Greenville County Technical Specification for:

SC-01 Surface Outlet and Baffle Sediment Basin

1.0 Surface Outlet and Baffle Sediment Basin

This Specification contains requirements for the design and construction for temporary *Surface Outlet and Baffle Sediment Basins* and permanent Multipurpose Sediment Basins.

1.1 Description

Provide a Temporary or Multipurpose *Surface Outlet and Baffle Sediment Basin* to remove sediment from construction site runoff at locations shown on the Plans. A Temporary or Multipurpose *Surface Outlet and Baffle Sediment Basin* is a Basin where sediment-laden runoff is temporarily detained, allowing sediment to settle out before the runoff is discharged. The purpose of a Temporary or Multipurpose *Surface Outlet and Baffle Sediment Basin* is to collect and store sediment from disturbed areas cleared or graded during construction. To maximize effectiveness, locate Temporary or Multipurpose *Surface Outlet and Baffle Sediment Basin* at the lowest points or near the edge of a watershed catchment.

Temporary or Multipurpose *Surface Outlet and Baffle Sediment Basins* include Baffles across the width of the Basin to spread flow across the entire width of the Basin reducing the potential for turbid flow and short circuiting. These Baffles may consist of Porous Baffle materials or Class A or B riprap.

Traditional temporary Sediment Basin designs typically used a perforated riser or staged riser with a low flow orifice for dewatering. This Specification utilizes dewatering from the water surface where the density of total suspended solids is at a minimum in the water column. A **Temporary** *Surface Outlet and Baffle Sediment Basin* implements three spillway devices:

1. A Primary Riser Spillway consisting of a solid circular concrete monolithic base or extended base riser with no staged discharges or low flow orifices connected to an Outflow Barrel. Stormwater enters the Primary Riser spillway by overtopping the structure and through a Floating Skimmer.

2. A Floating Skimmer attached to the bottom of the Primary Riser dewatering the runoff volume below the top elevation of the Primary Riser. The Floating Skimmer dewaters the volume below the Primary Riser in a time period ranging between 24 to 72 hours.

3. A stabilized Emergency Spillway that safely passes the 100-year 24-hr storm event with a minimum 1.0-foot of freeboard from the 100-year 24-hour water surface elevation to the top of the dam.

1.2 Site Assessment

Select Temporary or Multipurpose *Surface Outlet and Baffle Sediment Basin* locations during a site evaluation, or by reviewing a detailed topographic map. Note natural watershed catchments and select Temporary or Multipurpose *Surface Outlet and Baffle Sediment Basin* locations so runoff from land disturbing activities can easily be diverted into the *Surface Outlet and Baffle Sediment Basin*. Install Temporary or Multipurpose *Surface Outlet and Baffle Sediment Basin* before land disturbance activities begin.

Consider construction phasing when selecting locations for Temporary or Multipurpose *Surface Outlet and Baffle Sediment Basin*. Select a location that allows the Temporary or Multipurpose *Surface Outlet and Baffle Sediment Basin* to remain in service as long as possible before final stabilization is achieved. Select locations that are accessible for periodic sediment removal and other necessary maintenance. Identify locations for sediment disposal as part of the Temporary or Multipurpose *Surface Outlet and Baffle Sediment Basin* site selection. Identify sediment disposal locations on the Plans or as directed by the Engineer.

1.3 Design Requirements

Design **Temporary** *Surface Outlet and Baffle Sediment Basins* that do **not** require peak flow reduction to pre-development conditions with **no** perforations in the Primary Riser structure.

Design permanent **Multipurpose** *Surface Outlet and Baffle Sediment Basins* requiring peak flow reduction to keep the 2-year 10-year, and 25-year 24-hour storm disturbed-state peak flow rates from the Basin less than or equal to the pre-disturbance peak flow rates with orifices and weirs incorporated into the Primary Riser structure. Ensure that all **Multipurpose** *Surface Outlet and Baffle Sediment Basins* are designed in accordance with Chapter 7 of the Design Manual and the Post Construction Dry Pond Specifications and Post Construction Wet Pond Specification.

1.3.1 General Design Requirements

Use Temporary or Multipurpose *Surface Outlet and Baffle Sediment Basins* on sites where 5 or more acres are disturbed and drain to a single point. Do not install Temporary or Multipurpose *Surface Outlet and Baffle Sediment Basins* in Waters of State designated by a solid or dashed blue line on USGS 7.5 minute quadrangle maps). Utilize Temporary *Surface Outlet and Baffle Sediment Basins* until the contributing flow areas to the basin have undergone final stabilization.

