Storm Water program, or if you need information as to whether a particular program is administered by EPA or a state agency, contact the storm water coordinator at (801) 536-4300.

General Construction Permit (CGP) or Common Plan Permit There are two permits to choose from to cover construction activity. The CGP covers any and all construction activity. The Common Plan Permit covers less than an acre projects that are residential. You must determine which permit applies and check the appropriate box at the top of the first page.

Where To File NOI Form The preferred method of submitting an NOI is electronically on-line at https://secure.utah.gov/stormwater. If the-line option is not available for you, you can submit a paper form (downloaded the NOI form from https://deq.utah.gov/Permits/water/updes/stormwatercon.htm) to the following address:

Department of Environmental Quality
Division of Water Quality
P.O. Box 144870
Salt Lake City, UT 84114-4870

Beginning of Coverage Permit coverages are issued immediately after submitting an NOI with the permit fee. The permittee should be aware that though you may not have a permit in hand, if you have submitted a completed NOI with the permit fee you are covered by the conditions in the permit and will be expected to comply with permit conditions. You can print a copy of the CGP or Common Plan Permit from the DWQ web site (the second web page noted above).

Permit Fees. The permit fee is $150.00 per year. The fee is paid on-line by VISA/MASTERCARD/echeck. Permit coverage will not be issued until the fee is paid.

Length of Coverage: Permit coverage starts the day that the NOI and fee is received at DWQ and expires a year from issuance. All permit coverages must be renewed within 60-days after the yearly expiration date, or be terminated with a notice of termination (NOT) before the expiration date. To terminate the permit the site must meet the permit conditions for final stabilization (see permit definitions), or must continue under a different permit holder. In most cases the DWQ or municipality of jurisdiction will perform a final inspection when the permittee submits a NOT. If the site passes the final inspection the permit is terminated.

The Storm Water General Permit for Construction Activities UTRC00000 will expire on June 30, 2019 – UTRH00000 expires on September 30, 2020. The Clean Water Act requires that all UPDES permits be renewed every 5 years. If a permit coverage extends beyond the expiration date of the permit, permit coverage must be renewed to continue coverage under the renewed permit that will subsequently be developed to continue the same or similar permit for construction activity.

SECTION I - FACILITY OPERATOR INFORMATION Supply the legal name(s) of the person(s), firm(s), public organization(s), or any other entity(ies) that qualifies as the owner of the project (see permit definitions). Do the same for the general contractor that conducts construction operations at the permitted site. The owner and the general contractor of the project may be the same.

Enter the complete address and telephone number of the owner and general contractor and a contact person and number for each. Enter the appropriate letter to indicate the legal **STATUS of the OWNER/GENERAL CONTRACTOR** of the project. **F = Federal M = Public (other than Fed or State) S = State P = Private**

SECTION II - FACILITY/SITE LOCATION INFORMATION Enter the project name or legal name and project number (if any) of the site and complete street address, including city, state and ZIP code. The latitude and longitude of the ›ty must be included to the approximate centroid of the site, and the method of the Lat/Long was obtained.

If the facility is located in Indian Country, do not complete this NOI, instead submit an application for coverage under a storm water permit to EPA Region VIII except for facilities on the Navajo Reservation or on the Goshute Reservation which should submit an application to EPA Region IX.

SECTION III - SITE ACTIVITY INFORMATION If the storm water discharges to a municipal separate storm sewer system (MS4), enter the name of the operator of the MS4 (e.g., the name of the City or County of jurisdiction) and the receiving water of the discharge from the MS4 if it is known (if it is not known look up the closest water body at http://wq.deq.utah.gov).

For Impaired Waters: Go to http://wq.deq.utah.gov and identify and click on the water body that will receive the storm water discharge from the permitted site, on the map provided at the web site (zoom in for easier resolution). On the left hand side of the page you will see "**20XX Assessment**" depending on the year you refer to the web site (the assessment is done every 3 years). The **20XX Assessment** the will indicate if the water is impaired. If there is nothing after **20XX Assessment** or the narrative after does not include the word "impaired", your receiving water is not impaired.

For High Quality Waters: On the web page referred to in the paragraph above on the left hand side of the page you will see "**Anti-Degradation Category**". Under **Anti-Degradation Category** you will see the category of the water body. Only categories 1 and 2 are high quality water bodies. Some waters may be both categories 1 and 3. If your water body is both category 1 and 3 it means the headwaters of your water body is within Forest Service boundaries, and because it is within Forest Service boundaries it is category 1. If your project is within Forest Service boundaries then your water body is category 1 and it is "high quality". If your project is not within Forest Service boundaries then your water body is category 3 and is not "high quality".

SECTION IV – LISTING LOTS FOR SUBDIVISIONS For the sake of tracking lots that are sold (if a developer chooses to sell lots to another party before the building construction for the lot is completed), and permitted under a different owner (which requires a different permit), developers must list lot numbers.

SECTION V - TYPE OF CONSTRUCTION Check each type of construction that applies to this application.

SECTION VI - BEST MANAGEMENT PRACTICES Check each type of best management practice that will be used to control storm water runoff at the job site.

SECTION VII – GOOD HOUSEKEEPING PRACTICES Check each type of good housekeeping practice that you will use on the site.

SECTION VIII – ADDITIONAL Provide an estimate of the total number of acres for the site and the acres for which soil will be disturbed (to the nearest hundredth of an acre). An email address is required of the best contact associated with the project for the communication needs.

SECTION IX – CERTIFICATION State statutes provide for severe penalties for submitting false information on this application form. State regulations require this application to be signed as follows:

For a corporation: by a responsible corporate officer, which means: (i) president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions, or (ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

For a partnership or sole proprietorship: by a general partner or the proprietor; or

For a municipality, state, Federal, or other public facility: by either a principal executive officer or ranking elected official.

POLLUTION PREVENTION PLAN A storm water pollution prevention plan (SWP3) is required to be in hand before the NOI can be submitted. It is important to know SWPPP requirements (contained in the permit) even during the design portion of the project. A copy of the permit can be obtained from the Division of Water Quality's storm water construction web site. Guidance material for developing a SWPPP can be obtained from the Division of Water Quality's storm water construction web site.

V. TYPE OF CONSTRUCTION (Check all that apply)

1. □ Residential 2. □ Commercial 3. □ Industrial 4. □ Road 5. □ Bridge 6. □ Utility

7. □ Contouring, Landscaping 8. □ Pipeline 9. □ Other (Please list) _____

VI. BEST MANAGEMENT PRACTICES

Identify proposed Best Management Practices (BMPs) to reduce pollutants in storm water discharges (Check all that apply):

1. ☐ Silt Fence/Straw Wattle/Perimeter Controls 2. ☐ Sediment Pond 3. ☐ Seeding/Preservation of Vegetation

4. ☐ Mulching/Geotextiles 5. ☐ Check Dams 6. ☐ Structural Controls (Berms, Ditches, etc.)

7. ☐ Other (Please list) _____

VII. GOOD HOUSEKEEPING PRACTICES

Identify proposed Good Housekeeping Practices to reduce pollutants in storm water discharges (Check all that apply even if they apply only during a part of the construction time):

1. ☐ Sanitary/Portable Toilet 2. ☐ Washout Areas 3. ☐ Construction Chemicals/Building Supplies Storage Area

4. ☐ Garbage/Waste Disposal 5. ☐ Non-Storm Water 6. ☐ Track Out Controls 7. ☐ Spill Control Measures

VIII. ADDITIONAL

Estimated Area to be Disturbed (in Acres): _____ Total Area of Plot (in Acres):_____

A storm water pollution prevention plan has been prepared for this site and is to the best of my knowledge in Compliance with State and/or Local Sediment and Erosion Plans and Requirements. Y ☐ N ☐
(A pollution prevention plan is required to be on hand before submittal of the NOI.)

Project Start Date: _________

Project End Date: _________

Enter the best e-mail address to contact the permittee: _____

IX. CERTIFICATION: I certify under penalty of law that I have read and understand the Part 1 eligibility requirements for coverage under the general permit for storm water discharges from construction activities. I further certify that to the best of my knowledge, all discharges and BMPs that have been scheduled and detailed in a storm water pollution prevention plan will satisfy requirements of this permit. I understand that continued coverage under this storm water general permit is contingent upon maintaining eligibility as provided for in Part 1.

I also certify under penalty of law that this document and all attachments were prepared under the direction or supervision of those who have placed their signature(s) below, in accordance with a system designed to assure that qualified personnel properly gather and evaluate 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.

Owner and Operator must sign below:

Print Name: Date:

_____ _____

Title: _____

Signature: _____

Print Name: Date:

_____ _____

Title: _____

gnature: _____

Amount of Permit Fee Enclosed: $_____

STATE OF UTAH, DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER QUALITY
195 North 1950 West, P.O. Box 144870, Salt Lake City, Utah 84114-4870

NOT

Notice of Termination (NOT) for Storm Water Discharges Associated with Construction Activity Under the UPDES General Permit No. UTRC00000 or UTRH00000. SEE REVERSE FOR INSTRUCTIONS

bmission of this Notice of Termination constitutes notice that the owner/operator identified in Section II of this form or in the NOI is no longer uthorized to discharge storm water pursuant to the Construction General Permit or Common Plan Permit from the site identified in Section III.

I. Permit NOT Information

UPDES Storm Water (SW) General **Permit Number** to be terminated: _____

*Select **one** of checkboxes and fill out transfer information if required:*

☐ **COMPLETED** PROJECT: The project is finished and final stabilization has been achieved on the entire site according to permit conditions.

☐ **NEW OWNER RESPONSIBLE** UNDER NEW NOI: This NOT is **not required if an "Ownership Transfer Form" has been submitted** to transfer the existing NOI to a new owner. Only use this form if the new owner has submitted a new NOI to obtain their own coverage for **the entire site** and the old owner is now terminating.

☐ **SOLD LOTS**/PARTIAL NOT: If only part of the permitted area is sold the developer must periodically update the active lot list. Provide information on the new owner who has purchased the lots and notify them that they are responsible for their obtaining their own permit if construction is not complete. Lots must be at least temporarily stabilized before being sold to the final homeowner. Additional lots may be listed on the next page. The **permit will remain active** and the NOI updated to remove these lots.

If **NEW OWNER RESPONSIBLE** or **SOLD LOTS** is checked fill out new owner information below (additional lots on back of form):

Company/Individual Name _____
Contact person _____
Address _____
City _____ State _____
Telephone Number _____ Email Address _____
If sold lot: Lot number to remove _____ Acres to remove: _____

II. Facility Owner Information (the same as was entered on the NOI who is seeking termination of permit responsibilities)

Name: _____ Phone: _____
Address: _____
City: _____ State: _____ Zip: _____

III. Facility Site/Location Information (the same as was entered on the NOI)

Name: _____ Phone: _____
Address: _____ County: _____
City: _____ State: _____ Zip: _____

IV. Certification:

I certify under penalty of law that either: a) the site is stabilized in accordance with the applicable permit requirements (Construction General Permit or Common Plan Permit) and all storm water discharges associated with construction activity from the facility identified in the NOI, where I was an operator, have ceased or have been eliminated or b) I am no longer an operator at the construction site and a new operator has assumed operational control for those portions of the construction site where I previously had operational control. I understand that by submitting this notice of termination, I am no longer authorized to discharge storm water associated with construction activity under this general permit, and that discharging pollutants in storm water associated with construction activity to waters of the State is unlawful under the State of Utah Water Quality Act where the discharge is not authorized by a UPDES permit. I also understand that the submittal of this notice of termination does not release an operator from liability for any violations of this permit or the Water Quality Act.

Print Name: _____ Title: _____
Email: _____ Phone: _____
Signature: _____ Date: _____

Instructions for Completing Notice of Termination (NOT) Form

Who May File A Notice Of Termination (NOT) Form

Permittees who are presently covered under the State issued Utah Pollutant Discharge Elimination System (UPDES) General Storm Water Permit for Construction Activity or Common Plan Permit may submit a notice of termination (NOT) form when their facilities no longer have any storm water discharges associated with industrial activity (construction activity) as defined in the storm water regulations at UAC R317-8-3.9(6)(d)10 or (e)1, or when they are no longer the legal owner or person responsible for the project and the facilities.

Where to File NOT Form

Mail: Division of Water Quality
195 North 1950 West
P.O. Box 144870
Salt Lake City, Utah 84114-4870

Fax: (801) 536-4301 **Email:** wqinfodata@utah.gov

Section I – Permit/Site Information

Enter the existing UPDES Storm Water General Permit number assigned to the permitted site. If you do not know the permit number, contact the Division of Water Quality at (801) 536-4300. Select the checkbox that most appropriately describes why you are terminating permit coverage. If the permit has already been transferred to a new owner or operator then you do not need to submit this form.

Section II - Facility Operator Information

This form must be filled out and submitted by the owner or lessee listed on the notice of intent (NOI) that was submitted in the original NOI. In this section give the legal name of the person, firm, public organization, or any other entity that is filed as the owner at the facility or site described in this application that desires to terminate coverage. As the owner's agent, the general contractor can also fill out and submit the NOT. Enter the complete address and telephone number of the owner or operator.

Section III - Facility/Site Location Information

Enter the facility's or site's official or legal name and complete address, including city, state and ZIP code of the facility.

Section IV - Certification

State statues provide for severe penalties for submitting false information on this application form. State regulations require this application to be signed as follows:

For a corporation: by a responsible corporate officer, which means: (i) president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions, or if authority to sign documents has been assigned or delegated to a manager in accordance with corporate procedures; or by a duly authorized representative (See for the CGP Appendix G.16, or for the Common Plan permit part 5.16).

For *a partnership or sole proprietorship:* by a general partner or the proprietor, respectively; or

For *a municipality, State, Federal, or other public facility:* by either a principal executive officer or ranking elected official.

Additional Space for Sold Lots:

Lot Number and Acres	Owner Info
Lot # _____ Acres: _____	Company/Individual Name _____ Contact person _____ Address _____ City _____ State _____ Telephone Number _____ Email address _____
Lot # _____ Acres: _____	Company/Individual Name _____ Contact person _____ Address _____ City _____ State _____ Telephone Number _____ Email address _____
Lot # _____ Acres: _____	Company/Individual Name _____ Contact person _____ Address _____ City _____ State _____ Telephone Number _____ Email address _____

For office use only:

Enter the contact information of user who transcribed the information from the paper form into the CGP application

Name: _____

Organization: _____

Email: _____ Phone: _____

SOUTH SALT LAKE ENGINEERING DEPARTMENT

220 East Morris Avenue, Suite 200
South Salt Lake City, Utah 84115
(801) 483-6063 telephone
(801) 483-6060 fax
www.sslc.com

RIGHT OF WAY & ACCESS PERMIT APPLICATION

CHECKLIST PRIOR TO SUBMITTAL

1. Complete Application
2. Signed Acknowledgement of Terms & Conditions
3. Copy of Liability Insurance (South Salt Lake City must be listed as certificate holder)
4. Cost Estimate of all Proposed Work
5. BMP or SWPPP Statement
6. $60 Nonrefundable Deposit (applied toward inspection fees)
7. TWO paper copies of Site Plans (11" x 17" minimum)
8. TWO paper copies of Traffic Control Plans (11" x 17" minimum)
9. TWO paper copies of Storm Water Pollution Prevention Plans (11" x 17"minimum)

** INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED **

CHECKLIST PRIOR TO PERMIT RELEASE

1. Nonrefundable Fee Payment
2. Signed South Salt Lake Improvement Agreement
3. Original Stamped Bond (Estimate must be approved prior to bond submittal)

Submitting a permit application does not authorize the applicant to begin construction. Working without an approved permit violates South Salt Lake Municipal Code. South Salt Lake City reserves the right to pursue enforcement action including but not limited to Notice of Violation and Summons, and Citations.

Applicants are responsible for addressing and correcting all inaccurate or incomplete application documentation. Inactive applications automatically void after 180 days. All voided applications require submittal of new applications, including payment of all costs and fees. All application fees are nonrefundable.

SOUTH SALT LAKE ENGINEERING DEPARTMENT

220 East Morris Avenue, Suite 200
South Salt Lake City, Utah 84115
(801) 483-6063 telephone
(801) 483-6060 fax
www.sslc.com

RIGHT OF WAY & ACCESS PERMIT APPLICATION

PERMIT #: _____ APPLICATION DATE: _____

PROJECT INFORMATION			
FEE TITLE OWNER(S)			
PROJECT OWNER	TELEPHONE		
EMAIL	24-HR EMERGENCY TELEPHONE		
PROJECT ADDRESS	CITY	STATE	ZIP
DESCRIPTION OF WORK			

CLOSURE INFORMATION	# OF LANES	# OF BLOCK	# OF DAYS
SIDEWALK			
LANE CLOSURE			
LOCAL STREET FULL CLOSURE			
ARTERIAL STREET FULL CLOSURE			

CONTACT INFORMATION			
PERMIT CONTACT		TELEPHONE	
EMAIL		24-HR EMERGENCY TELEPHONE	
BUSINESS ADDRESS	CITY	STATE	ZIP
STATE LICENSE #		EXPIRATION DATE	
GENERAL CONTRACTOR		TELEPHONE	
EMAIL			
BUSINESS ADDRESS	CITY	STATE	ZIP
STATE LICENSE #		EXPIRATION DATE	
SUB CONTRACTOR		TELEPHONE	
EMAIL			
BUSINESS ADDRESS	CITY	STATE	ZIP
STATE LICENSE #		EXPIRATION DATE	
SUB CONTRACTOR		TELEPHONE	
EMAIL			
BUSINESS ADDRESS	CITY	STATE	ZIP
STATE LICENSE #		EXPIRATION DATE	

SOUTH SALT LAKE ENGINEERING DEPARTMENT

220 East Morris Avenue, Suite 200
South Salt Lake City, Utah 84115
(801) 483-6063 telephone
(801) 483-6060 fax
www.sslc.com

SOUTH SALT LAKE PUBLIC RIGHT OF WAY ACCESS TERMS AND CONDITIONS

Application is hereby made by the undersigned for a permit to work within the City right of way for the purpose designated below. It is understood and agreed by the applicant that all necessary precautions for public safety will be installed and maintained from the commencement to the conclusion of construction operations described by this permit. The applicant shall indemnify and hold harmless the City of South Salt Lake from all liability, loss, damage, cost, or other expenses, arising from any accident, injury, loss or damage to any person or property caused directly or indirectly by the acts, errors, or omissions of applicant and its agents, servants, employees, or subcontractors. In addition, applicant agrees to the following terms and conditions:

1. **All work must be scheduled and coordinated with the City of South Salt Lake Engineering Department. All work not inspected prior to back fill being placed, shall be re-excavated at the contractor's expense to allow for inspection.**
2. All work and clean up must be complete within 30 days from the start date of this permit unless a permit extension is granted by South Salt Lake City Engineer, or the Engineer's authorized representative.
3. Curb, gutter, and sidewalk installation shall be in conformance with the 2017 Edition of the APWA Manual of Standard Plans and Manual of Standard Specifications, South Salt Lake City engineering supplementary standards, or South Salt Lake City Engineer, or the Engineer's authorized representative.
4. Asphalt trench repair shall be saw cut. Asphalt trench repairs require a T-patch extending at least 2 feet beyond the edge of the trench, or as specified in the APWA Manual of Standard Plans and Specifications, South Salt Lake City Engineering supplementary standards, South Salt Lake City Engineer, or the Engineer's authorized representative.
5. A minimum of 8" of road base is to be installed under pavement surfaces. A minimum of 6" of road base shall be installed under curb, gutter, and sidewalk or as specified in the APWA Manual of Standard Plans and Specifications, or as directed by South Salt Lake City Engineer or the Engineer's authorized representative.
6. Replacement asphalt shall match existing asphalt thickness plus 1 inch, but in no case be less than 4 inch thick. See the latest edition of the APWA Manual of Standard Plans and Specifications for maximum pavement thickness.
7. On all new pavements, 5 years old or less, asphalt trench repairs shall be in conformance with South Salt Lake City engineering supplementary standards, or South Salt Lake City Engineer, or the Engineer's authorized representative.
8. Any road with existing overlay fabric shall be repaired as directed by South Salt Lake City Engineer, or the Engineer's authorized representative.
9. All manholes and inlet boxes shall be core cut.
10. Storm drain and sewer line repairs shall be video inspected, and a copy of the video shall be given to the South Salt Lake City Engineer, or the Engineer's authorized representative.
11. All contractors and their employees shall wear proper personal protective equipment at all times when working in the public right of way.
12. Permit applicant shall provide Certificate of Liability Insurance with application.
    - Liability insurance shall include: $1,000,000 each occurrence & $2,000,000 aggregate
13. The Fees paid for this permit do NOT include overtime costs for city inspectors. Applicant agrees to reimburse the City of South Salt Lake for the following costs:
    - Two-Hour minimum call out fee for all after hours, weekends, or emergency inspection service
    - Additional time shall be charged at a rate of 1.5 times the inspector's hourly rate.
14. **24-hour notice is required for all inspections. Call 801-483-6032, specify Engineering Inspection.**
15. NO EXCAVATION WILL BE LEFT OPEN LONGER THAN 24 HOURS WITHOUT EXPRESS PERMISSION IN WRITING FROM SOUTH SALT LAKE CITY ENGINEER, OR ENGINEER'S REPRESENTIVE.
16. ALL WORK MUST COMPLY WITH THE CITY OF SOUTH SALT LAKE STORM WATER MANAGEMENT PLAN. Call the South Salt Lake Storm Water Division for storm water related questions at 801-483-6045

I HAVE READ AND UNDERSTAND THE TERMS OF THIS PERMIT AND AGREE TO BE BOUND THERETO

SIGNATURE OF APPLICANT: _____

NAME OF APPLICANT (PRINTED): _____

FOR CITY USE ONLY

CITY OFFICIAL USE ONLY	CONTRACTOR START/END DATE
PERMIT #: _____ ACCEPTED BY: _____ DATE OF APPROVAL: _____	START DATE: COMPLETION DATE:

EXCAVATION FEE: $_____ INSPECTION FEE: $_____ CLOSURE FEE: $_____

FEE TOTAL: _____RECEIPT #: _____

SOUTH SALT LAKE
ENGINEERING
DEPARTMENT

Dennis Pay, P.E.
City Engineer
801-483-6038
dpay@sslc.gov

STORMWATER POLLUTION PREVENTION PLAN REVIEWER AND INSPECTOR QUALIFICATIONS POLICY
CITY OF SOUTH SALT LAKE

Purpose: The purpose of the City of South Salt Lake Storm Water Management Plan is to implement and enforce a program designed to reduce the discharge of pollutants to the maximum extent practicable (MEP) to protect water quality. The goal of the Storm Water Management Plan is to identify existing resources, develop programs to reduce the negative impacts of storm water pollution, protect our waterways and enhance our quality of life.

Policy: In order to enhance the Storm Water Management Plan, it is the policy of the City of South Salt Lake that any person reviewing Storm Water Pollution Prevention Plans submitted to the City of South Salt Lake must be a Utah Registered Storm Water Reviewer (RSR) with current certification.

A "qualified" SWPPP writer must write or certify SWPPPs for all projects disturbing greater than five (5) acres, and small construction projects (1 to 5 acres) that have a perennial surface water within 50 feet of the project. Acceptable qualifications for a "qualified" SWPPP writer include but not limited to:

- Utah Registered SWPPP Writer (RSW)
- Licensed Professional Engineer (PE) in a related field or Professional Geologist
- (PG)
- Certified Professional in Erosion and Sediment Control (CPESC)
- Certified Professional in Storm Water Quality (CPSWQ)
- National Institute for Certification in Engineering Technologies, Erosion and Sediment Control, Level 3 (NICET)

It is the policy of the City of South Salt Lake that any person conducting storm water inspections in the City of South Salt Lake must be a "qualified person" with current certification.

The purpose of the "qualified person" is to ensure that the procedures and policies outlined in the SWPPP are followed, properly implemented, and enforced to maintain compliance with federal and state regulations.

A "qualified person" is a person knowledgeable in the principles and practice of erosion and sediment controls and pollutant prevention, who possesses the skills to assess conditions and effectiveness of any storm water controls selected and installed to meet the requirements of this permit, such as, but not limited to the following:

- Utah Registered Storm Water Inspector (RSI)
- Certified Professional in Erosion and Sediment Control (CPESC)
- Certified Professional in Storm Water Quality (CPSWQ)
- Certified Erosion, Sediment, and Storm Water Inspector (CESSWI)
- Certified Inspector of Sediment and Erosion Control (CISEC)
- National Institute for Certification in Engineering Technologies, Erosion and

Cherie Wood
Mayor
220 E Morris Ave
Suite 200
SSLC UT 84115
sslc.gov

Sediment Control, Level 3 (NICET)

- Certified Stormwater Inspector Construction (CSI-Construction)
- Qualified Compliance Inspector of Stormwater (QCIS)
- EPA NPDES Construction General Permit Inspector Training

DATED THIS 8 DAY OF March, 2024.

DENNIS PAY, P.E.
CITY ENGINEER

USWAC
Preferred BMP List
For Permitted Construction Sites

Adopted January 1, 2025

Revised December 19, 2024

Introduction

The operator is responsible for selecting effective site specific Best Management Practices (BMPs) for erosion and sediment control as well as pollution prevention operations according to the site's unique current conditions and the conditions that will occur throughout construction. A qualified person (as described in section 7.2 of the Construction General Permit, and section 4 of the Common Plan Permit) should evaluate the site to ensure the selected BMP is suitable and may need to consider a series of BMPs based on site conditions and construction operations. Conditions such as slope, proximity to water, soil type, infiltration rate, feasibility, etc should all be considered.

BMPs that do not meet their performance criteria can result in oversight authority notice of Storm Water Pollution Prevention Plan (SWPPP) violation(s) and potential enforcement.

Purpose

The purpose of the State Preferred BMP List is to meet the requirements of Utah Code 19-5-108.3. Each MS4 in the State of Utah will select which BMPs from this Preferred BMP List document are acceptable for use within that jurisdiction at permitted construction sites.

Applicability

This Preferred BMP List document shall be applicable to all sites that require regulation under the General Permit for Storm Water Discharges from Construction Activities (CGP) and the Common Plan Permit (CPP).

The USWAC Preferred BMPs are intended to be installed and maintained specifically as described. The operator or SWPPP agent is responsible for choosing BMPs that are applicable and will be effective at containing and managing the site's unique exposures and construction operations. The USWAC Preferred BMP List does not contain all BMPs for every situation or imply that all Preferred BMPs are agreeable to the operator.

When necessary, the operator or SWPPP agents may need to use BMPs not found in the USWAC BMP Preferred List. Where this is the case, a BMP Template is provided as the basis to describe the alternative BMP. In addition to BMPs not covered with the preferred list, the operator or SWPPP agents are invited to modify any of the USWAC BMPs to manage project exposures and operations. However, in both cases the alternative BMPs must be designed to satisfy or exceed the minimum performance criteria. The operator or SWPPP agents must submit modified or alternative BMPs to the oversight authority for review.

Stormwater pollution control requirements are intended to be proactive and implemented on a year-round basis. Appropriate pollution control includes both erosion control and sediment mitigation as well as track out controls, non-stormwater discharge and waste management, and material pollution BMPs. Some BMPs can be implemented as a stand-alone device while others can be combined to improve effectiveness and compliance.

Reporting

The CGP and CPP require operators to conduct inspections of storm water pollution prevention controls and keep record of these inspections. The GCP/CPP report requirements are to demonstrate that selected BMPs are effective at controlling sources of storm water pollution. The report must include actions taken to maintain, repair, or install new BMPs as needed to fulfill the pollution prevention plan created for the site. The DEQ has provided a SWPPP inspection form for operators to utilize to record this minimum information as well as record actions taken to correct issues. See SWPPP Inspection Form.

Utah State Code 19-05-108.3 requires that operators submit "electronic site inspections" which is defined as "geo-located and time-stamped photos taken, evaluated, and submitted electronically by the applicant to the municipal system." To guide the operator in fulfilling this additional requirement, an *Electronic Site Inspection Guide* document has been created and is accessible via the hyperlink and is found towards the bottom of the webpage.

It is important that the BMPs in the photos support the operator's SWPPP inspection report and represent the condition of each BMP. BMPs (either sourced from this preferred list or added by the operator or SWPPP agents) that do not meet the installation, maintenance and performance criteria specified must be corrected to achieve compliance with the site specific SWPPP and CGP/CPP. After the BMP is corrected, provide a description of how the BMP was corrected and the date the correction was made in the SWPPP Inspection report. Provide adequate geo-located and time-stamped photo(s) that support the correction action. If applicable, also address any deficiencies noted by the oversight authority within the established deadlines provided in the oversight inspection report. For guidance in which case corrective actions versus routine maintenance must be reported, refer to the CGP/CPP for specifications.

Acknowledgement

The creation of this USWAC Preferred BMP List would not have been possible without the support of the Utah Storm Water Advisory Committee and BMP Subcommittee. We take this opportunity to express gratitude to the MS4 Unification Committee who have been instrumental in the successful completion of this project.
And to many others who contributed their time and effort to the contents of this document, thank you!

TABLE OF CONTENTS

…

Template for Adding an Alternate BMP (Operator Version)

"Operators are invited to use an alternative BMP or modify a BMP from the USWAC Preferred List so long as the BMP has the same performance criteria or better as the preferred BMP. Any deviations from the preferred BMP installation and use parameters must be reviewed and accepted by the oversight authority."

[BMP # - Title]

Replace all blue text in brackets with BMP specific data. Then delete any remaining unnecessary blue instructional text.

[Insert the BMP detail drawing specific to the proprietary device you will use. It should illustrate the structure of the BMP, installation requirements, and any typical variances due to site conditions.]

[IMAGE]

APPLICATION

- [Describe specifically when and where this BMP will be used on site]

INSTALLATION/USE PROCEDURES

- [Describe how this BMP should be installed or how it should be practiced]
- [Describe further so that it is very clear, such as minimum length of structure, etc]

BMP MODIFICATION OR REPLACEMENT JUSTIFICATION

Use only one of the two following bullets

- This BMP is replacing or augmenting [list the preferred BMP that is being replaced] OR
- This BMP is being added and implemented as the conditions or operations cannot be adequately managed by a BMP from the USWAC Preferred List.

MAINTENANCE/MANAGEMENT

- [Add maintenance criteria for proper BMP performance]
- [Describe how the BMP should look or function during an inspection]
- [Describe when maintenance is necessary]
- [Describe when replacement is necessary]
- [Describe when no action is needed]

PERFORMANCE

- [Describe performance expectations of the alternative BMP. This includes how it protects water resources, manages hazards, and limits public complaints]

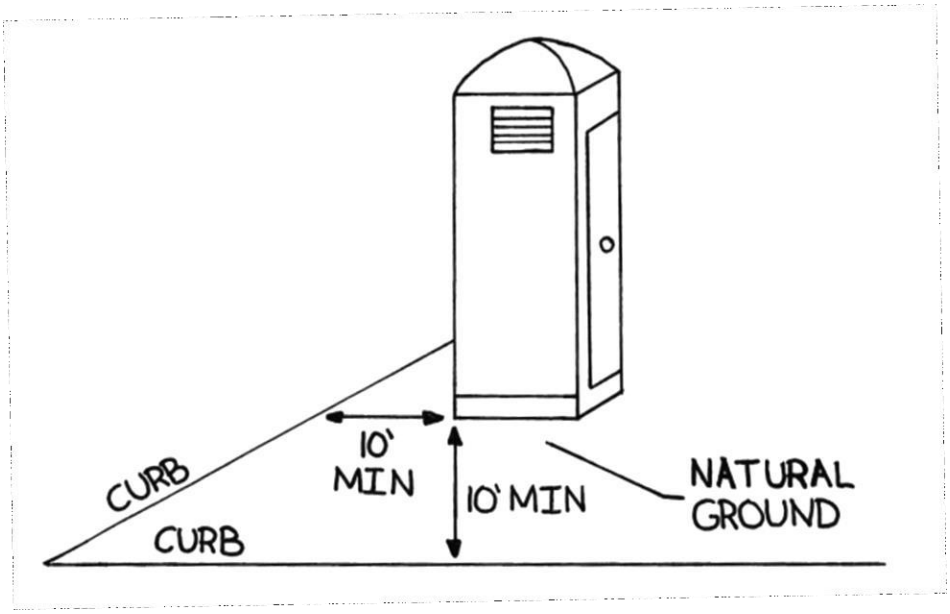
GENERAL

- [Include other information, direction, instruction, and BMP criteria that does not fit well into the other categories.]

REFERENCE

- [CGP and Federal Regulations sections, numbers, link to proprietary documentation, etc]

BMP 1- Portable Toilet on Pervious Surface



APPLICATION

- Provide temporary sanitary facilities when permanent facilities are too far from activities or are unavailable.

INSTALLATION/USE PROCEDURE

- Locate portable toilets away from waters of the state, and at least 10 feet from any storm water conveyance, inlet, curb and gutter, or conduit to a waterway.
- Wherever possible, locate portable toilet upon natural ground and not on impervious surfaces such as asphalt, concrete, or similar
- Prepare a level surface and provide clear access to the toilet(s) for servicing and for on-site personnel
- Wherever possible, locate a portable toilet next to track out pad or provide gravel access pad for maintenance pick up to reduce occurrence of mud track out by service provider.
- Secure portable toilets to prevent tipping e.g. stakes, tie downs, etc.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.
- Also see BMP 2- Portable Toilet on Pavement

MAINTENANCE/MANAGEMENT

- Portable toilets should be maintained in good working order by licensed service
- Portable toilets should be inspected daily to detect any leaks
- Damaged toilets must be repaired/replaced immediately
- All waste must be deposited in the sanitary sewer system for treatment with appropriate agency approval
- Implement spill BMP immediately upon spill incident
- If track out from the service provider occurs, debris must be removed as soon as practicable.

PERFORMANCE

- A portable toilet is expected to contain human waste with zero exposure to storm water.
- A successful portable toilet is clean, effective, and is processed by the appropriate licensed facility.

REFERENCE

- Construction General Storm Water Permit (CGP) 2.3.3(f)
- Common Plat Permit (CPP) 2.4.4

BMP 2- Pavement Mounted Portable Toilet

Picture for concept purpose only

APPLICATION

- Use portable toilets on pavement only for projects without pervious staging areas. Usually projects within existing right-of-ways.
- Do not install portable toilets on pavement when private property is expected to be used. Generally, portable toilets installed on pavement are not acceptable for commercial and residential projects.

INSTALLATION/USE PROCEDURE

- When near inlets, always locate portable toilets downstream of inlets. Identify on SWPPP BMP map.
- Place portable toilet on a surface no steeper than 2% grade.
- Attach portable toilet contractor illustrations, service and any maintenance information. For ground mount toilets provide each corner with 50# weights or as specified by the service contractor. For trailer mounted systems, provide a plan for securing the trailer as specified by the service contractor.
- Provide secondary containment. Submit for oversight authority review. A gutter dam BMP is a good choice.
- Obtain private or public right of way encroachment permit (or local equivalent) when required by the local authority.
- Attach a copy of the portable toilet manufacturer's maintenance literature.
- Ensure the spill prevention program includes containment materials and protocols for potential portable toilet spills.

- Ensure maintenance personnel and site workers involved in site operations understand BMP requirements.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Inspect BMP location corresponds with SWPPP BMP map. Locations are often dynamic for projects within right-of-ways.
- Inspect maintenance per manufacturer requirements
- Inspect for leaks and tank levels
- Inspect anti-tipping system

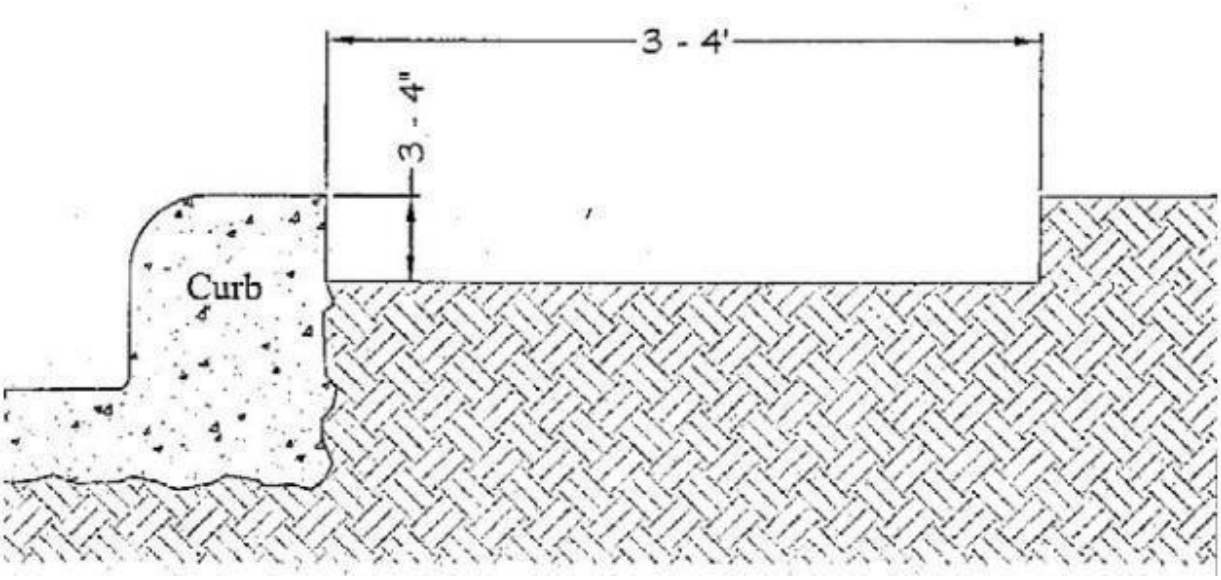
PERFORMANCE

- A portable toilet is expected to contain human waste with zero exposure to storm water.
- A successful portable toilet is clean, effective, and is processed by the appropriate licensed facility.

REFERENCE:

- CGP 2.3.3(f), 2.4.4
- CPP 2.4.4

BMP 3- Curb Sedimentation Trap



APPLICATION

- Use at project boundaries in which final grading is sloped towards pavement or roadways to retain sediment.
- Only applicable when the site is sloped towards the curb such that runoff overtops the curb
- Particularly useful for residential sites when major earth disturbing activities have ceased and final site stabilization (landscape installation) is pending.

INSTALLATION/USE PROCEDURE

- Excavate soil behind curb to a depth of 3-4 inches
- Extend the excavation 3-4 feet behind the curb to form a sediment trap
- Should not be installed on a slope that exceeds 5% as it may be ineffective and compromise the integrity of the curb
- Not suitable if underlying soil is expansive or collapsible, refer to the soils report.
- The sedimentation trap may be implemented behind a sidewalk instead of the curb
- The depth and width of the excavation may be increased if more sediment storage is necessary

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Inspect at least once every seven calendar days, or once every 14 calendar days and within 24 hours of the occurrence of a storm event of 0.5 inches or greater.
- Remove accumulated sediment when it reaches ½ height of original excavation.

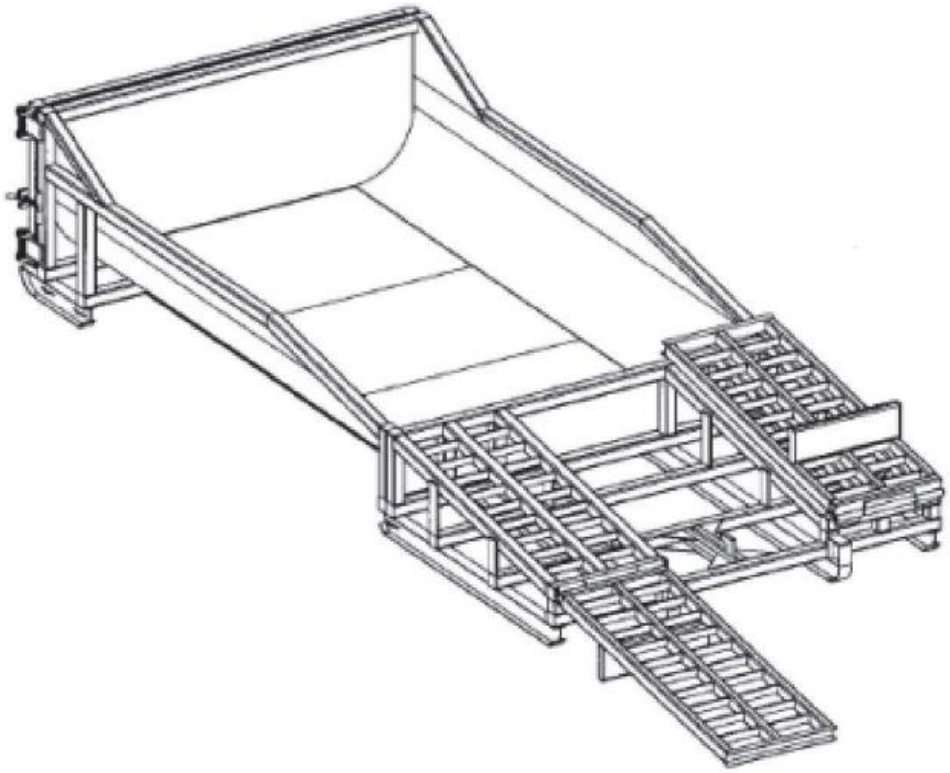
PERFORMANCE

- Sediment, or sediment laden water overtopping the curb, leaving the site, and entering the roadway constitutes BMP failure and must be corrected immediately.

REFERENCE

- CGP 2.2.3
- CPP 2.1.2

BMP 4- Concrete Washout Pan



NOT TO SCALE *

*Picture for concept only, attach detail for chosen site specific wash out pan

APPLICATION

Concrete waste management is necessary on construction sites when:

- Concrete, grout, or mortar is used as a construction material.
- Concrete truck drums, chutes, and hoses, or other concrete equipment (e.g. hand tools, screeds, shovels, rakes, floats, trowels, and wheelbarrows) are washed on-site and it is not possible to dispose of all concrete wastewater and washout off-site (ready mix plant, etc.).
- Grout or mortar mixing stations are used.

INSTALLATION/USE PROCEDURES

- Locate pans next to track-out or parking pad or provide its own anti-track-out system and area for driver chassis washing. Attach illustration with dimensions. Reference other track-out BMPs as needed to manage site conditions.
- Install a sign at each washout location and identify on the SWPPP BMP map.
- Locate washout facilities a minimum of 50 feet from sensitive areas such as storm drains, open ditches, water bodies, wetlands, or where an infiltration feature will be installed. Protect downstream inlets.