The design requirements outlined in this Specification must ensure a minimum of 80% trapping efficiency of total suspended solids (TSS).

Ensure Temporary or Multipurpose *Surface Outlet and Baffle Sediment Basins* adhere to the following requirements:

- Drainage Area: 5 acre minimum, 150 acre maximum.
- Drainage Area: 10 acres or more draining to one location **requires** a Surface Outlet and Baffle Sediment Basin.
- Minimum 80 percent design removal efficiency for TSS.
- Sediment storage volume accounted for in the overall design volume of the sediment basin.
- Do not incorporate side slopes steeper than 3H:1V where applicable.
- Optimum Basin length to width ratio is 2L:1W.
- The Temporary Basin bottom slope is 0.5%.
- The final Basin bottom slope for permanent Multipurpose Basins is 2%.
- Floating Skimmer with minimum dewatering time of 24 hours and maximum dewatering time of 72 hours.
- Anti-vortex device / trash rack required for Primary Riser.
- Minimum of 3 Baffles installed in the Basin.
- At least one row of Baffles placed between the Primary Riser structure and all pipes or channels discharging into the Basin.
- Minimum embankment width at the top of the dam is 8 feet.
- Antiseep collars required on all penetrations through the dam.
- Perform temporary stabilization by seeding and install Temporary Erosion Control Blankets on exposed basin side slopes.

1.3.2 Safety

Follow the safety design criteria such as those outlined by the USDA Soil Conservation Service (previously the Natural Resources Conservation Service), U.S. Army Corps of Engineers, and the Dam Safety.

Incorporate all possible safety precautions such as signs and fencing for permanent Multipurpose Basins that are readily accessible to populated areas. Ensure the inside pond slopes are no steeper than 3H:1V where applicable. A safety fence or vegetative barrier is required where a permanent Multipurpose Basins interior side slopes are steeper than 3H:1V or when the impoundment is a wall greater than 24 inches in height. If the wall is adjacent to a walkway or street a railing may be required instead of a fence.

1.3.3 Greenville County **Temporary** Surface Outlet and Baffle Sediment Basin Design

Design **Temporary** *Surface Outlet and Baffle Sediment Basin* using one of two strategies.

1. Use the Design Aids of this Specification for drainage areas ranging from 5 acres to 25 acres.
2. In accordance to the requirements in standards for Stormwater Management and Sediment Reduction Act 72-300 using South Carolina Design Aids, Sedimot, SEDCAD4, Pond Pack, SEDPRO and other computer models that utilize eroded particle size distributions and calculates a corresponding 80% trapping efficiency for TSS.

For true **Temporary** *Surface Outlet and Baffle Sediment Basins*:

1. Utilize a temporary sediment basin riser configuration.
2. Design a Primary Riser consisting of a solid riser with no staged discharges or low flow orifices.
3. Design the basin so stormwater runoff enters the Primary Riser by overtopping the riser structure and through a Floating Skimmer.
4. Design the riser to have a Floating Skimmer attached to the bottom of the riser dewatering the runoff volume below the top elevation of the riser in a time period ranging between 24 to 72 hours.
5. Provide calculations or Design Aids showing that this basin will meet a minimum 80% TSS trapping efficiency.
6. Provide a minimum of 3 rows of Baffles in the basin. Place a minimum of one row of Baffles between the riser structure and all pipes or channels discharging to the Basin. Designers may use 0% dead space when using Baffles.
7. Design a stabilized Emergency Spillway that safely passes the 100-year 24-hr storm event with a minimum 1-foot freeboard from the 100-year 24-hour water surface elevation to the top of the dam.

1.3.3.1 **Temporary** Sediment Basin Design Aid Instructions

Use the Greenville County Design Aids (Chart 1 and Graph 1) for **Temporary** *Surface Outlet and Baffle Sediment Basin* to determine the basin size, runoff storage volume, sediment storage volume, Primary Riser spillway and Outlet Barrel configuration.

1. Determine the required Basin volume by using one of 3 strategies:
    a. Use Chart 1 to determine the Basin bottom Length and Width based on the Basin drainage area classification (5, 10, 15, 20, and 25 acres). Area classifications shown in Chart 1 used to select the basin bottom Length and Width must be greater than the actual construction site Basin drainage area.
    b. Use Graph 1 to determine the total required Basin Volume below the top elevation of the Primary Riser.
    c. Calculate the total Basin volume at the top elevation of the Primary Riser by:

i. 2,400 cubic feet per disturbed acre of runoff volume and 415 cubic feet per disturbed acre sediment storage.