- When the minimum distance from sensitive areas is not practicable, provide secondary containment and attach containment system specifications to this BMP.
- Empty excess concrete onto the ground near the pour site until only liquid cement remains on tools and equipment.
- Wash cement off of the chute, pump equipment, and tools directly into the washout pan.
- Ensure concrete truck operators and concrete transport/disposal service providers have the necessary support to protect water quality.
- The operator is expected to modify the concrete waste management system, location and capacity when necessary as site conditions and operations warrant.
- The operator shall oversee and enforce concrete waste management procedures.
- Educate employees, concrete suppliers, and subcontractors of these concrete waste management requirements. Discuss the concrete management techniques with concrete suppliers before any deliveries are made.
- Incorporate requirements for concrete waste management into concrete supplier and subcontractor agreements.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Washouts must be maintained to provide adequate holding capacity with one foot of freeboard.
- Washout pan must be cleaned, or additional pans provided and ready for use once the concrete washout pan is 70% full.
- Maintenance includes removal and disposal of hardened concrete and excess liquid or slurry. Excess liquid and slurry shall be pumped or evaporated prior to removal of solids.
    - Attach method of liquid disposal including licensed dumping location.
- Dispose of all materials in conformance with applicable federal, state, and local regulations.
    - Do not discharge liquid or slurry to waterways, storm drains or directly onto ground.
- Inspect washout pans at least weekly, and before and after each concrete operation. During extended wet weather conditions, ensure track out is not occurring.
    - Check overall condition and performance.
    - Check remaining capacity (% full)
    - If using prefabricated pan containers, check for leaks.
- Damaged or leaking washout facilities shall be addressed immediately.

PERFORMANCE

- Pans must be water-tight with sufficient volume plus 1 foot freeboard to meet concrete washout needs in between maintenance/service intervals. Attach concrete waste volume calculations and identify the number washout pans required.
- The performance expected of a wash out pan is to contain all pollutants associated with washout of concrete, slurry, mortar, and other products with no discharge at anytime during operations.

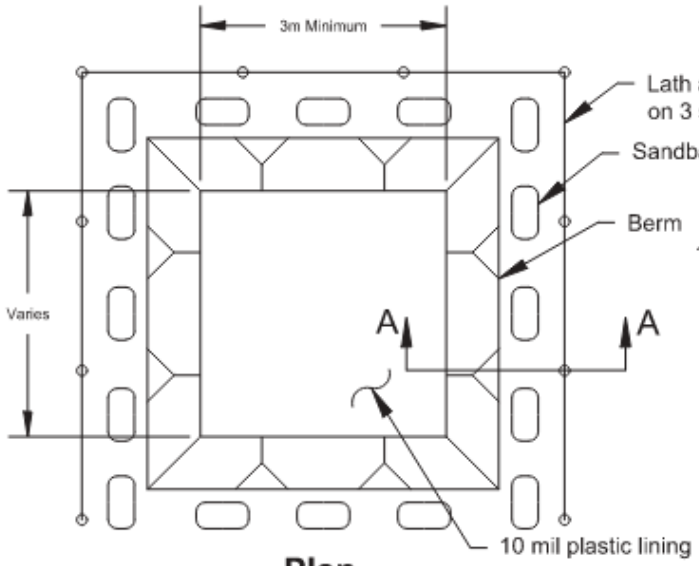
It is considered a concrete waste management failure when any of the following occur:

- There are leaks, overflows, or spills of concrete waste. The discharge of concrete washout waters is classified as a “Prohibited Discharge”
- Track-out associated with the concrete washout BMP operation.

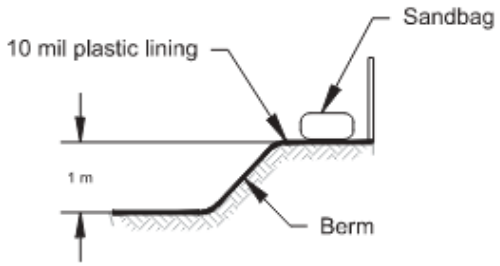
REFERENCE

- CGP 2.3.4
- CPP 2.9.1

BMP 5- Concrete Washout Ground Fixed Systems



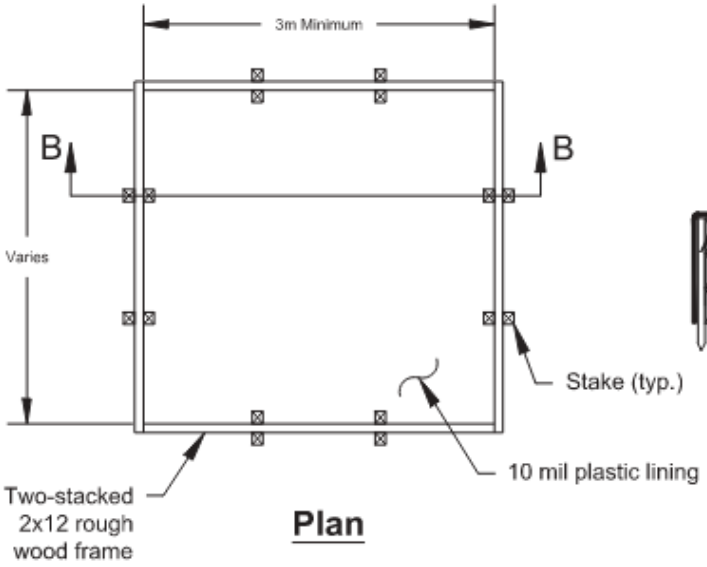
Plan



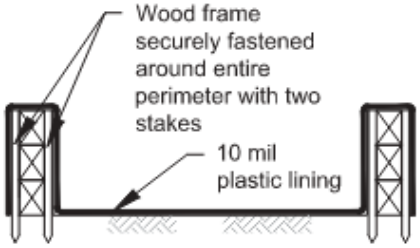
Section A-A

Type "Below Grade"

Notes:
1. Actual layout determined in the field.
2. A concrete washout sign shall be installed within 10 m of the temporary concrete washout facility.



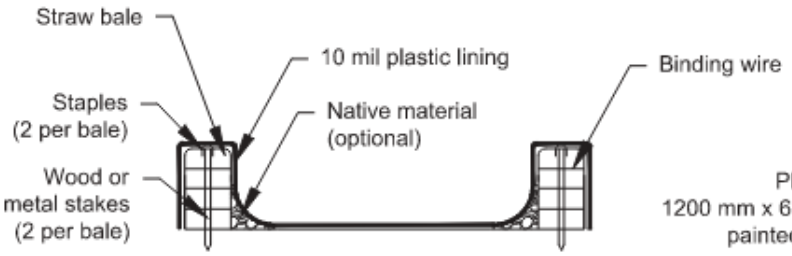
Plan



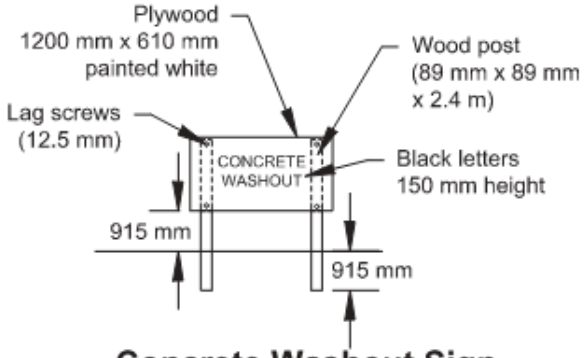
Section B-B

Type "Above Grade" with Wood Planks

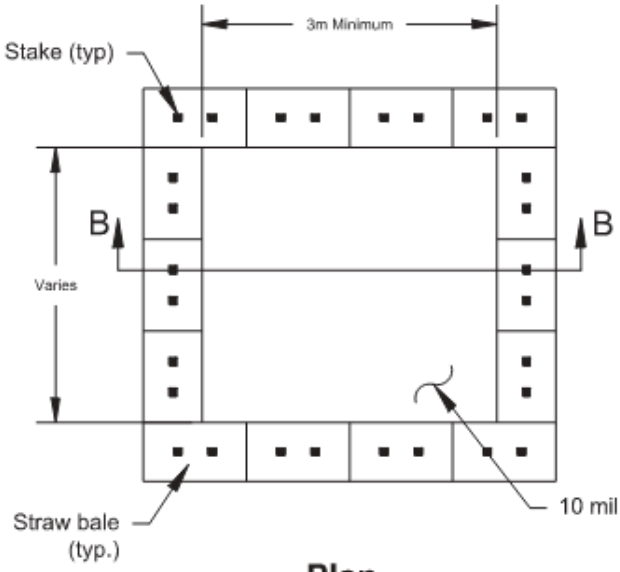
NOT TO SCALE



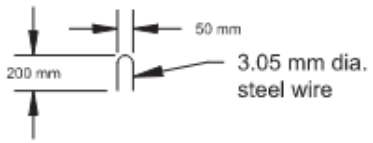
Section B-B



Concrete Washout Sign Detail (or equivalent)



Plan



Staple Detail

Notes:

1. Actual layout determined in the field.
2. The concrete washout sign shall be installed within 10 m of the temporary concrete washout facility.

Type "Above Grade" with Straw Bales

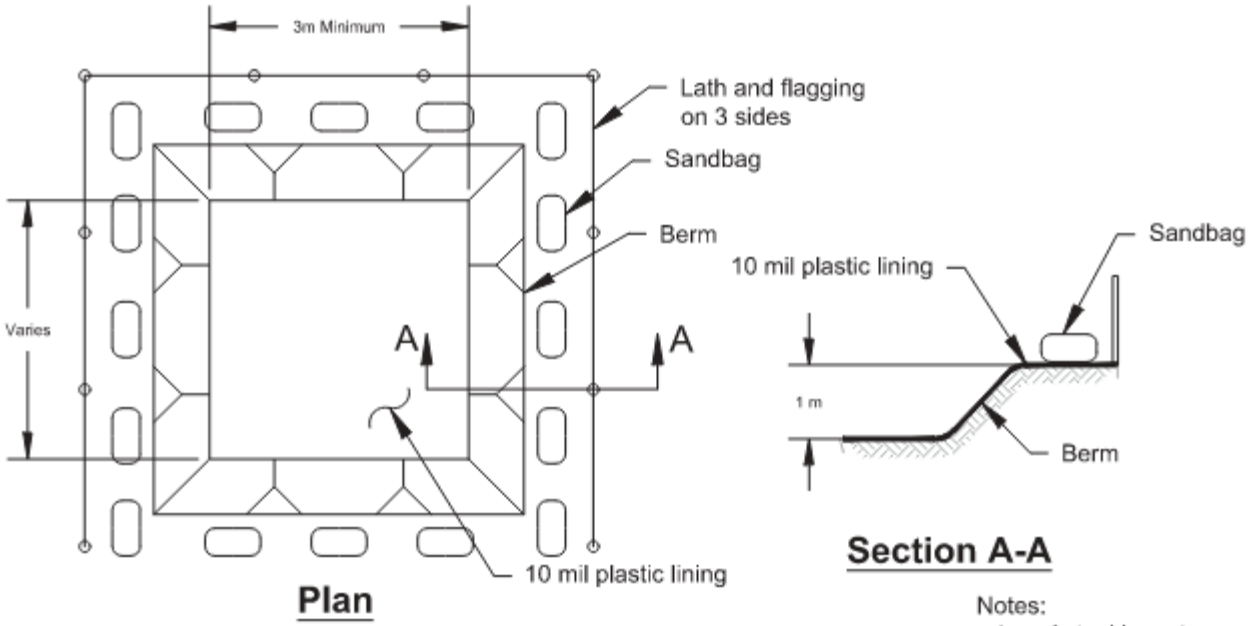
NOT TO SCALE

APPLICATION

Concrete waste management is necessary on construction sites when:

- Concrete, grout, or mortar is used as a construction material.
- Concrete truck drums, chutes, and hoses, or other concrete equipment are washed on-site and it is not possible to dispose of all concrete wastewater and washout off-site (ready mix plant, etc.).
- Grout or mortar mixing stations are used.

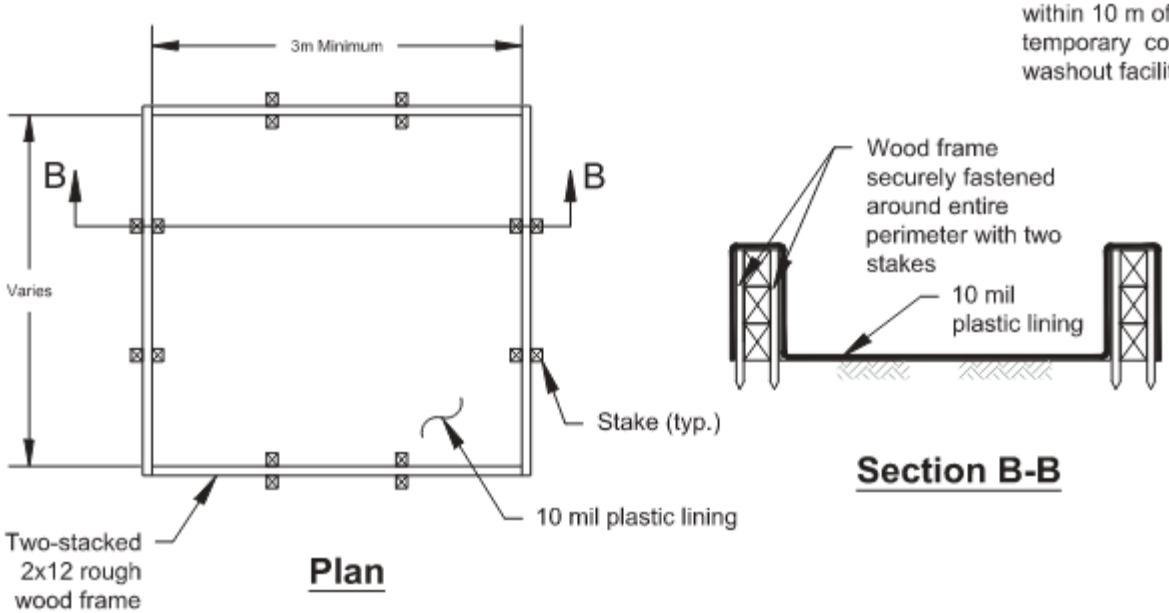
INSTALLATION/USE PROCEDURES



Notes:

1. Actual layout determined in the field.
2. A concrete washout sign shall be installed within 10 m of the temporary concrete washout facility.

Type "Below Grade"



Type "Above Grade" with Wood Planks

NOT TO SCALE

- The washout facility shall be watertight and impermeable.
- The washout facility may be a self-installed structure or a pre-fabricated structure
- For self-installed washout structures, the lining material shall be a minimum of 10-mil polyethylene sheeting and must be free of holes, tears, or other defects that compromise the impermeability of the material. Liner materials shall be installed in accordance with manufacturer's recommendations.
    - No seams in the plastic are allowed at the bottom of the washout. The soil base shall be prepared free of rocks or other debris that may cause tears or holes in the plastic lining material.
- Washout facilities shall be constructed and maintained with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations.
- On large sites with extensive concrete work, multiple washouts may be needed to provide adequate capacity.
- Locate pans next to track-out or parking pad or provide its own anti-track-out system and area for driver chassis washing. Attach illustration with dimensions. Reference other track-out BMPs as needed to manage site conditions.
- A sign shall be installed at each washout location.
- Install the washout at the location specified in the SWPPP.
- Locate washout facilities a minimum of 50 feet from sensitive areas such as storm drains, open ditches, water bodies, wetlands, or where an infiltration feature will be installed. Protect downstream inlets.
- When the minimum distance from sensitive areas is not practicable, provide secondary containment and attach containment system specifications to this BMP.
- Keep the washout areas away from other construction traffic and access areas to reduce the likelihood of accidental damage, spills, or tracking.
- Inspect and verify that concrete washout areas are in place prior to the commencement of concrete work.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- When materials are removed from ground fixed concrete washout systems, build a new structure; or, if the previous structure is still intact, inspect for signs of weakening or damage, and make any necessary repairs. Re-line the structure with new 10-mil polyethylene sheeting after each cleaning.
- Washouts must be maintained to provide adequate holding capacity with one foot of freeboard.
- Once the concrete washout system is 70% full, it is time to remove the existing waste material to allow further use or provide an additional washout facility.
- Maintenance includes removal and disposal of hardened concrete and excess liquid or slurry. Excess liquid and slurry shall be pumped or evaporated prior to removal of solids.

    - Attach method of liquid disposal including licensed dumping location.
- Dispose of all materials in conformance with applicable federal, state, and local regulations.
    - Do not discharge liquid or slurry to waterways, storm drains or directly onto ground.
- Inspect ground fixed concrete washout systems at least weekly, and before and after each concrete operation. During extended wet weather conditions, ensure track out is not occurring.
    - Check overall condition and performance.
    - Check remaining capacity (% full)
    - Check for leaks
- Damaged or leaking washout facilities shall be addressed immediately.
- When concrete washout areas are no longer required for the work, the hardened concrete and containment system shall be removed and disposed of at a licensed waste facility. Attach information of disposal facility. Where concrete is recycled attach recycling facility information.
- Holes, depressions, or other ground disturbances caused by the removal of concrete washout areas shall be backfilled, repaired, and stabilized to prevent erosion.

PERFORMANCE

- The performance expected of a wash out pan is to contain all pollutants associated with washout of concrete, slurry, mortar, and other products with no discharge at any time during operations.

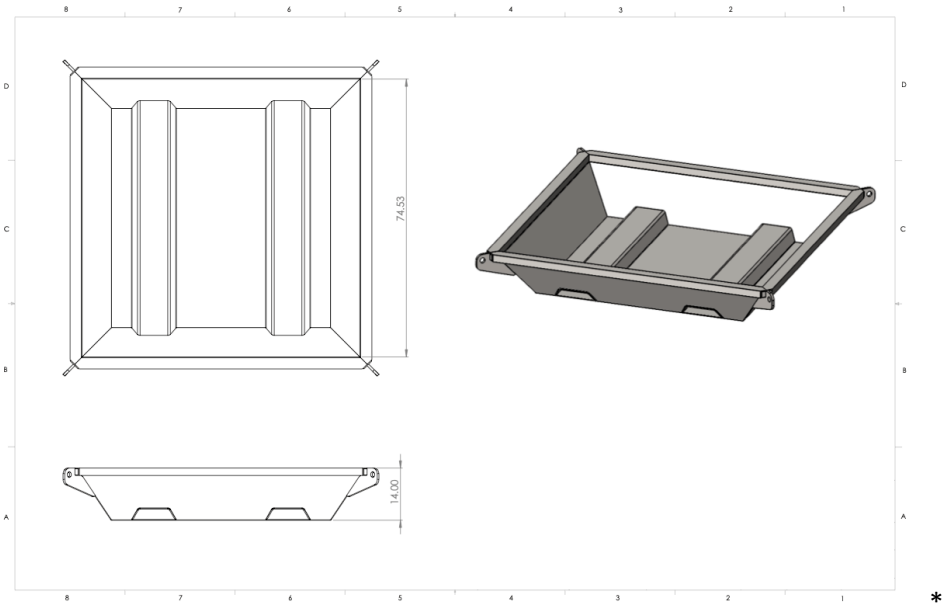
It is considered a concrete waste management failure when any of the following occur:

- There are rips, tears, or defects in the containment system
- Seepage overflows are observed or waste is outside of the containment system
- Track-out associated with the concrete washout BMP operation.

REFERENCE

- CGP 2.3.4,
- CPP 2.4.5, 2.9.1

BMP 6- Small Concrete Management Operations



*Picture for concept purpose only

APPLICATION

- Use for small pours only. Usually for single lot residential homes or other minor projects where the washout volume is small and using a standard proprietary concrete washout pan system is not feasible.

INSTALLATION/USE PROCEDURES

- Small metal pan, plastic pools or equal portable watertight disposable container that can contain caustic materials. Attach dimensions of containers.
- Calculate concrete waste volume required. Attach calculations and identify the number of containment systems needed. Simply repeat this BMP for each day's concrete operation. Provide one additional container for redundancy.
- Maximize the capacity of the small containment system:
    - Empty excess concrete onto the ground near the pour site.
    - Wash cement off of the chute, pump equipment, and tools directly into the washout container.
- Place containers on a flat surface, near the track-out where there is enough room to wash the chassis and remove mud from the tires. Locate on the site BMP map.
- Containers are not allowed in roadway right of ways.
- Do not haul containers away until the waste concrete is set and all water has evaporated.
- Ensure the workforce is informed how to use your concrete management BMP.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.

- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Cover the containment system when not in use if a rain event is anticipated.
- Individual containers should no longer be used for washout once the volume capacity has reached 70% full. Utilize an additional container.
- This is a one time disposable BMP, typical maintenance is not necessary. Any exposed concrete washing and disposal operations are considered a BMP failure because the operation was not adequately anticipated and implemented.
- When the daily concrete management operation is completed simply repeat this BMP.

PERFORMANCE

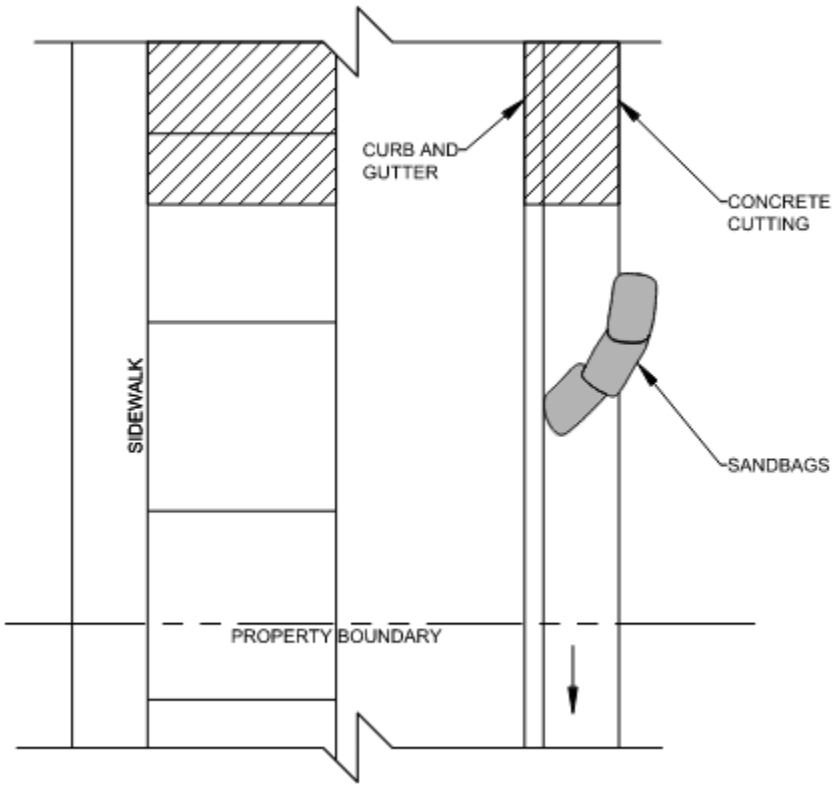
It is considered a concrete waste management failure when any of the following occur:

- Washout container overflows.
- Containers are hauled away prior to concrete set up and when liquid was not completely evaporated.
- When track-out results from washout container inadequate placement.
- When supply truck chassis are being washed outside of the containment system.

REFERENCE:

- CGP 2.3.4
- CPP 2.4.5, 2.9.

BMP 7- Pavement Saw Cutting-Wet



APPLICATION

- Use Pavement Saw Cutting-Wet BMP when cutting pavement with wet saw, especially in curb and gutter applications.
- Appropriate for use when dry cutting is not allowed or dust control is desired.

INSTALLATION/USE PROCEDURES

- Install 6” min diameter sand or gravel bags in a manner to contain slurry from moving downslope from the cutting operation. Double up bags as necessary.
- Install enough bags anticipating the volume of cut slurry.
- Schedule cutting during dry weather periods.
- Remove slurry at the end of day or prior to rain events whichever comes first. When wet conditions exist, mix slurry with dirt or other absorbing material and remove immediately.
    - Dump waste in concrete washout containment system.
    - Dry the waste in a contained area and dispose of waste in regular waste management container.
- Sweep until no more waste can be picked up with a square nose shovel.
- Do not use water to rinse slurry from the cutting operation area, dry clean up methods only as described above.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- BMP is installed and removed with each cutting operation, no maintenance is necessary.

PERFORMANCE

- Utilizing water during saw cutting is a great way to capture dust from cutting operations so that dust does not travel out of the cutting operation area nor pollute the air.
- Additionally utilization of this BMP will prevent high density opacity for nearby drivers and operators.
- Performance criteria to judge application success would be that airborne dust does not occur and slurry is contained and disposed per BMP.

It is considered a BMP failure when any of the following occur:

- The dam created with sand or gravel bags overflows
- Cutting operations are not cleaned up by the end of day or prior to wet conditions.
- Any waste material is not disposed per BMP or otherwise can contaminate water resources

REFERENCE:

- CGP 2.3.4
- CPP 2.9.1

BMP 8- Pavement Saw Cutting-Dry

APPLICATION

- Use for pavement cutting on directly connected pavements or where cutting dust can be washed to drainage systems, especially in curb and gutter applications.

INSTALLATION/USE PROCEDURES

- Schedule cutting during dry weather periods.
- Remove cutting dust immediately following the cutting operation.
- Sweep until no more waste can be picked up with a square nose shovel.
- Dispose of cutting dust in a concrete waste container or regular waste management container.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- BMP is installed and removed with each cutting operation, no maintenance is necessary.

PERFORMANCE

- BMP application success would be that dust is contained to the cutting operation area and disposed per BMP.

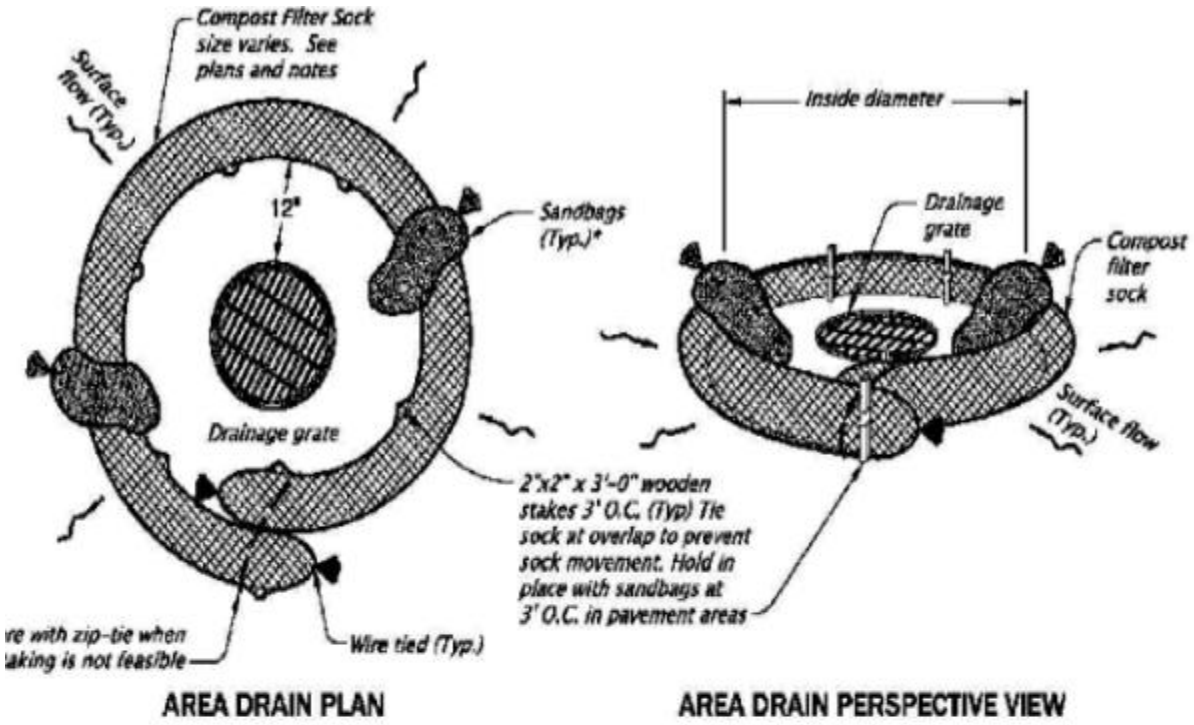
It is considered a BMP failure when any of the following occur:

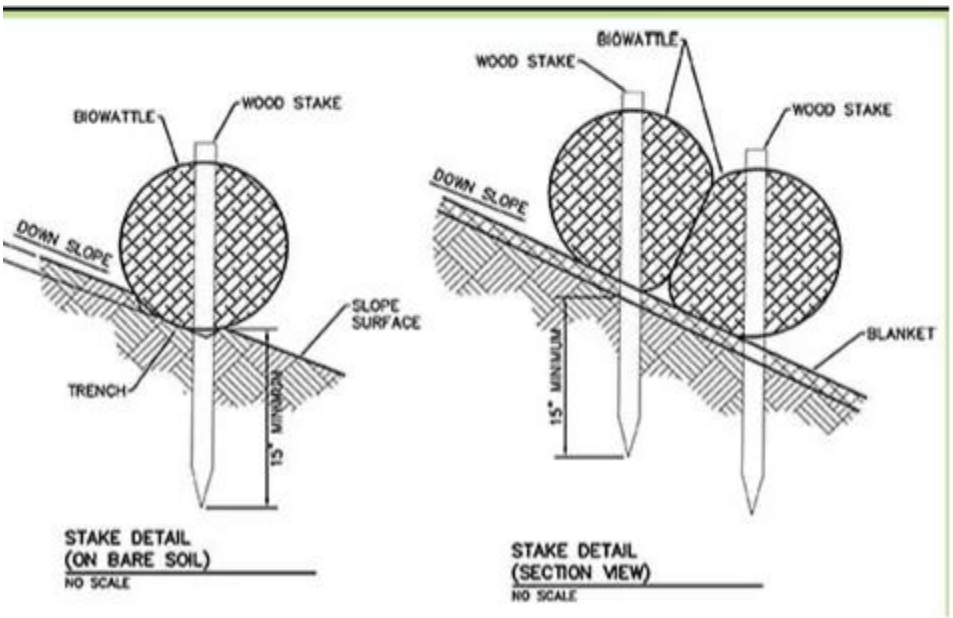
- Cutting dust enters drainage systems
- Cutting operations are not cleaned up immediately following the cutting operation
- Any waste material is not disposed per BMP or otherwise can contaminate water resources

REFERENCE:

- CGP 2.3.4
- CPP 2.9.1

BMP 9- Area Drain Filtration





APPLICATION

- Straw wattles or filter tubs are an open weave, mesh tube that is filled with a filter material (compost, wood chips, straw, coir, aspen fiber, or a mixture of materials) used to divert or filter stormwater.

- Straw wattles are a temporary BMP that can be used in the rough grading process of construction. Straw wattles and large filter sock can be used with or without storm drain inlet tops, but not ready for grading of roadway.
- Can be used for area drains until final stabilization is complete.

INSTALLATION/USE PROCEDURES

- On natural ground tubes shall be staked with 2 inch by 2 inch wooden stakes at a maximum spacing of 4 feet. Rebar or similar metal stakes may be used instead of wooden stakes. Filter tubes shall be embedded a minimum of two inches when placed on soil.
- Sand or rock bags shall be placed at a minimum, one foot from each end of the tube and at the middle of the tube.
- The end of tubes shall overlap a minimum of 18 inches when multiple tubes are connected to form a linear control along a contour or a perimeter.
- Straw wattles should wrap around the entirety of the storm drain to prevent sediment and other pollutants from entering the storm drain.
- Follow manufacturer's recommendations for staking or other methods of approved securement when used on pavement.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Check straw wattles material to make sure it has not become clogged with sediment or debris. Clogged filter tubes usually lead to standing water behind the filter tube after a rain event. Sediment shall be removed from behind the filter tube before it reaches half the height of the exposed portion of the tube.
- The straw wattles should be checked to ensure it is in continuous contact with the soil at the bottom of the embedment trench. Closely check for rill erosion that may develop under the filter tubes. Eroded spots must be repaired and monitored to prevent reoccurrence. If erosion under the tube continues, additional controls are needed.
- Any straw wattles destroyed by construction operations or UV degradation will need to be removed and replaced.

PERFORMANCE

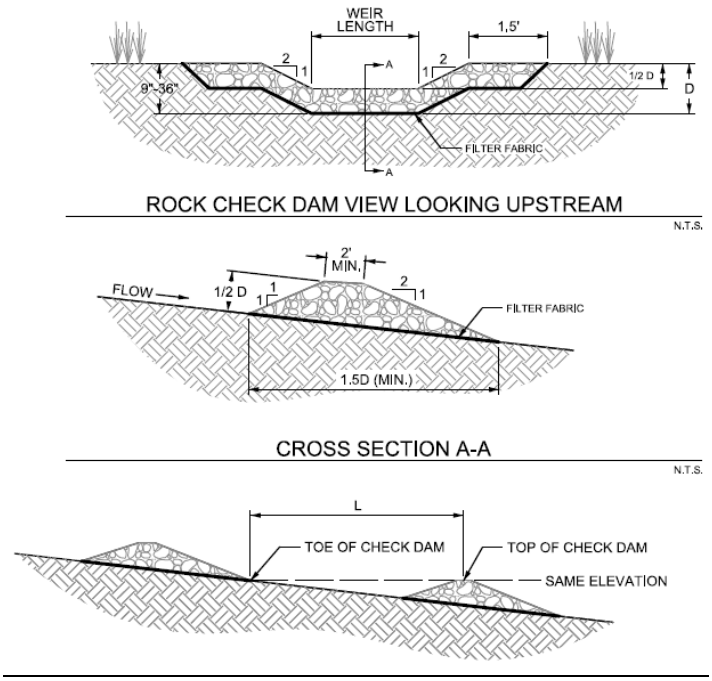
It is considered a BMP failure when any of the following occur:

- Damaged or not installed to the BMPs details or attached manufacturer illustrations
- Sediment depth around wattle exceeds maintenance tolerances.
- Opening or gaps in straw wattles.

REFERENCE

- CGP 2.2.10

BMP 10- Rock Check Dam for Channels



APPLICATION

- Check dams are used in swales and drainage ditches (including those along linear projects such as roadways).
- They can also be used in short swales down a steep slope to reduce velocities.
- Check dams shall not be used in live stream channels.
- Check dams should be installed before the contributing drainage area is disturbed, so as to mitigate the effects on the swale from the increase in runoff.
- If the swale itself is graded as part of the construction activities, check dams are installed immediately upon completion of grading to control velocities in the swale until stabilization is completed.

INSTALLATION/USE PROCEDURES

- Install rock check dam per illustrated detail. D=24” or less and install the center of the dam about 6” lower than the sides.
- Check dams should be used in conjunction with other sediment reduction techniques prior to releasing flow offsite.
- Use 4” or greater rock diameter and non-woven geotextile fabric under check dams of 12 inches in height or greater. When high flow rates and velocities are anticipated engineering is required.
- Dam height should be between 9 and 36 inches and less than one-third the depth of the channel
- Dams should be spaced such that the top of the downstream dam is at the same elevation as the toe of the upstream dam. On channel grades flatter than 0.4 percent, check dams should be placed at a distance that allows pools to form between each check dam.
- The top of the side of the check dam shall be a minimum of 12 inches higher than the middle of the dam. In addition, the side of the dams shall be embedded a minimum of 18 inches into the

side of the drainage ditch, swale or channel to minimize the potential for flows to erode around the side of the dam.

- Use geotextile fabric (of appropriate tensile strength, puncture rating and apparent opening size) under check dams of 12 inches in height or greater.
- Loose soil, wood chips, compost, and other floatable materials that are transportable during runoff should not be used to construct a check dam.

ALTERNATIVE DESIGN

- **Rock Check Dams:**
  - Stone shall be well graded with stone size ranging from 3 to 6 inches in diameter for a check dam height of 24 inches or less. The stone size range for check dams greater than 24 inches is 4 to 8 inches in diameter.
- **Rock Bag Check Dams:**
  - Rock bag check dams should have a minimum top width of 16 inches.
  - Minimum rock bag dam height of 12 inches would consist of one row of bags stacked on top of two rows of bag. The dam shall always be one more row wide than it is high, stacked pyramid fashion.
  - Bags should be filled with pea gravel, filter stone, or aggregate that is clean and free of deleterious material.
  - Sand bags shall not be used for check dams, due to their propensity to break and release sand that is transported by the concentrated flow in the drainage swale or ditch.
  - Bag material shall be polypropylene, polyethylene, polyamide or cotton burlap woven fabric, minimum unit weight 4-ounces-per-square-yard, Mullen burst strength exceeding 300-psi as determined by ASTM D3786, Standard Test Method for Hydraulic Bursting Strength of Textile Fabrics-Diaphragm Bursting Strength Tester Method, and ultraviolet stability exceeding 70 percent.
  - PVC pipes may be installed through the dam to allow for controlled flow through the dam. Pipe should be schedule 40 or heavier polyvinyl chloride (PVC) having a nominal internal diameter of 2 inches.
- **Sack Gabion Check Dams:**
  - Sack gabion check dams may be used in channels with a contributing drainage area of 5 acres or less.
  - Sack gabions shall be wrapped in galvanized steel, woven wire mesh. The wire shall be 20 gauge with 1 inch diameter, hexagonal openings.
  - Wire mesh shall be one piece, wrapped around the rock, and secured to itself on the downstream side using wire ties or hog rings.
  - Sack gabions shall be staked with ¾ inch rebar at a maximum spacing of three feet. Each wire sack shall have a minimum of two stakes.
  - Stone shall be well graded with a minimum size range from 3 to 6 inches in diameter.
- **Organic Filter Tube Check Dams:**
  - Organic filter tubes may be used as check dams in channels with a contributing drainage area of 5 acres or less.
  - Organic filter tubes shall be a minimum of 12 inches in diameter.
  - Filter material used within tubes to construct check dams shall be limited to coir, straw, aspen fiber and other organic material with high cellulose content. The material should be slow to decay or leach nutrients in standing water.

- Staking of filter tubes shall be at a maximum of 4 foot spacing and shall alternate through the tube and on the downstream face of the tube.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Inspect the check dam system each report period and after storm events.
- Remove silt when sediment accumulation reaches approximately 1/3 the height of the dam.
- Inspect for erosion beneath and around the check dam (particularly where the edge of the dam meets the side of the channel) and restore as needed each report period.
- If erosion continues to be a problem, modifications to the check dam or additional controls must be engineered.

PERFORMANCE

- Check dam systems are intended to perform as engineered up to .25" of rain fall
- Rock check dams are performing as intended if the drainage channel they are protecting does not develop deep erosive gulleys between dams and the dam itself is not being undercut by erosion or eroded to either side of the dam.
- Due to the minimal sediment capture capability of check dams, good performance will include accumulations of sediment on the upstream side of dams between maintenance intervals.

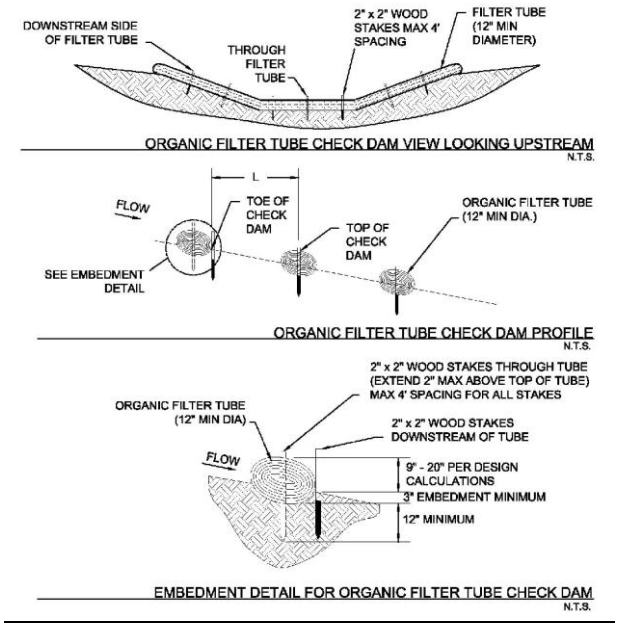
It is considered a BMP failure when any of the following occur:

- System not installed per illustrated detail, system not maintained, or system damaged by construction operations.
- Erosion damage resulting in variance from detail dimensions

REFERENCE

- U-CGP 2.2.11 – "Minimize erosion of constructed or natural site drainage feature channels and their embankments, outlets, adjacent streambanks, slopes, and downstream waters. Use erosion controls and velocity dissipation devices within and along the length of any constructed or natural site drainage feature channel and at any outlet to slow down runoff and minimize erosion."

BMP 11- Straw Wattle Check Dam for Channels



APPLICATION

- Check dams are used in swales and drainage ditches (including those along linear projects such as roadways).
- They can also be used in short swales down a steep slope to reduce velocities.
- Check dams shall not be used in live stream channels.
- Check dams should be installed before the contributing drainage area is disturbed, so as to mitigate the effects on the swale from the increase in runoff.
- If the swale itself is graded as part of the construction activities, check dams are installed immediately upon completion of grading to control velocities in the swale until stabilization is completed.

INSTALLATION/USE PROCEDURE

- Dam height should be between 9 and 36 inches and less than one-third the depth of the channel
- Dams should be spaced such that the top of the downstream dam is at the same elevation as the toe of the upstream dam. On channel grades flatter than 0.4 percent, check dams should be placed at a distance that allows small pools to form between each check dam.
- The top of the side of the check dam shall be a minimum of 12 inches higher than the middle of the dam. In addition, the side of the dams shall be embedded a minimum of 18 inches into the side of the drainage ditch, swale or channel to minimize the potential for flows to erode around the side of the dam.
- Check dams should be used in conjunction with other sediment reduction techniques prior to releasing flow offsite.
- Use geotextile fabric (of appropriate tensile strength, puncture rating and apparent opening size) under check dams of 12 inches in height or greater.
- Loose soil, wood chips, compost, and other floatable materials that are transportable during runoff should not be used to construct a check dam.

ALTERNATIVE DESIGN

- See “Rock Check Dam for Channels”

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Inspect the check dam system each report period and after storm events.
- Remove silt when sediment accumulation reaches approximately 1/3 the height of the dam.
- Inspect for erosion beneath and around check dam (particularly where edge of the dam meets the side of the channel) and restore as needed each report period.
- If erosion continues to be a problem, modifications to the check dam or additional controls must be engineered.

PERFORMANCE

- Check dam systems are intended to perform as engineered up to .25” of rain fall
- Check dams are performing as intended if the drainage channel they are protecting does not develop deep erosive gulleys between dams and the dam itself is not being undercut by erosion or eroded to either side of the dam.
- Due to the minimal sediment capture capability of check dams, good performance will include accumulations of sediment on the upstream side of dams between maintenance intervals.