2. The Basin volumes calculated using Method 1.b, or 1.c represent the Basin volume between the Basin bottom and the Primary Riser top elevation. Basin stage area calculations must be calculated when using Method 1.b, or 1.c.
3. Use Chart 1 to select Basin requirements (Primary Riser Diameter, Outlet Barrel Diameter, Emergency Spillway Bottom Width and Riser Concrete Foundation) corresponding to one of the 5 drainage area classifications (5, 10, 15, 20, 25 acres). Area classifications shown in Chart 1 used to select the Basin requirements must be greater than the actual construction site Basin drainage area.
4. Freeboard as shown in Chart 1 is the Vertical distance between the top elevation of the Primary Riser and the top elevation of the Basin Dam.
5. The following **Temporary** *Surface Outlet and Baffle Sediment Basin* design features are constant for all drainage area classifications less than or equal to 25-acres when using the Design Aids:
    a. Total Basin Depth: seven (7) feet
    b. Primary Riser Top Elevation: four (4) feet above the Basin bottom
    c. Freeboard Height: three (3) feet
    d. Emergency Spillway Depth: 1.5 feet
    e. Pipe Barrel Slope: 1.5% when feasible.
    f. A Recessed Riser configuration is required for all primary spillways. The riser bottom and Outlet Barrel Pipe invert elevation is located below the basin bottom elevation.

1.3.3.2 Temporary Riser and Spillway Design

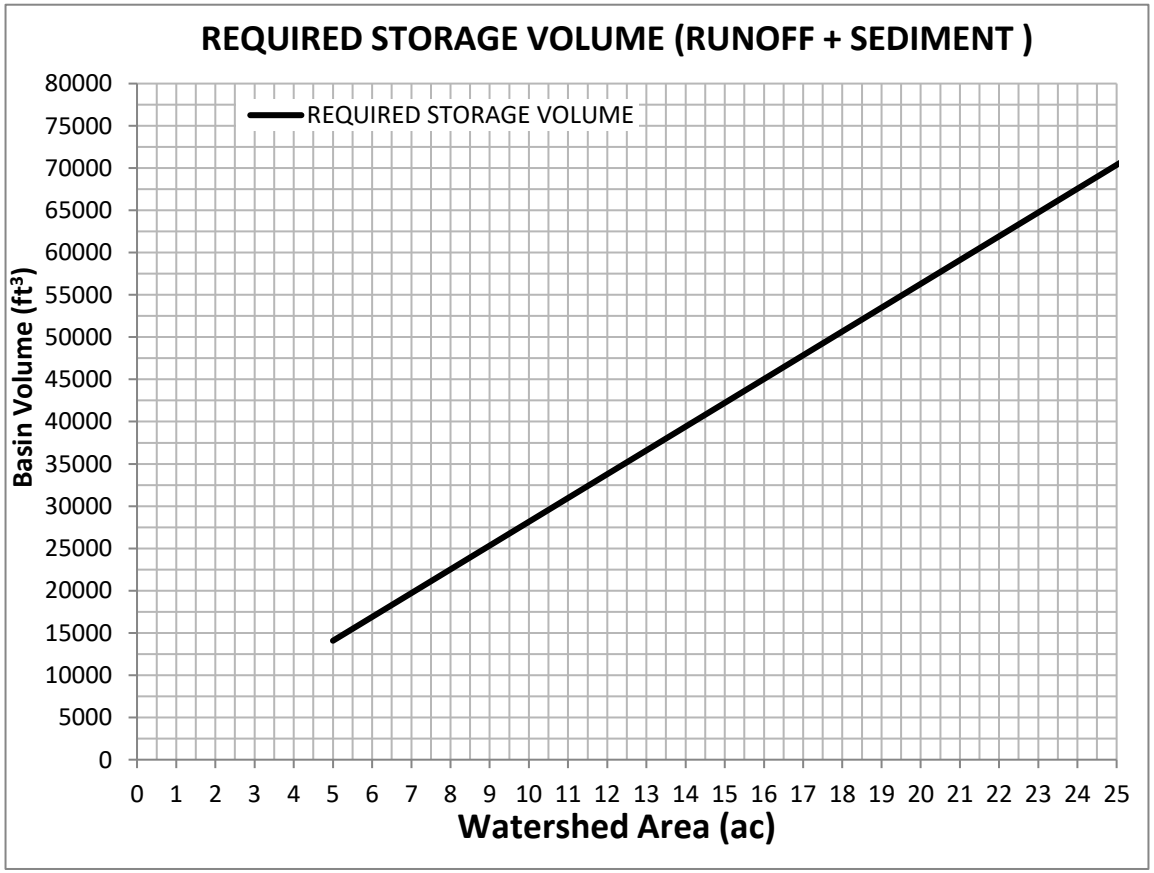
1. The Primary Riser consists of a solid circular concrete monolithic base or extended base riser with no low flow orifice or staged orifice/weir discharges. Runoff only enters the Primary Riser structure by overtopping and through the Floating Skimmer.
2. Design the 10-year 24-hour storm event peak stage in the Basin at an elevation of approximately 6 inches above the top elevation of the Primary Riser.
3. Design the Primary Riser and Outlet Barrel to operate in weir flow control and transition to pipe/barrel flow control. Orifice flow of the Primary Riser structure is not allowed for the 10-year 24-hour storm event.
4. Minimum 1.5-foot elevation difference from the top of riser to the crest of the emergency spillway.
5. Design the Emergency Spillway to safely pass the peak runoff from the 100-year 24-hour storm event storm with a minimum 1.0-foot of freeboard between the 100-year peak water surface elevation and the top of the Emergency Spillway. Design the Emergency Spillway as a run-around conveyance that is constructed on existing ground and not over the Basin Dam/Embankment.
6. Show all Basin dimensions and slopes on the Plans.