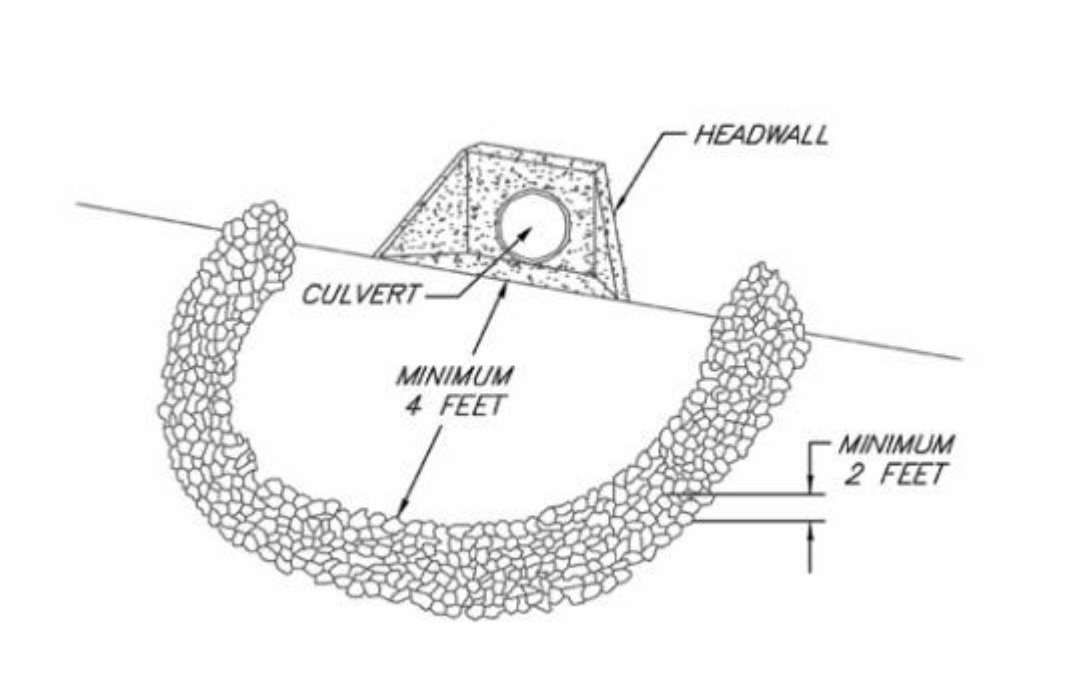
It is considered a BMP failure when any of the following occur:

- System not installed per illustrated detail, system not maintained, or system damaged by construction operations.
- Erosion damage resulting in variance from detail dimensions.

REFERENCE

- U-CGP 2.2.11 – “Minimize erosion of constructed or natural site drainage feature channels and their embankments, outlets, adjacent streambanks, slopes, and downstream waters. Use erosion controls and velocity dissipation devices within and along the length of any constructed or natural site drainage feature channel and at any outlet to slow down runoff and minimize erosion.”

BMP 12- Culvert Sediment Barrier



APPLICATION

A culvert inlet sediment barrier is a temporary rock barrier at a culvert inlet. The purpose of the barrier is to reduce the amount of sediment that enters the culvert by creating a small ponding area for the sediment to settle out.

- For use on a site with open culverts within the project area that are exposed to runoff.

INSTALLATION/USE PROCEDURES

- A geotextile should be placed between the stone barrier and the natural ground.
- Surround all sides of the culvert with Class II Channel Lining at a minimum of 4 feet from the culvert.
- The barrier must be designed to ensure that no bypasses occur up to 0.5" of rainfall
- Control the location of the sediment barrier spillway by placing an overflow notch at a selected location in the middle portion of the barrier.
    - The notch should be at least six inches lower than the rest of the barrier.
    - The downgradient portion of the overflow notch should be protected from erosion caused by potential spillover with Class II Channel Lining.
- The upstream face of the barrier should consist of smaller stone to decrease the flow rate through the stone.
- If a culvert inlet sediment barrier is intended to be used for long-term storm water management, design and installation must be approved by an accredited engineer.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.

- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Inspect the condition of the sediment barrier weekly and after every rainfall event greater than one-half inch. Erosion and scouring would necessitate barrier reinforcement.
- Remove sediment and/or debris when depth reaches one-half the height of the barrier.

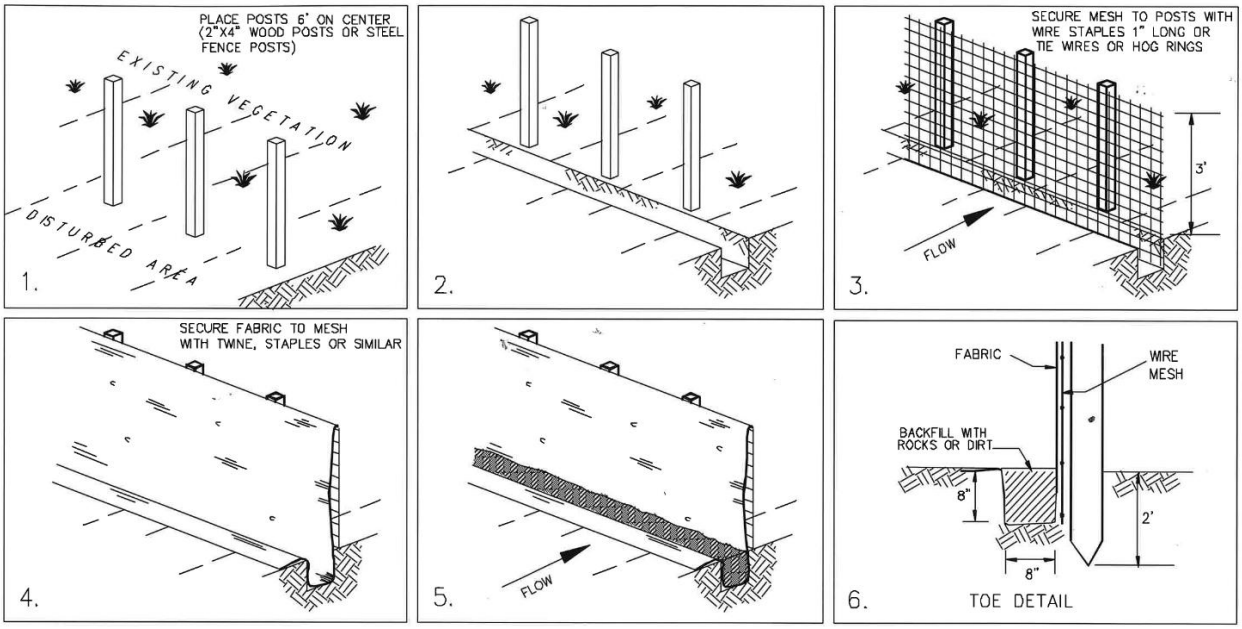
PERFORMANCE

- A culvert inlet sediment barrier is expected to utilize sediment deposition to the maximum extent possible before allowing runoff to enter the culvert.
- The overflow spillway should not compromise the capacity of the berm to slow the flow of the first half inch of rain

REFERENCE

- CGP 2.2.11
- CPP 2.3

BMP 13- Silt Fence



APPLICATION

A silt fence when properly installed and maintained can help mitigate the discharge of sediment in storm water runoff. It can be used in multiple applications such as:

- Downstream project boundaries
- Downstream side(s) of erodible stockpiled materials.
- Minor channels or slopes when calculations show runoff volumes will not exceed the anticipated volume capacity and strength of the system.

A silt fence is not intended for:

- Controlling large volumes of concentrated runoff. Use an alternative BMP
- Border control or limits of construction site only (i.e. not intended to fulfill the same purpose as construction fencing)

INSTALLATION/PROCEDURE/CALCULATIONS

- Install silt fence per detail dimensions, description and materials or -
- For proprietary systems attach all design, performance, installation, maintenance requirements and the proprietary BMP detail documents. All requirements of this BMP remain except for any differences necessary to achieve design performance.
- Install silt fence downstream of all necessary exposed boundaries as shown by the grading sheet, demolition map, phasing map, and or SWPPP BMP map, etc. Attach topographic maps for all construction phases to this BMP or reference where these maps are found in the SWPPP.
- Install silt fence along contours of the slope to maximize effectiveness.
- Overlap each fence segment in a series by at least 6 inches to prevent gaps.
- The end of the silt fence must be installed in a “J-hook” to treat runoff effectively. Flare the ends uphill to provide storage capacity of storm water runoff
- Attach engineering calculations for sites with steep slopes, for large areas clear of vegetation and when runoff rates or when runoff volumes behind fences will feasibly cause failure for

storm events less than 2yr 24hr intensities and volumes. In this case, engineering calculations are required or as allowed by oversight authority.

- Ensure all workers are trained on proper installation, maintenance, and inspection of silt fences.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Inspect the silt fence prior to a forecasted rain event and during weekly inspections.
- Maintain or repair within the period given by the inspector following city and state code within the reporting period or prior to storm event.
- Inspect silt fence after storm events. Restore any fence damaged back to the installation requirements.
- Remove accumulated sediment when it reaches one-third fence height or as specified by proprietary system.

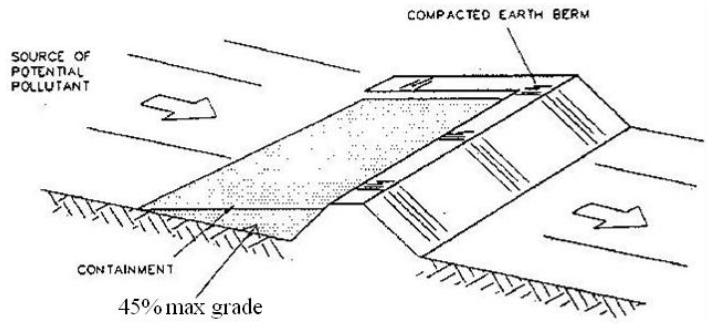
PERFORMANCE

- A silt fence allows water to pass trapping sediment behind. Runoff going around, under or over silt fence would indicate a silt fence system failure.
- A silt fence is expected to filter sediment for storm events less than 2yr 24hr storm events. Fence failures for events less than a 2yr 24hr storm feasibly means the silt fence was either designed, installed, was unmaintained, was damaged by construction operations or the silt fence was not the best BMP for the site exposure. When the area tributary to the fence results in runoff rates greater than silt fence design capability, provide conveyance swales and retention pond BMPs or as per other CGP options.

REFERENCE

- CGP 2.2.3, 2.2.5, 2.2.11, 2.2.12, 7.3.3

BMP 14- Earth Berm Barrier



APPLICATION

A temporary containment control constructed of compacted soil.

- Construct around waste and materials storage area.
- Construct around staging and maintenance areas.
- Construct around vehicle parking and servicing areas.

Not intended for erosion control.

INSTALLATION/USE PROCEDURES

- Construct an earthen berm downhill of the area to be controlled. The berm should surround fueling facilities and maintenance areas on three sides to provide containment.
- Berm needs to be a minimum of 1 foot tall by 1 foot wide and be compacted by earth moving equipment.
- The berm should be protected from heavy equipment traffic through signage or training

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Observe daily for any non-stormwater discharge.
- Look for runoff bypassing ends of berms eroding, or breaching.
- Repair or replace damaged areas of the berm and remove accumulated sediment.
- Recompact soil around the berm as necessary to minimize erosion rates.

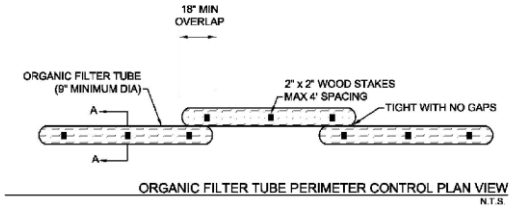
PERFORMANCE

- An earthen berm should be able to contain incidental spills in the area that it is installed while the spill control plan in the SWPPP is being put into effect.

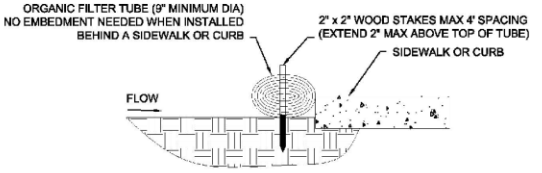
REFERENCE

- CGP 2.2.11
- CPP 2.3

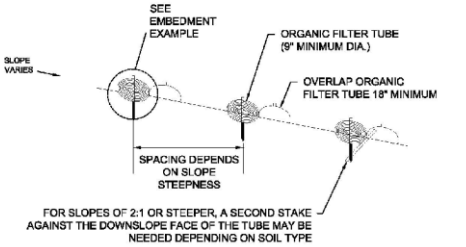
BMP 15- Filter Tubes on Slopes



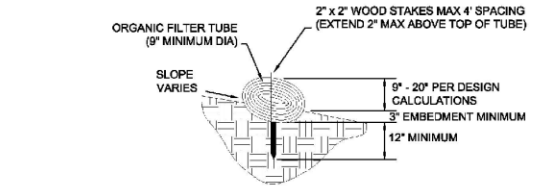
ORGANIC FILTER TUBE PERIMETER CONTROL PLAN VIEW
N.T.S.



INSTALLATION EXAMPLE FOR ORGANIC FILTER TUBEABUTTING PAVEMENT
N.T.S.



ORGANIC FILTER TUBE SLOPE PROTECTION PROFILE
N.T.S.



EMBEDMENT EXAMPLE FOR ORGANIC FILTER TUBE
N.T.S.

APPLICATION

Filter tubes are also called fiber rolls, fiber logs, wattles, mulch socks, and/or coir rolls. The tubes can be filled with organic material (compost, wood chips, straw, coir, aspen fiber, or a mixture of materials) or geosynthetic material. Though filter tubes have many uses, this BMP focuses on slope management.

- If the tubes will be left onsite as part of the final stabilization plan (such as in Arid and Semi-Arid areas with exceptions to final stabilization timeline requirements) they must be constructed of 100 percent biodegradable jute, coir, sisal or similar natural fiber or 100 percent UV photodegradable plastic, polyester or geosynthetic material.
- Filter tubes can be used to treat sheet flow over a short distance and can be used on steep slopes as both sediment and erosion control.
- Filter tubes work by detaining flow and capturing sediment as a linear control along the contours of a slope, or as a perimeter control down-slope of a disturbed area (when appropriately sized).
- Filter tubes are most effective with coarse to silty soil types; additional controls may be needed to remove fine silts and clays suspended in stormwater.

INSTALLATION/USE PROCEDURES

- Filter tubes should be installed along the contour.
- Tubes shall be staked with 2 inch by 2 inch wooden stakes at a maximum spacing of 4 feet. Rebar or similar metal stakes may be used instead of wooden stakes.
- When placed on pavement, sand or rock bags shall be placed abutting the down-slope side of the tubes to prevent runoff from dislodging the tubes. At a minimum, bags shall be placed one foot from each end of the tube and at the middle of the tube.
- Filter tubes shall be embedded a minimum of three inches when placed on soil. Placement on rock shall be designed as placement on pavement.
- The end of tubes shall overlap a minimum of 18 inches when multiple tubes are connected to form a linear control along a contour or a perimeter.

- Loose mulch material shall be placed against the log on the upstream side to facilitate contact with the ground.
- The last 10 feet (or more) at the ends of a line of tubes shall be turned upslope to prevent bypass by stormwater. Additional turned-upslope lengths of tubes may be needed every 200 to 400 linear feet, depending on the traverse slope along the line of tubes.
- The most common sizes of tubes are 6 to 24 inches in diameter; however, tubes are available in sizes as small as 4 inches and up to 36 inches in diameter. The designer shall specify a diameter based on the site application. Tubes less than 8 inches in diameter when filled will require more frequent maintenance if used.
- When using manufactured tubes, the manufacturer's recommendations for diameter and spacing based on slope, flow velocities, and other site conditions shall be followed and documented in a site's SWPPP.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Organic filter tubes should be inspected regularly each inspection period.
- The filter tube should be checked to ensure that it is in continuous contact with the soil at the bottom of the embedment trench. Closely check for rill erosion that may develop under the filter tubes. Eroded spots must be repaired and monitored to prevent reoccurrence. If erosion under the tube continues, additional controls are needed.
- Staking shall be checked to ensure that the filter tubes are not moving due to stormwater runoff. Repair and re-stake slumping filter tubes. Tubes that are split, torn or unraveling shall be repaired or replaced.
- Check the filter tube material to make sure that it has not become clogged with sediment or debris. Clogged filter tubes usually lead to standing water behind the filter tube after the rain event. Sediment shall be removed from behind the filter tube before it reaches half the height of the exposed portion of the tube.

PERFORMANCE

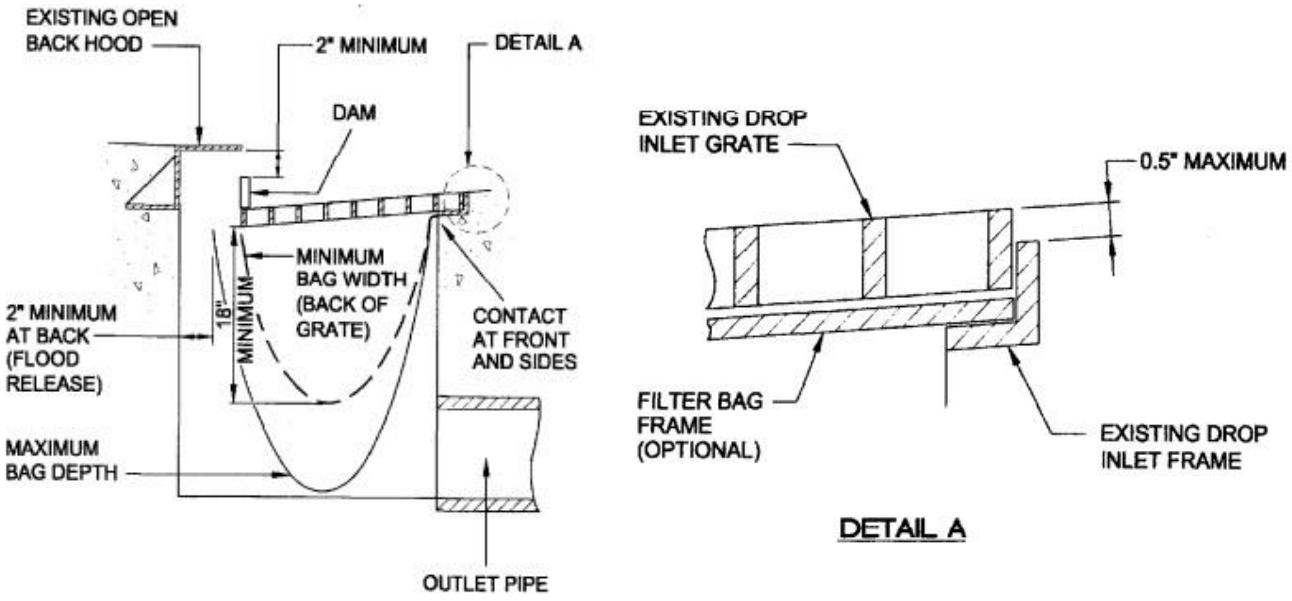
- Organic filter tubes are performing as intended if sheet flow of runoff is passing over or through the barrier and not simply around it, bypassing the control.
- Additionally, performance is achieved if the filter tube barrier is effectively minimizing the off-site discharge of sediment from the drainage area it is controlling and does not develop erosive rills/gullies between filter tubes and the tubes are not being undercut by erosion or eroded to either side of the barrier.
- Due to the relatively smaller sediment capture capability of these filter tubes, as compared to taller barriers, good performance will include accumulations of sediment on the upstream side of filter tubes until maintenance occurs, which will likely require more frequent maintenance.

REFERENCE

- CGP 2.2.3, 2.2.5, 2.2.11

- CPP 2.3

BMP 16- Drop Inlet Bag with Overflow



[Picture for concept purpose only]

APPLICATION

- Use drop inlet bag BMPs with overflow systems at roadway sag locations. Note, these BMP can be appropriate on collector roadways when inspections show success at preventing surface ponding. Note, the local municipality will need to evaluate the traffic risk on a case by case basis.
- Use drop inlet bag BMPs when other surface inlet BMPs like sand bags are less feasible due to high traffic in the area.

INSTALLATION/USE PROCEDURES

- Attach drop inlet bag proprietary manufacturer installation and maintenance detail literature to this BMP. Provide drop inlet bag system designed for inlet type needed, e.g. open face, not open face gutter, etc.
- Install the drop inlet bag system in accordance with the manufacturer literature.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Inspect and maintain if necessary every report period. Empty and dispose of debris accumulations when the bag capacity has reached 50% full or before the bag becomes unmanageable or ineffective.
- Inspect the unit prior to and after storm events. Large storm events will scour sediment from almost all roadway inlet BMPs, therefore regular maintenance is the best management practice.
- Remove and dispose of any sediment found inside the inlet box resulting from BMP failure or resulting during maintenance operations.
- Conduct any maintenance required by the drop inlet bag manufacturer.
- In collector roadways or other locations oversight authority requires, check during storm events and prevent hazardous driving conditions.

PERFORMANCE

- A drop inlet bag is expected to prevent debris and large sediment particles from entering a storm drain.
- Minor ponding should be expected, but the overflow would prevent excessive ponding
- A drop inlet bag should not allow the accumulated debris to fall into the structure it is protecting at anytime both during maintenance and removal. The design and installation specifications should support this ideal.

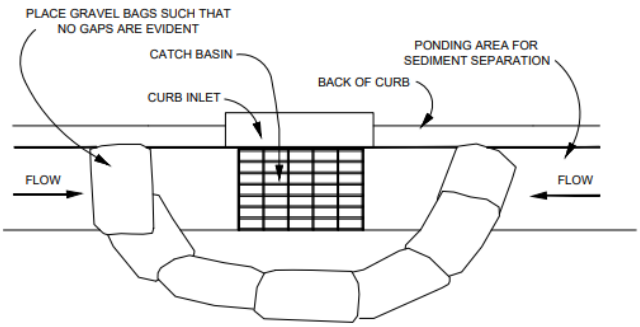
It is considered a BMP failure when any of the following occur:

- System not installed or maintained to installation and operation requirements
- System not installed and maintained to manufacturer requirements
- Sediment scour resulting from irregular maintenance.
- Sediment left in inlet following maintenance.
- Excessive ponding resulting from irregular maintenance or blocked overflow.

REFERENCE

- Construction General Storm Water Permit (CGP) 2.2.10
- Common Plan Permit (CPP) 2.1.3

BMP 17- Gravel Bag Curb Inlet Protection



PLAN VIEW

APPLICATION

- The purpose of placing gravel bags around an inlet or other runoff receiving area is to slow the flow of water to allow sediment deposition to be maximized before runoff enters the inlet or other receiving area.
- Ideal for areas near storm drains, curb inlets, and other drainage structures.
- Not intended for high-flow areas without additional support measures.
- Do not use on collector roadways and where the control could create safety concerns such as hydroplaning.

INSTALLATION/USE PROCEDURES

- Ensure the bags are properly positioned to maximize the area available for ponding.
- Use appropriate types of inlet protection based on site-specific conditions.
- Install inlet protection measures that remove sediment from discharges prior to entry into any storm drain inlet that carries storm water flow from your site to surface water of the state, provided you have authority to access the storm drain inlet.
- This BMP is designed for 1/4" (~2yr 10min intensity) rain storm events.
- Train SWPPP inspection and maintenance team

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Regularly inspect and maintain the system to ensure proper function.
- If repairs are needed, repair the system as soon as practicable.
- Inspect inlet protection before and after storm events or other large volume runoff events.

- Remove accumulated sediment and debris when deposits are ⅓ the height of the gravel bag barrier.
- Ensure a clear area around inlet protection devices to facilitate inspections and maintenance.
- Check during storm events and prevent hazardous surface water driving conditions.

PERFORMANCE

- Inlet protection is considered effective if it mitigates target pollutants from entering the stormwater system.
- Inlet protection system resulting in spill over during an event less than 1/4”(~2yr 10min intensity) of rain is considered a failure.

REFERENCE

- CGP-2.2.10
- CPP- 2.1.3

BMP 18- Below Grate Inlet Filter

APPLICATION

- Can be used at sag locations but only where hydroplaning or the surface water is not a risk or concern. Inlet cover only BMPs can easily clog when used at sag locations and usually result in slow draining conditions.
- Use on at-grade gutter inlets with no open face castings but only when coupled with downstream BMPs to compensate for by-pass. Generally, at grade inlet cover BMPs have much higher sediment and debris by-pass.
- Use in combination with other gutter dam type BMPs
- Not intended for high-flow areas without additional control measures.

INSTALLATION/USE PROCEDURES

- Wrap entire inlet casting with 8oz propylene, non-woven geotextile fabric. Allow for about 6" fabric overlap or more on all sides.
- Sediments will collect in the grate and will need to be removed regularly. The fabric can be cleaned by removing the grate and sediment or by vacuum operations.

- Sediments fill this system quickly and debris will float over it therefore, downstream dam type systems are usually necessary in combination.
- Train SWPPP inspection and maintenance team

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- For this BMP to work storm events need to be anticipated and the system cleaned before and after. There is very little sediment storage within the grate/fabric filter system.
- Inspect for compliance with installation requirements and for any damage
- Be aware of downstream systems and inspect for by-passed sediment and debris.
- Inspect for sediments and remove with shovel and broom or vacuum tools.
- When fabric removal or replacement results in sediment dropping into the inlet, use hydro vacuum machinery or safely remove by other means
- When installation at sag locations are allowed by the municipality, inspect during the storm event as often as necessary to ensure no vehicle or pedestrian hazardous conditions exist.
    - Use a shovel, broom or vacuum tools necessary to remove clogging before puncturing or removing fabric during the storm event.

PERFORMANCE

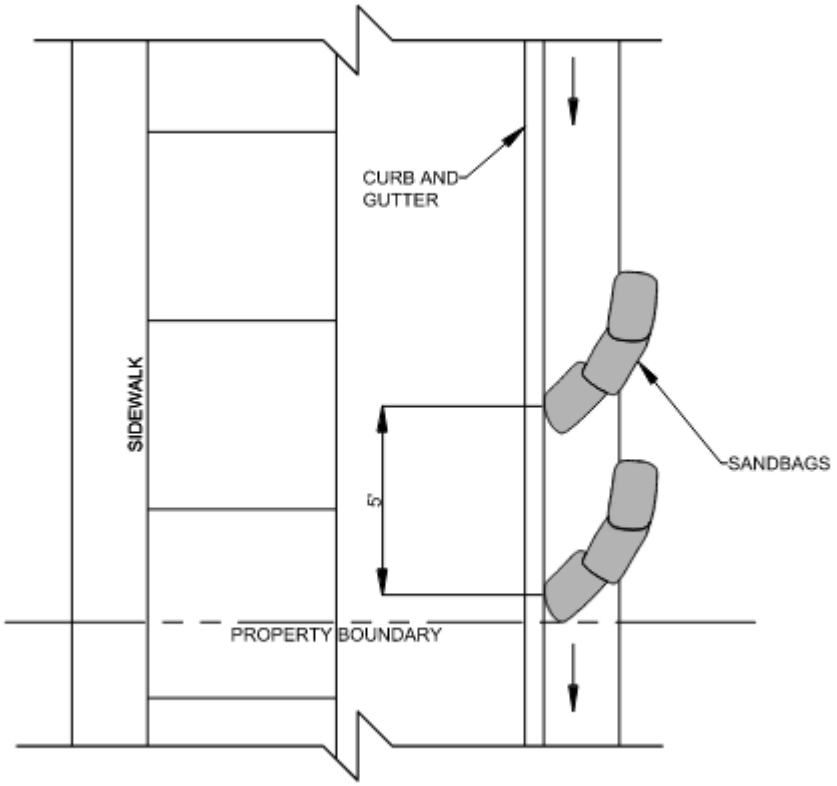
It is considered a BMP failure when any of the following occur:

- System not installed or maintained to installation and operation requirements
- Sediment and debris by-pass is not accounted for by other BMPs
- Surface water increases the risk of hydroplaning, ADA and pedestrian pathway concerns.
- Torn or punctured fabric. Usually, the result of others or SWPPP team personnel managing emergency surface water situations during storm events. If emergency action damage is regular then select another BMP.
- Not removing sediment left behind in inlet box during maintenance

REFERENCE

- CGP 2.2.10
- CPP 2.1.3

BMP 19- Gutter Dam



APPLICATION

- This BMP allows sediment laden storm water to be filtered by the gutter dam minimizing sediment from reaching downstream inlets.
- This BMP allows for runoff by-pass during intense storm events but when adequately maintained can minimize sediment by-pass common with many inlet cover only BMPs. Inlet cover only BMPs should have secondary containment built in or coupled with downstream BMPs to contain sediment and debris by-pass.
- Use Gutter Dam BMP when the project is expected to contain its impact from other operators downstream BMPs. This is a common concern between operators when multiple independent builders are building homes in the same subdivision.
- Warning: This BMP is easily damaged by vehicles that park along the curb and gutter, and by snow removal operations.

INSTALLATION/USE PROCEDURES

- Install 6” min dia sand or gravel bags. Double up bags as necessary.
- Install upstream of inlets.
- This gutter dam system is working when the first dam is holding more sediment than the downstream dams. When the sediment collection is about the same then something is wrong.
- This system can scour out easily and needs regular maintenance to be effective.
- Inform subcontractors and suppliers of the gutter dams placement to roadside parking from damaging the sand or gravel bags.
- Train SWPPP inspection and maintenance team

- This BMP is designed for 1/4" (~2yr 10min intensity) rain storm events.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Anticipate significant storm events, repair damage and remove sediment deposits prior to storm events that could scour sediment deposits from the gutter dam.
- Inspect, remove sediment and repair gutter dam regularly during the report period and following each storm event.
- Following storm events the first dam should have more sediment than the downstream dams. When inspection shows failure persists, even with regular maintenance, a third dam should be installed. If the gutter dam system does not perform as intended, a different or additional BMP is warranted.
- Bring awareness to workforce and suppliers parking near the gutter dam.
- Check during storm events and prevent driving hazardous resulting from surface water conditions.

PERFORMANCE

- A gutter dam system is expected to slow the flow of runoff in the gutter to allow for sediment deposition. Erosion control of non-stabilized sediment should be used in conjunction with a gutter dam system. This BMP should be utilized as a secondary control to erosion control BMPs.

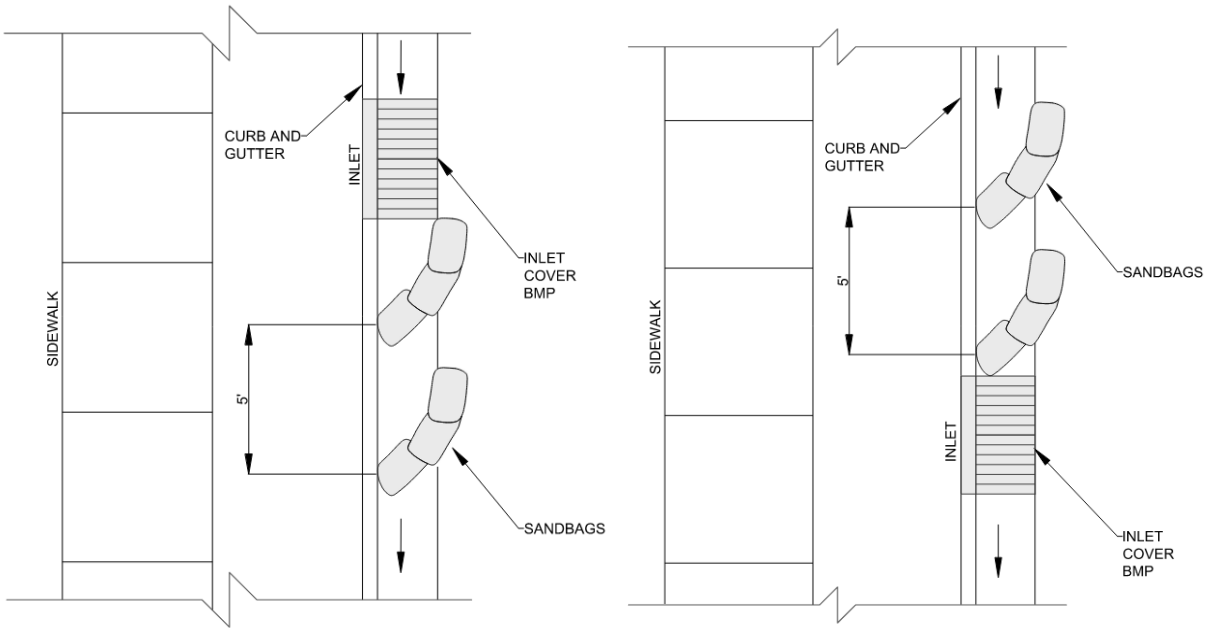
It is considered a BMP failure when any of the following occur:

- When storm events less than ¼" of rain results in significant scour an alternative BMP is warranted.
- When regular damage occurs to the gutter dam system due to traffic or snow operations an alternative BMP is warranted.
- When sediment deposits are equal to or greater in the downstream dam following storm events of 1/4" or less, the BMP is not adequate and warrants a different BMP.

REFERENCE:

- CGP 2.2.10
- CPP 2.1.3

BMP 20- Inlet Filter with Gutter Dam Combo



APPLICATION

- This BMP allows sediment laden storm water to be filtered by inlet cover and the gutter dam. Installing the gutter dam on the downstream end of the inlet will increase filter effectiveness and reduce sediment and debris by-pass. This configuration can reduce passing higher volumes downstream.
- This BMP allows for runoff by-pass during intense storm events but when adequately maintained can minimize sediment reaching storm water inlets. Inlet cover only BMPs should have secondary containment built in.
- Use Inlet Filter Gutter Dam Combo BMP for at grade inlets.
- Warning: This BMP is easily damaged by vehicles that park along the curb and gutter, and by snow removal operations.

INSTALLATION/USE PROCEDURES

- Install 6” min dia sand or gravel bags. Double up bags as necessary.
- Install upstream of inlets.
- This gutter dam system is working when the first dam is holding more sediment than the downstream dams. When the sediment collection is about the same then something is wrong.
- This system can scour out easily and needs regular maintenance to be effective.
- Inform subcontractors and suppliers of the gutter dams placement to roadside parking from damaging the sand or gravel bags.
- Train SWPPP inspection and maintenance team
- This BMP is designed for 1/4” (~2yr 10min intensity) rain storm events.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Anticipate significant storm events, repair damage and remove sediment deposits prior to storm events that could scour sediment deposits from the gutter dam.
- Inspect, remove sediment and repair gutter dam regularly during the report period and following each storm event. Check for out of place or broken bags, and torn or punctured fabric.
- Following storm events the first dam should have more sediment than the downstream dams. When inspection shows failure persists, even with regular maintenance, a third dam should be installed. If the gutter dam system does not perform as intended, a different or additional BMP is warranted.
- Inspect for sediments and remove with shovel and broom or vacuum tools.
- When fabric removal or replacement results in sediment dropping into the inlet, use hydro vacuum machinery or safely remove by other means
- Bring awareness to workforce and suppliers parking near the gutter dam.
- Check during storm events and prevent driving hazardous resulting from surface water conditions.

PERFORMANCE

- A gutter dam system is expected to slow the flow of runoff in the gutter to allow for sediment deposition. Erosion control of non-stabilized sediment should be used in conjunction with a gutter dam system. This BMP should be utilized as a secondary control to erosion control BMPs.

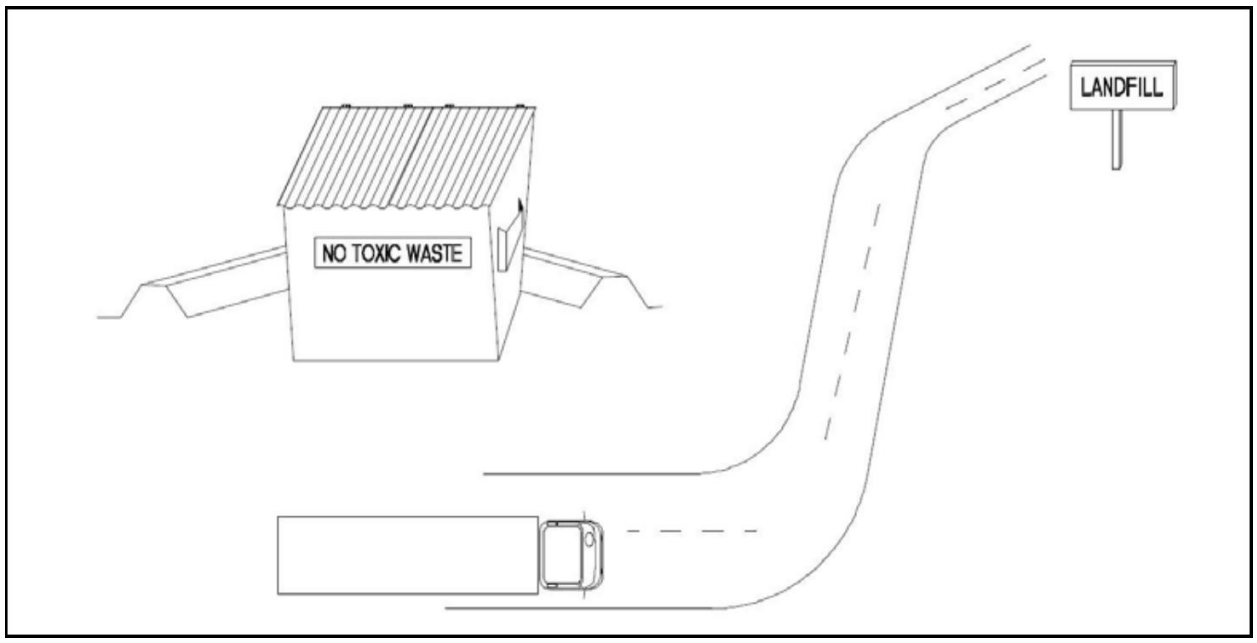
It is considered a BMP failure when any of the following occur:

- When storm events less than ¼" of rain results in significant scour an alternative BMP is warranted.
- When regular damage occurs to the gutter dam system due to traffic or snow operations an alternative BMP is warranted.
- When sediment deposits are equal to or greater in the downstream dam following storm events of 1/4" or less, the BMP is not adequate and warrants a different BMP.

REFERENCE:

- CGP 2.2.10
- CPP 2.1.3

BMP 21- Solid Waste Management



APPLICATION

- This BMP is necessary when construction activities generate solid waste that needs to be collected and disposed of properly to prevent environmental contamination.
- Use this BMP when: The site generates solid waste, including packaging materials, scrap construction materials, masonry products, timber, pipe and electrical cuttings, plastics, styrofoam, concrete, demolition debris; and other trash or building materials that could potentially contaminate stormwater if not managed correctly.

INSTALLATION/USE PROCEDURES

- **Selection Criteria**: Use durable, watertight containers (e.g., dumpster, trash receptacle) that are appropriately sized for the volume of waste generated on-site.
- **Placement**: position dumpsters on a flat, stabilized surface, away from storm drains and water bodies. Identify these locations on the site plan.
- **Usage**: ensure all construction waste is placed inside the dumpster. Do not overfill; waste should not extend beyond the sides or top of the dumpster. Do not dispose of liquids in this BMP. Most dumpsters and garbage trucks are not water tight.
- **Containment:** Provide containment or cover for waste that is blowable or that can leach nutrients, metals, pesticides, herbicides, oil, grease, bacteria, or other pollutants.
- **Segregation:** separate hazardous waste from non-hazardous waste and use appropriately labeled and secured containers for hazardous materials.
- Locate on parking pad or next to track-pad to prevent track-out when servicing. Show location on site BMP map.
- Do not install in roadways without approval of local municipality. This usually means obtaining a local right-of-way encroachment permit or equal to stage dumpsters in right-of-ways.
- Train workforce.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Ensure the workforce is informed about proper waste disposal procedures and the importance of maintaining the integrity of waste management BMPs.
- Operator is expected to modify the solid waste management system, location and capacity when necessary as site conditions and operations warrant.
- Inspect dumpsters for leaks, damage, and proper cover.
- Collect any trash around the construction site daily and deposit it in the waste container at designated collection areas.
- Arrange for regular waste removal to a licensed facility often enough to prevent overfilling.
- Contain and clean up spilled waste or overflow immediately.

PERFORMANCE

A solid waste management BMP is considered effective if:

- All construction and domestic waste generated is contained
- No incidents of dumpster overflow or leaks
- No visible waste or debris around the construction site or dumpster area

REFERENCE

- CGP 2.3.3 (e).

BMP 22- Chemical/Hazardous Materials Management

APPLICATION

- Use Chemical/Hazardous Materials Management BMP when chemicals or hazardous materials are used or stored at the construction site.

INSTALLATION/USE PROCEDURES

- Store chemicals and/or other hazardous materials in sealed, clearly labeled containers.
- Safety Data Sheets (SDS) specific to each chemical must be accessible on site.
- When chemicals/hazardous materials are not in use, store materials in such a way that they are not exposed to stormwater or runoff. (covered and off the ground)
- Storage and use areas must be located away from waters of the state, sensitive areas, and storm water conveyance systems
- Submit illustration or detail for secondary containment system when secondary containment and/or cover is required (containers more than 55 gallons); such as drip pan, spill containment pallets, or spill berm with impermeable liner.
- Attach a spill plan and provide a spill kit in good working condition sufficient to address small spills and protect water quality.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Train employees and subcontractors in chemical/hazardous materials BMPs.
- Regularly inspect the chemical storage area and the construction site for evidence of spills
- Spills must be properly cleaned up with dry clean up methods only.
- For spills that occur on permeable surfaces, remove contaminated material before leaching occurs and dispose according to manufacturer's recommended method of disposal and in compliance with Federal, State, Tribal, and local requirements
- Large spills must be documented and reported according to Section 2.3.6 of the CGP.
- Keep ample supplies of spill cleanup materials on-site and perform any repairs necessary to contain chemicals appropriately immediately.
- Dispose of expired or used up hazardous materials in accordance with the manufacturer's recommended method of disposal and in compliance with Federal, State, Tribal, and local requirements

PERFORMANCE

- This BMP is expected to contain chemical/hazardous materials in such a way that it cannot pollute the environment.
- No pollutants are allowed to reach storm water conveyance systems or waters of the state

REFERENCE

- CGP 2.3.3

BMP 23- Onsite Equipment Fueling

APPLICATION

- Use when fixed onsite fueling tanks are planned.

INSTALLATION/USE PROCEDURES

- Locate fueling operations a minimum of 50 feet from receiving waters, constructed or natural site drainage features, and storm drain inlets. If infeasible due to site constraints, store containers as far away from these features as the site permits. If site constraints prevent you from storing containers 50 feet away from the features identified, you must document in your SWPPP the specific reasons why the 50-foot setback is infeasible.
- Store fuels in sealed, clearly labeled containers.
- Containers must be covered and/or have secondary containment (curbing, spill berms, dikes, spill containment pallets, double-walled storage tank)
- Submit illustration or detail for secondary containment of fuel containers and secondary containment used during active fueling (drip pan, drop cloth, etc)
- Discourage topping-off of fuel tanks.
- Carry out all Federal and State requirements regarding stationary above ground storage tanks. (40 CF Sub. J) Avoid mobile fueling of mobile construction equipment around the site; rather, transport the equipment to designated fueling areas.
- Create and attach a Spill Plan specific to the project.
- If you fuel many vehicles or pieces of equipment, consider using an off-site fueling station. These areas are better equipped to handle fuel and spills properly.
- Provide a copy of your off site written policy to the oversight authority for review

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Fuel equipment in designated areas only
- Train employees and subcontractors in proper fueling and cleanup procedures.
- Regularly check for leaks and damage including but not limited to: tanks, hoses, and secondary containment.
- Keep ample supplies of spill cleanup materials on-site and perform any repairs necessary to contain fuel appropriately immediately.
- If spill occurs, use dry clean up methods and dispose of spill clean up materials to a proper licensed facility.
- Large spills must be documented and reported according to Section 2.3.6 of the CGP.

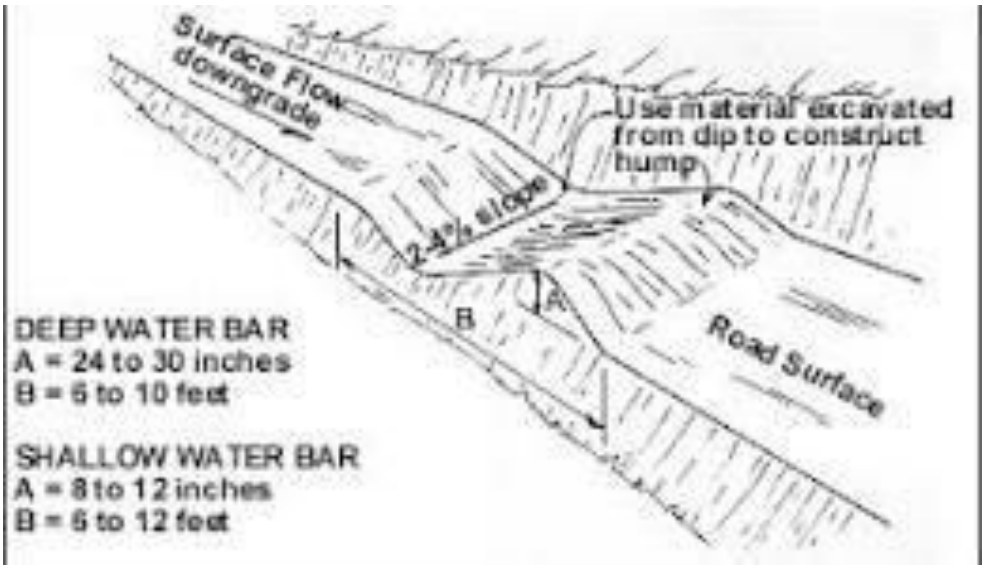
PERFORMANCE

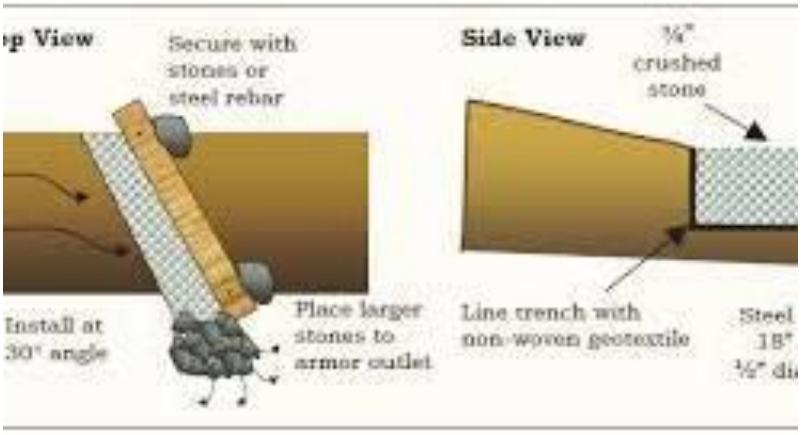
- Onsite equipment fueling BMPs are expected to protect stormwater to the extent that no fuel, oil, or solvents are allowed to pollute waters of the state or storm water conveyances.

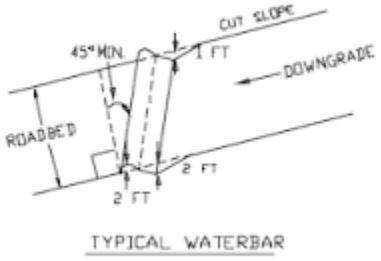
REFERENCE

- CGP 2.3.1

BMP 24- Water Bars







TYPICAL WATERBAR

APPLICATION

Water Bars may be used as a means of erosion control when:

- Clearing right-of-way and construction of access for power lines, poplins, and other similar installations that often require long narrow rights-of-way over sloping terrain.
- Disturbance and compaction promote gully formation in these cleared strips by increasing the volume and velocity of runoff
- Gully formation may be especially severe in tire tracks and ruts. To prevent gullying, runoff can often be diverted across the width of the right-of-way to undisturbed areas by using small predesigned diversions generally referred to here as water bars.

INSTALLATION/USE PROCEDURES

- Give special consideration to each outlet area individually, as well as to the cumulative effect of added diversions. Use gravel to stabilize the diversion where significant vehicular traffic is anticipated.
- Design the height of the Water Bar with the slope in mind to effectively divert the volume needed.
- Design the base width of the ridge with the slope and volume of water diverted in mind.
- Locate well-vegetated and stable areas to use natural drainage systems and to discharge into well-vegetated stable areas.
- During a rain event ensure that the installed Water Bars are effective in diverting the runoff away from the road, or path and that the discharge areas are effective at handling the volume of water being diverted.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Periodically inspect right-of-way diversions for wear and after every heavy rainfall for erosion damage.
- Immediately remove sediment from the flow area and repair the dike.
- Check outlet areas and make timely repairs as needed.
- When permanent road drainage is established and the area above the temporary right-of-way diversion is permanently stabilized, remove the dikes and fill the channel to blend with the natural ground, and appropriately stabilize the disturbed area.

PERFORMANCE

It is considered a Water Bar management failure when any of the following occurs:

- Water is not being properly diverted from the intended area.
- Sediment is built up in diverted flow areas and needs to be maintained.

REFERENCE

2.1, 2.2, 2.3

BMP 25- Portable Sediment Tank

APPLICATION

- This BMP is necessary when construction activities generate significant amounts of sediment-laden water that needs to be managed to prevent environmental contamination.
- Use this BMP when: The site requires the temporary storage and treatment of sediment-laden water due to construction activities such as excavation, dewatering, or stormwater runoff collection.

INSTALLATION/USE PROCEDURES

- **Placement:** position the portable sediment tank (frac tank) on a flat, stabilized surface, away from storm drains and water bodies. Identify these locations on the site plan.
- **Connection:** ensure all hoses and connections are secure and leak-free. Properly connect the inlet and outlet hoses to direct sediment-laden water into the tank.
- **Filling:** gradually fill the tank with sediment-laden water, allowing sediments to settle out. Avoid overfilling the tank.
- **Sediment removal:** periodically remove accumulated sediments from the tank according to proprietary specifications to maintain capacity and effectiveness. Follow appropriate disposal methods for the removed sediments.
- **Discharge:** discharge the treated water in compliance with local regulations, ensuring that it meets the required water quality standards.
- **Training:** ensure the workforce is informed about the correct operation and maintenance procedures for portable sediment tank (frac tank).

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Inspect the portable sediment tank (frac tank) and associated equipment for leaks, damage, and proper functioning.
- Ensure that sediment levels are monitored and sediments are removed as needed to maintain tank capacity.

- Applicant is expected to modify the portable sediment tank system, location and capacity when necessary as site conditions and operations warrant.

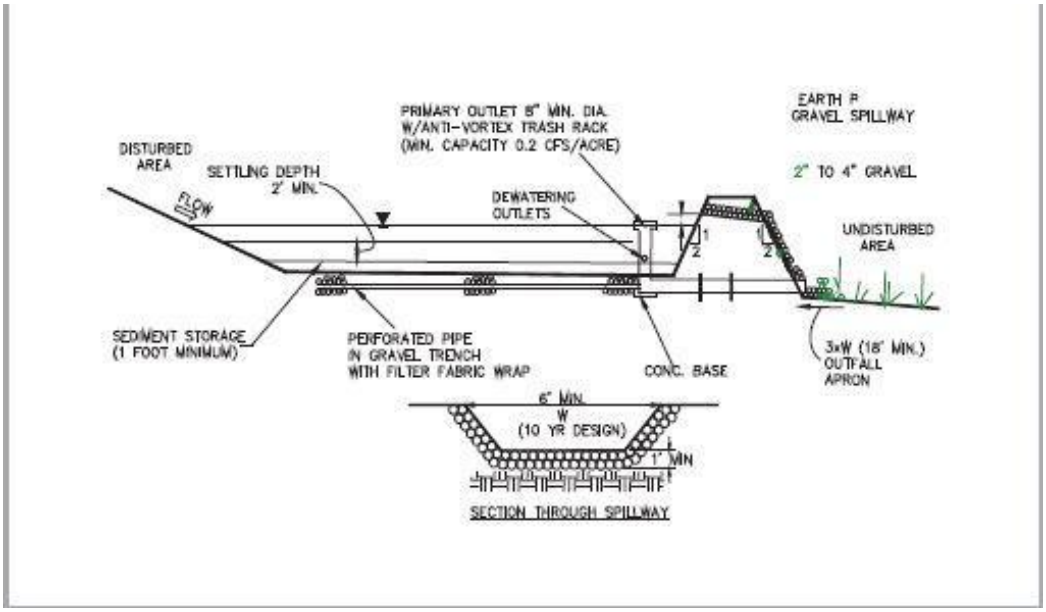
PERFORMANCE

- Ensure that the discharge from the frac tank meets local, state, and federal water quality standards for sediment and turbidity. Any discharge with visible sediment or cloudiness constitutes failure and requires immediate corrective action.
- Any leak or spill around the tank area indicates BMP failure.
- Sediment within the tank must be kept below the manufacturer's recommended level.

REFERENCE

- CGP 2.2.12, 7.3.5, A.2.4

BMP 26- Sediment Basin



APPLICATION

Sediment basins serve as treatment devices which can be used on a variety of project types. They are normally used in construction projects where:

- Large areas of land drain to the basin
- At the outlet of disturbed watersheds 10 acres or larger
- At the outlet of smaller watersheds as necessary
- Where post construction basins will be located
- for disturbed upstream drainage areas of 5 acres or more

INSTALLATION/USE PROCEDURES

- Determine the number of basins needed. In some cases, it is more effective to have multiple smaller basins versus one large basin. This is particularly important in areas with larger-grained sediments. In addition, potential damage from basin failure can be minimized by using multiple smaller basins, versus one large basin.
- Whenever possible, construct the sedimentation basins before clearing and grading work begins.
- Construct sediment basins at locations that are accessible for cleanout.
- Situate the basin or impoundment outside of any water of the state and any natural buffers.
- Design the basin or impoundment to avoid collecting water from wetlands or high ground water.
- Design the basin or impoundment to provide for either:
    (1) The calculated volume of runoff from the 2-year, 24-hour storm; or
    (2) 3600 cubic feet per acre drained.
- Utilize outlet structures that withdraw water from near the surface of the sediment basin or similar impoundment, unless infeasible.
- Use erosion controls and velocity dissipation devices to prevent erosion at inlets and outlets.
- Sediment basins and ponds must be installed only within the property limits where failure of the structure would not result in loss of life, damage to homes or buildings, or interruption of use or service of public roads or utilities.

- Sediment basins and ponds are attractive to children and can be very dangerous. Local ordinances regarding health and safety must be adhered to. If fencing of the pond is required, the type of fence and its location should be shown on the Stormwater Pollution Prevention Plan (SWPPP).
- Because of additional detention time, sediment basins may be capable of trapping smaller sediment particles than traps. However, they are most effective when used in conjunction with other BMPs such as seeding or mulching.
- Sediment basins can be converted to permanent structures after completion of the construction project. Remove all excess sediment from the basin. The containment volume must meet the design specifications of the approved plan set. The inside of a permanent sediment basin should be stabilized to meet local and UPDES requirements.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Inspect after each rainfall event and at a minimum as part of any regularly scheduled inspections.
- Repair any damage to the berm, spillway, sidewalls and outlet structures or mechanisms.
- Remove accumulated sediment to maintain at least one-half of the design capacity and conduct all other appropriate maintenance to ensure the basin or impoundment remains in effective operating condition.
- Check outlet for sedimentation/erosion of downgradient area and remediate and/or install downgradient BMPs as necessary.

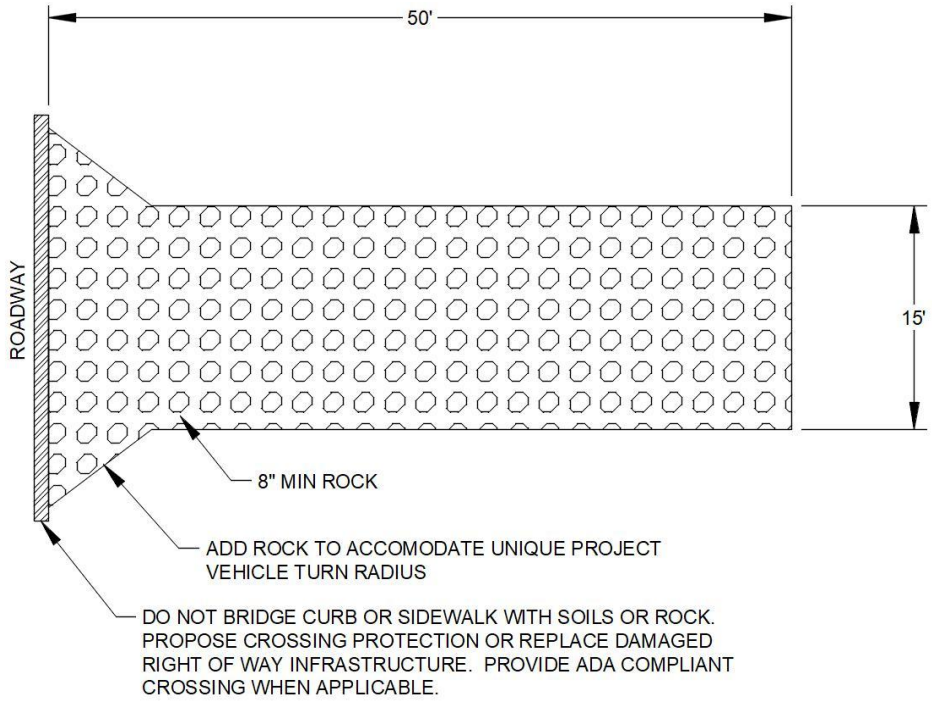
PERFORMANCE

- Sediment basins are at best only 70-80 percent effective in trapping sediment which flows into them. Therefore, they should be used in conjunction with erosion control practices such as temporary seeding, mulching, diversion dikes, etc. to reduce the amount of sediment flowing into the basin.
- A type of outlet being used with increasing frequency is the floating skimmer. Some early tests indicate that the skimmer (which draws water only from the surface) might be more effective at retaining sediment in the basin than the standard riser and barrel configuration.

REFERENCE

- CGP 2.2.12, 7.3.5
- Drainage Design Manual for City
- Salt Lake County Best Management Practices for Construction Activities

BMP 27- Rock Track Out Pad



APPLICATION

- Use this BMP when vehicles and equipment operations require egress from the project property to decrease the amount of debris leaving the site via vehicle tracking.
- Particularly applicable in wet conditions in which sediment sticks more easily to tires/tracks.

INSTALLATION/USE PROCEDURE

- Determine the ingress/egress location(s) allowed by the oversight authority and show them on the site plan.
- Use 8” rock for the track out pad at a minimum depth of 8” and use dimensions described in the illustration above.
- Workforce and subcontractors must utilize the track out pad when leaving the construction site.
- Move vehicles forward and in reverse until mud is removed from tires.
- Stop, for rocks wedged in dual tires and remove any unremoved mud and wedged rocks.
- Ensure the workforce is trained regarding track-out BMP requirements.
- Use of Sweeping BMP is still usually necessary at the end of the day at minimum.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Rake, refresh or wash rock as necessary when space between rocks is inundated with mud.
- Add, extend or replace rock as necessary to achieve performance criteria results.
- Train workforce when BMP improper use is recognized.
- When sediment, rock, or gravel track out occurs due to BMP failure or misuse, debris must be removed from roadways according to the CGP criteria.
    - Street clean-up operations are separate from this Rock Track Out Pad BMP, but necessary to address unacceptable track out that may occur.

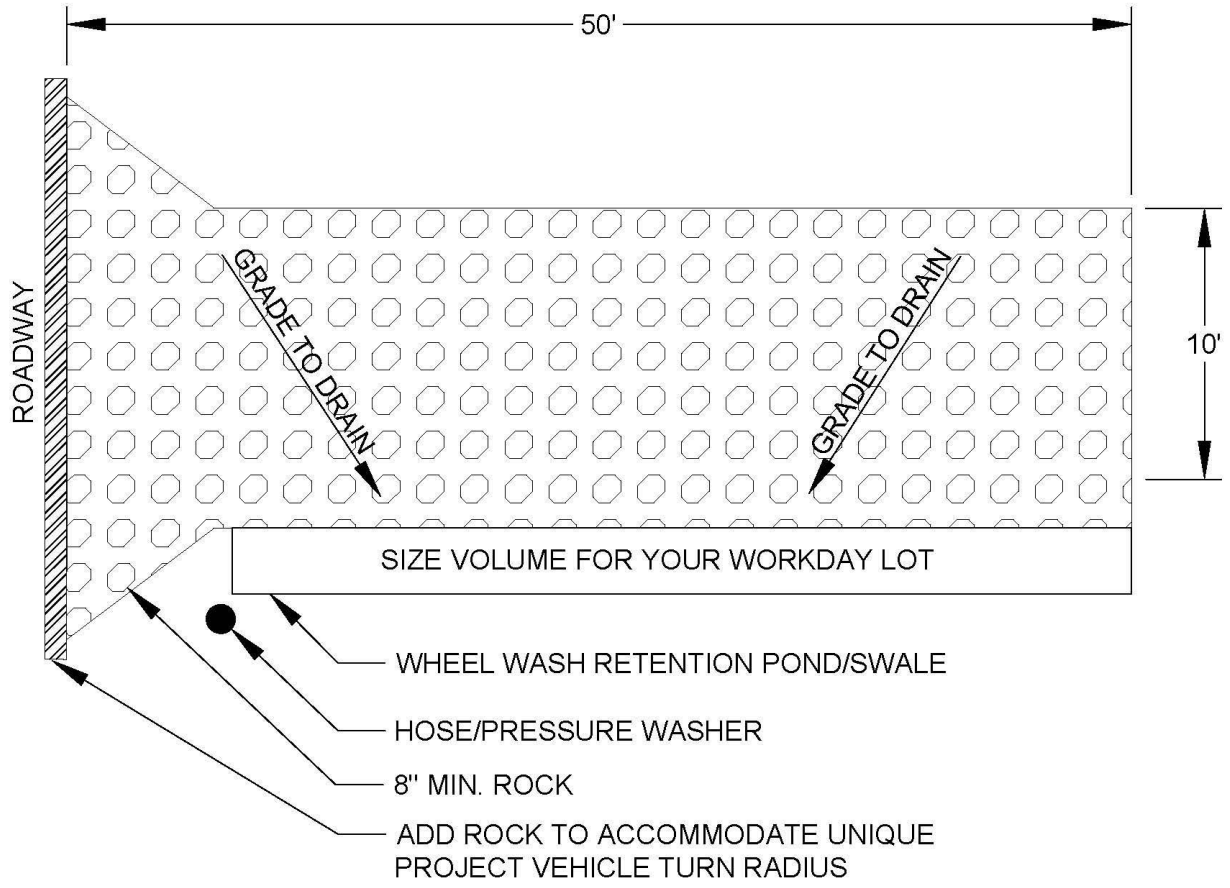
PERFORMANCE:

- Slick conditions, slurry, mud chucks, rocks, gravel, water quality risk and driver hazards constitute BMP failure and require immediate sufficient action.
- Light tracking is expected and requires regular maintenance but not usually immediate action. Light tracking is defined as minor residual dirt that can't be picked up by a square nose shovel.
    - Remove/sweep prior to unsafe and wet conditions or end of workday, whichever is first.

REFERENCE:

- CGP 2.2.4, 5.1, 5.2.1
- CPP 2.4.1

BMP 28- Wheel Wash



APPLICATION

- Use this BMP when vehicles and equipment operations require egress from the project property to decrease the amount of debris leaving the site via vehicle tracking.
- Use wheel wash BMP when mud needs to be removed from tires.
- Wheel washes are a logical redundant option during very wet conditions when other wheel agitation type tire mud management systems are not effective.

INSTALLATION/USE PROCEDURE

- Determine the ingress/egress location(s) allowed by the oversight authority and show them on the site plan.
- Do not bypass the wheel wash area when track out prevention is necessary.
- Wash all wheels with a hose or pressure washer provided. Pull forward as necessary to remove all mud from tires and tread.
- Check for rocks wedged in dual tires and remove.
- Identify the necessary retention volume needed for wash waters and attach to this BMP.
- Ensure the workforce is trained regarding track-out BMP requirements.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.

- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Rake or wash rock as necessary when BMP is not working.
- Remove pond/swale sedimentation at 50% capacity.
- Expand the wash water basin as necessary to contain the retention volume required.
- Do not wash wheels anywhere on site except at the designed wheel wash area that has a retention pond to retain and treat wash waters.
- Train workforce when BMP improper use is recognized.
- When sediment, rock, or gravel track out occurs due to BMP failure or misuse, debris must be removed from roadways according to the CGP criteria.
    - Street clean-up operations are separate from this wheel wash BMP, but necessary to address unacceptable track out that may occur.

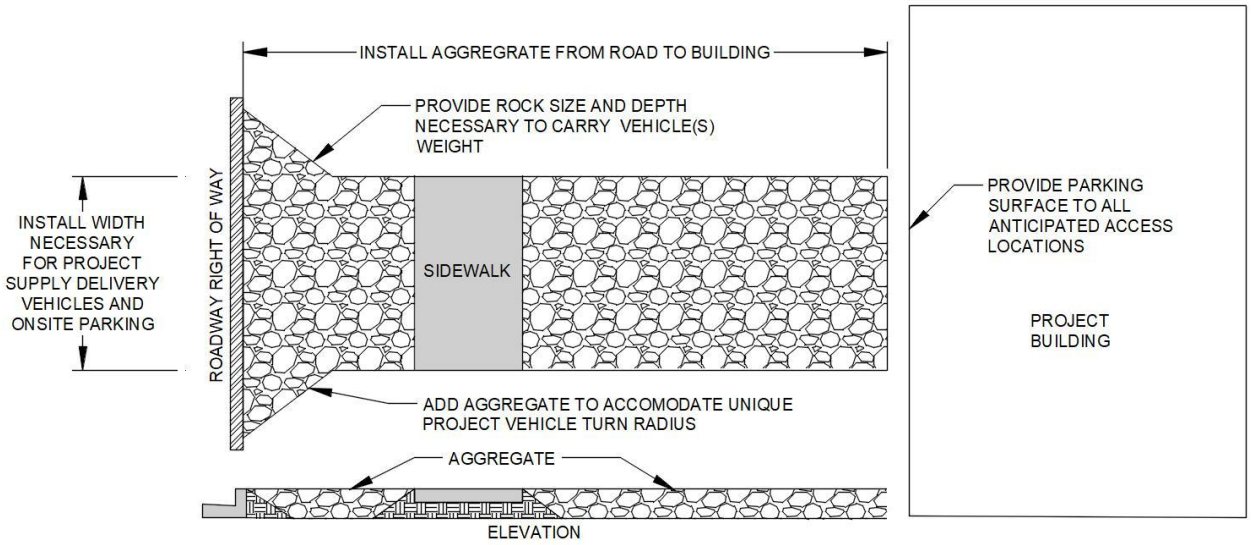
PERFORMANCE:

- The Wheel Wash BMP is expected to greatly minimize the risk of excessive track out onto roadways and also utilizes sediment deposition in the wash water retention pond.
- Slick conditions, slurry, mud chucks, rocks, gravel, water quality risk and driver hazards constitute BMP failure and require immediate sufficient action.
- Light tracking is expected and requires regular maintenance but not usually immediate action. Light tracking is defined as minor residual dirt that can't be picked up by a square nose shovel.
    - Remove/sweep prior to unsafe and wet conditions or end of workday, whichever is first.

REFERENCE:

- CGP 2.2.4, 5.1, 5.2.1
- CPP 2.4.1

BMP 29- Parking Pad & Supplier Access



APPLICATION

- Use a parking pad for supply delivery vehicles, tool drop off and onsite project parking etc.
- Use this BMP to *prevent* mud from sticking to tires. This BMP will not remove mud sticking to tires.

INSTALLATION/USE PROCEDURES

- Determine where supplies and tools need to be delivered or dropped off and show the delivery area on the site plan. Coordinate with oversight authority for any prohibited access locations.
- Do not drive beyond the parking pad.
- Size pad to accommodate project supply vehicles and any necessary onsite parking. Attach illustration of specific dimensions for the parking pad and gravel/rock specific to the project needs with this BMP detail.
- Ensure the workforce is trained regarding proper use and maintenance of the parking/delivery pad.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Refresh parking/access pad as necessary when BMP is not effective at preventing mud from sticking to tires.
- Add, extend or replace rock as necessary to achieve performance criteria results.
- Train workforce when BMP improper use is recognized.

- When sediment, rock, or gravel track out occurs due to BMP failure or misuse, debris must be removed from roadways according to the CGP criteria.
    - Street clean-up operations are separate from this Parking Pad BMP, but necessary to address unacceptable track out that may occur.

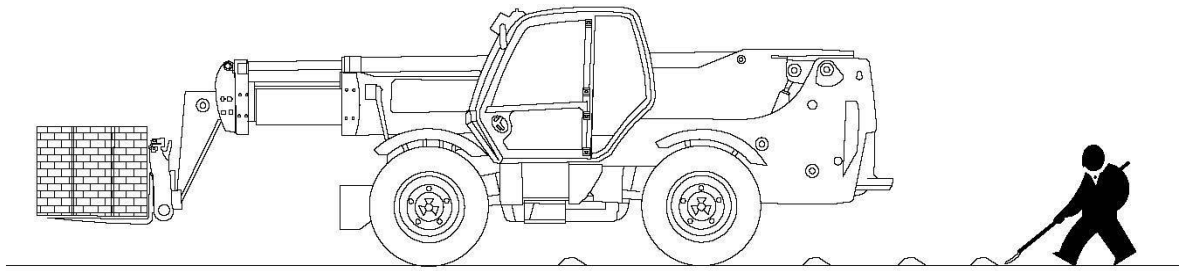
PERFORMANCE

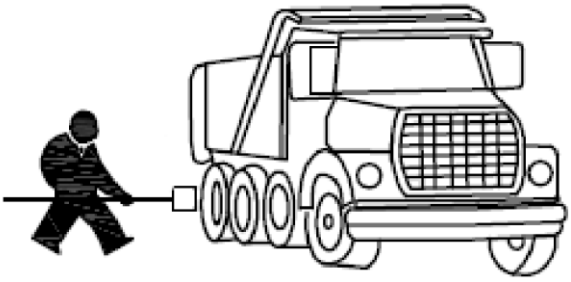
- The parking pad and supplier access gravel pad is expected to reduce vehicle contact with exposed sediment on site.
- In addition, it also acts as a visual marker for suppliers to know where to make deliveries, increasing work site operation efficiency.
- Slick conditions, slurry, mud chucks, rocks, gravel, water quality risk and driver hazards constitute BMP failure and require immediate sufficient action.

REFERENCE:

- CGP 2.2.4, 5.1, 5.2.1
- CPP 2.4.1

BMP 30- Manual Mud Removal





APPLICATION

- Use this BMP when vehicles and equipment operations require egress from the project property during wet conditions resulting in mud sticking to vehicle tires and tracks.
- Use this BMP when non-regular egress is necessary or using the primary track out BMP is not practical for an unusual situation.
- Use this BMP as a redundant BMP when the primary track out BMP(s) is not working.
- Use this BMP for short transfer of vehicles for short distances, e.g. across the street.

INSTALLATION/USE PROCEDURES

- Stop before exiting the site and use a square nose shovel or stiff broom to remove mud from tires and remove mud tracks when applicable.
    - When manually removing mud on pavement, shovel and sweep with each track out occurrence and always perform this BMP when incidents are upstream of inlets.
- Check for and remove rocks wedged in dual tires.
- Ensure the workforce is trained regarding mud removal and clean up of trackout BMP requirements.
- Use of Sweeping BMP is still usually necessary at the end of day minimum.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- When removing mud from tires or tracks on pavement sweep prior to wet conditions or end of day, whichever comes first.
- Train workforce when BMP improper use is recognized.
- When sediment, rock, or gravel track out occurs due to BMP failure or misuse, debris must be removed from roadways according to the CGP criteria.
    - Street clean-up operations are separate from this Manual Mud Removal BMP, but necessary to address unacceptable track out that may occur.

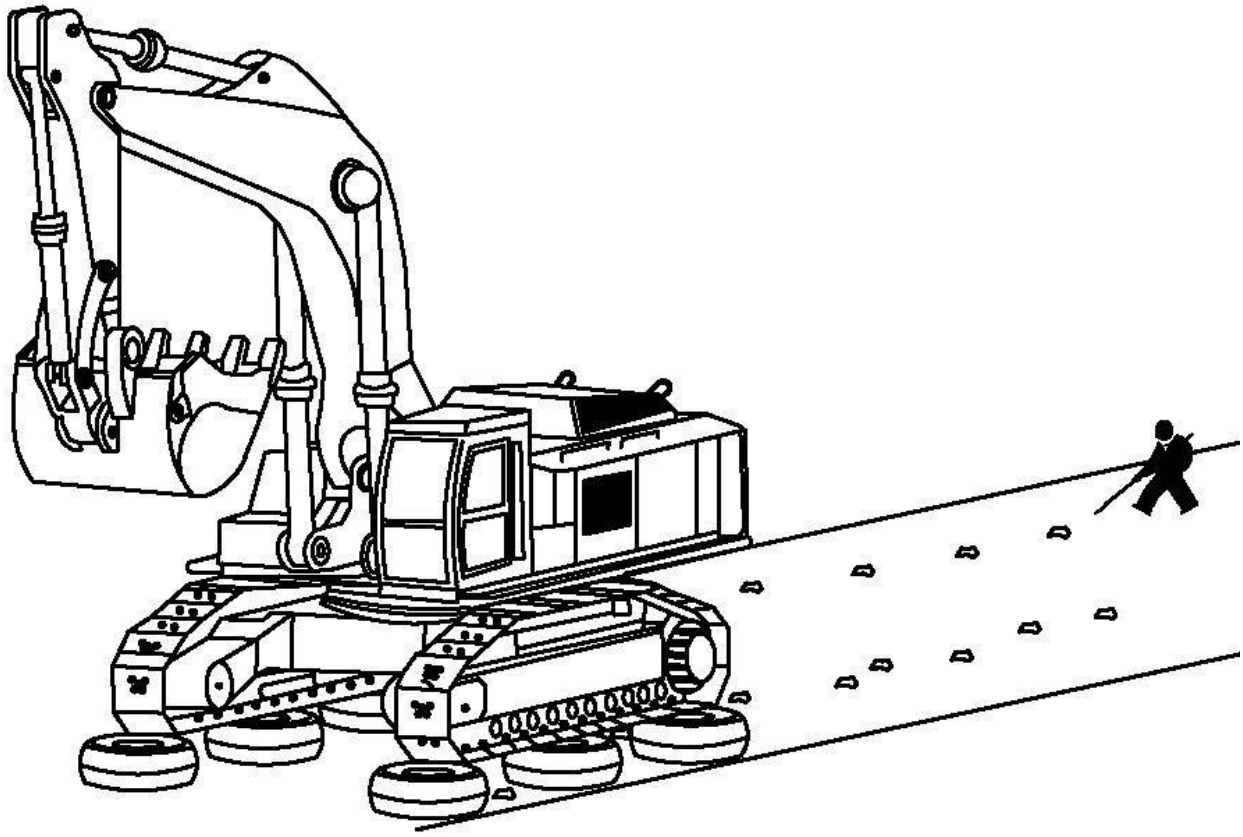
PERFORMANCE:

- Slick conditions, slurry, mud chucks, rocks, gravel, water quality risk and driver hazards constitute BMP failure and require immediate sufficient action.
- Light tracking is expected and requires regular maintenance but not usually immediate action. Light tracking is defined as minor residual dirt that can't be picked up by a square nose shovel.
    - Remove/sweep prior to unsafe and wet conditions or end of workday, whichever is first.

REFERENCE:

- CGP 2.2.4, 5.1, 5.2.1
- CPP 2.4.1

BMP 31- Track Vehicle Crossing



APPLICATION

- Use when track vehicle road crossing for multiple project sites is planned.
- It is not practical to remove mud from most tracked construction equipment. Even track washing is usually impractical.

INSTALLATION/USE PROCEDURES

- When road crossings are short distances, remove clumps with a square nose shovel and broom at each crossing. The clumps will be compacted to the road reducing vacuum sweeper effectiveness.
- When distant crossings are necessary, scraping or track washing BMPs are usually necessary. A machinery bucket blade can also work but follow up with a vacuum operated sweeper is also necessary.
- Protect roadway infrastructure from vehicle tracks. Placing tires beneath tracks is usually effective. Decide the track buffer method and attach your plan to this BMP.
- Ensure the workforce is trained regarding track-out BMP requirements.
- Use of Sweeping BMP is still usually necessary at the end of day minimum.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Regular sweeping is usually necessary daily. Shovels are intended to remove the dirt/mud clumps but will not move residual slurry that collects over multiple days.
- Train workforce when BMP improper use is recognized.
- When sediment, rock, or gravel track out occurs due to BMP failure or misuse, debris must be removed from roadways according to the CGP criteria.
    - Street clean-up operations are separate from this Track Vehicle Crossing BMP, but necessary to address unacceptable track out that may occur.

PERFORMANCE

- Slick conditions, slurry, mud chucks, rocks, gravel, water quality risk and driver hazards constitute BMP failure and require immediate sufficient action.
- Light tracking is expected and requires regular maintenance but not usually immediate action. Light tracking is defined as minor residual dirt that can't be picked up by a square nose shovel.
    - Remove/sweep prior to unsafe and wet conditions or end of workday, whichever is first.

REFERENCE

- CGP 2.2.4, 5.1, 5.2.1
- CPP 2.4.1

BMP 32- Street Sweeping

APPLICATION

- A Sweeping BMP is necessary to address the immediate safety, water quality and complaint issues that exist resulting from vehicle track out.
- Sweeping BMPs do not eliminate the requirement for egress track out BMPs, but are necessary to compensate for the practical limitations of most egress track out BMPs.

INSTALLATION/USE PROCEDURES

- Use vacuum type sweeping machinery.
- Anticipate end of day sweeping or multiple times a day as needed. The better the egress track out BMP the less sweeping operations are necessary.
- A Square nose shovel and broom are also always a good roadway sediment and debris removal option.
- Identify the sweeper hopper licensed dump location. Attach dump location information to this BMP.
- Ensure the workforce is trained regarding track-out BMP requirements.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Employ sweeping operations at the end of the workday and as necessary.
- Train workforce when BMP improper use is recognized.

PERFORMANCE:

- Slick conditions, slurry, mud chucks, rocks, gravel, water quality risk and driver hazards constitute BMP failure and require immediate sufficient action.
- Light tracking is expected and requires regular maintenance but not usually immediate action. Light tracking is defined as minor residual dirt that can't be picked up by a square nose shovel.
    - Remove/sweep prior to unsafe and wet conditions or end of workday, whichever is first.

REFERENCE:

- CGP 2.2.4, 5.1, 5.2.1
- CPP 2.4.1

BMP 33- Fugitive Dust Control Plan

APPLICATION

- Dust control applies to any bare earth on the project that is at risk of being picked up by wind erosion.
- Dust suppression is necessary for all areas where vegetation is removed.
- A good BMP for dust management is to minimize and phase vegetation removal. See Phase Clearing BMP.

INSTALLATION/USE PROCEDURES

- Attach a copy of the Fugitive Dust Control Plan and DAQ permit information
- Attach a copy of the Dust Control Plan Tools and details for suppression, including but not limited to equipment information, methods, and responsible party (inhouse or subcontracted)
- Attach a list of all dust generating operations, including but not limited to; vehicle traffic, dirt processing, load and haul, brick mason operations, etc.
- Ensure the workforce is trained regarding track-out BMP requirements.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Implement Fugitive Dust Control plan per DAQ permit.
- Train workforce when BMP improper use is recognized.

PERFORMANCE:

- UAC section R307-309-5. Typically this means no greater than 10% opacity at property boundaries.
- Any neighbor complaints warrants reevaluation of the effectiveness of the dust control plan and/or an inspection by the oversight authority.

REFERENCE:

- UAC section R307-309-5
- CGP 2.2.6
- CPP 2.2.6

BMP 34 - Vegetation Removal Phasing

APPLICATION

- Erosion and dust suppression is necessary for all areas where vegetation is removed.
- Apply vegetation removal management to minimize dust and erosion risk. Many large projects can benefit from this BMP.

INSTALLATION/USE PROCEDURES

- Attach a copy of phasing maps showing no disturbance areas for each phase. A vegetated buffer can also be utilized to provide erosion control along the outskirts of the project area.
- Ensure the workforce are informed regarding no disturbance areas.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Train workforce when encroachment into no disturbance areas are found. Update no disturbance maps and SWPPP document as relevant.
- Address encroachment exposures and add or amend BMPs to compensate for the exposure as necessary.

PERFORMANCE:

- Encroachment of no disturbance phasing plan areas constitutes BMP non-compliance.

REFERENCE:

- UAC section R307-309-5
- CGP 2.2.2, 2.2.9, 2.2.6, 7.3.2.f
- CPP 2.2.14

BMP 35 - Final Stabilization

APPLICATION

- Construction projects considered completed that will have bare, unimproved, erodible surfaces
- Projects with temporary exposed surfaces exceeding the CGP cover and time limits.
- A Final Stabilization Plan is necessary for all projects. The final stabilization CGP goal is when the final landscape plan achieves surface stabilization of 70% uniformly distributed cover by either finish grade mulch or established vegetation.

INSTALLATION/USE PROCEDURES

- Attach a copy of the final landscaping plan, including but not limited to vegetation establishment periods.
- Attach a copy temporary vegetation, including but not limited to temporary seed plan, chemical treatment of erodible surfaces, erosion control blankets, etc,
- Provide a list of all the SWPPP erosion, operation and fugitive dust BMPs that must remain in place through the final stabilization installation and establishment period.
- Ensure the workforce is informed of the final stabilization BMP requirements.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is expected to submit a site specific final stabilization plan attached to this BMP. This may include: Proprietary system literature, illustrations, any operation procedures and maintenance required to achieve storm water pollution prevention and final stabilization.

MAINTENANCE/MANAGEMENT

- Ensure all other SWPPP containment BMPs are installed, maintained and inspected throughout the installation of the final landscaping infrastructure and vegetation establishment period.
- Train workforce when final stabilization plan and site BMP non-containment is recognized.

PERFORMANCE:

A Final Stabilization Plan is not effective when any of the following occurs:

- Erosion occurs beyond the disturbance boundary or sediment is leaving the site.
- A pollutant risk to water quality is present.
- Fugitive dust opacity exceeds DAQ Permit requirements which is usually opacity exceeding 10% at the property boundary.
- Any neighbor complaints warrants an inspection.

REFERENCE:

- UAC section R307-309-5
- CGP 2.2.6, 2.2.14, 2.2.14.a, 7.3.5.b
- CPP 2.2.14, 8.2.1

BMP 36 - Stockpile Management

APPLICATION

- Projects where topsoil is stripped and will be reused at a later phase
- Projects where any natural materials must be stored on site for use throughout the project
- Projects which have an offsite stockpile area

INSTALLATION/USE PROCEDURES

- Provide staging/storage area location(s) on the BMP map.
- For offsite storage yard or stockpiles that are used in conjunction with the project, include appropriate storm water pollution prevention controls and BMPs in the SWPPP and show the location on the site map
- Provide stockpile toe BMP when sediment is not adequately contained by other boundary BMPs. Reference other boundary BMPs managing the stockpile exposure risk.
- Ensure the workforce is informed of stockpile management requirements.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Ensure all other sediment control BMPs are installed, maintained and inspected throughout storage, staging, and topsoil redistribution operations.
- Train workforce when non-containment is recognized.
- If stockpile is not being actively used, cover it and/or provide containment so that runoff cannot enter sensitive areas, waters of the state, or storm water conveyances.

PERFORMANCE:

Successful stockpile management occurs when:

- Storage areas are noted on the SWPPP documentation and are up to date
- Stockpiles are covered and/or contained with little to no contaminated runoff leaving the area

REFERENCE:

- CGP 2.2.8 7.3.3
- CPP 2.2.5, 7.3.3, 2.2.14

BMP 37 - Construction Dewatering Retention

APPLICATION

- Project where waterline system commissioning is necessary
- A DEQ Dewatering permit is not required when full retention is provided onsite. Note, groundwater warranted dewatering operations usually do not qualify for a DEQ Dewatering Permit waiver. The exposure period and amount of groundwater results in uncertain volume calculations.

INSTALLATION/USE PROCEDURES

- Provide a retention location on BMP map.
- Provide a simple detail of retention pond and operation volume necessary for full retention of anticipated dewatering volume. Attached copy of volume calculations to this BMP.
- Ensure the workforce is informed of the CGP dewatering BMP requirements.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Inspect following dewatering operation and ensure volume exists for any subsequent dewatering operations.
- Train workforce when non-containment is recognized.

PERFORMANCE:

- Any uncontained dewatering volume constitutes BMP failure.

REFERENCE:

- CGP 1.2.2, 1.2.4, 2.3.7, 7.3.4
- CPP 1.2.4, 2.2.7

BMP 38 - Construction Dewatering Water Truck

APPLICATION

- Project where waterline system commissioning is necessary
- A DEQ Dewatering permit is not required when dispersing water onsite. Note, groundwater warranted dewatering operations usually do not qualify for a DEQ Dewatering Permit waiver. The exposure period and amount of groundwater results in uncertain volume calculations.

INSTALLATION/USE PROCEDURE

- Pump hyperchlorinated water to water truck and use for dust suppression. Attach operation details.
- Show dispersal areas on BMP site map. Not allowed on impervious surfaces are directly connected to inlets or other waterways
- Ensure the workforce is informed of the CGP dewatering BMP requirements.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Train workforce when non-containment is recognized.

PERFORMANCE:

- Any uncontained dewatering volume constitutes BMP failure.

REFERENCE:

- CGP 1.2.2, 1.2.4, 2.3.7, 7.3.4
- CPP 1.2.4, 2.3.7

BMP 39 - Construction Dewatering DEQ Permit Required

APPLICATION

- Projects where groundwater is anticipated or other dewatering operation volumes would exceed available space for onsite retention.
- Project where pressure system and waterline commissioning is necessary
- Projects where groundwater warranted dewatering operations are anticipated.

OPERATION PROCEDURE

- Provide dewatering operation location(s) on BMP map.
- Attach a copy of the DEQ Dewatering Permit to this BMP.
- Attach a copy of all permit required inspection, monitoring requirements, operator prepared BMPs or proprietary systems and chemical treatment methods.
- Ensure the workforce is informed of the DEQ permit dewatering BMP requirements.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Ensure proprietary system, inspection, monitoring maintenance and application methods are followed.
- Train workforce when non-containment is recognized.

PERFORMANCE:

- Any uncontained dewatering volume constitutes BMP failure.
- Any DEQ Dewatering Permit non-compliance.

REFERENCE:

- CGP 1.2.2, 1.2.4, 2.3.7, 7.3.4
- CPP 2.2.3