CHART 1: TEMPORARY SURFACE OUTLET AND BAFFLE SEDIMENT BASIN DESIGN AID

MAX AREA DRAINING TO BASIN	RUNOFF STORAGE VOLUME	SEDIMENT STORAGE VOLUME	SEDIMENT BASIN (LENGTH X WIDTH)		SEDIMENT CONTROL STRUCTURE SIZE (RISER DIA)	PIPE BARREL DIAMETER	RECESSED RISER	TOP OF RISER TO BASIN BOTTOM	FREEBOARD HEIGHT	EMERGENCY SPILLWAY DEPTH	EMERGENCY SPILLWAY BOTTOM WIDTH	SKIMMER DEWATERING RATE
			TOP OF DAM	BASIN BOTTOM								
5	2400FT^3/AC	415FT^3/AC	130' x 65'	88' x 23'	48"	24"	YES	4' - 0"	3' - 0"	1' - 6"	10'	35 GPM
10			164' x 82'	122' x 40'	48"	30"					18'	75 GPM
15			192' x 96'	150' x 54'	60"	36"					22'	110 GPM
20			214' x 107'	172' x 65	72"	42"					22'	145 GPM
25			234' x 117'	192' x 75'	72"	42"					28'	183 GPM

*Basin Side Slopes are 3H:1V

GRAPH 1: TEMPORY BASIN VOLUME DESIGN AID



1.3.5 **Permanent Multipurpose** Surface Outlet and Baffle Sediment Basin Design

The Primary Riser spillway configuration for permanent Multipurpose Basins used for both during construction sediment control and post construction water quality and quantity control for peak flow rate reduction contains orifices/weirs in the Primary Riser Structure.

1. Design and utilize one Permanent Riser and outlet barrel configuration for both phases of the project that is based on post-construction water quality and quantity control.
    a. This ensures that there is no damage or introduction of a point of structural weakness to the primary riser, outflow barrel and permanent dam structure as a result of installing a temporary riser, removing it, and then installing a permanent riser. Maintaining the structural integrity of the outflow barrel and permanent dam structure is of the highest importance.
    b. This ensures that a small temporary riser is not installed to maintain peak flow rates by forcing a large head on top of the riser that could jeopardize the stability of the riser, barrel, and permanent dam.
2. Design the Primary Riser to have a Floating Skimmer attached to the bottom of the riser (typically the post construction water quality low flow orifice) during the construction phase of the project to dewater in a time period ranging between 24 to 72 hours.
    a. The Floating Skimmer provides withdraw from the water surface for the majority of storm events during the construction phase of the project.
3. Design the Primary Riser with orifices/weirs to provide peak flow rate control.
4. Design the Primary Riser to have a trash rack and anti-vortex device.
5. Provide a minimum of 3 rows of Baffles during construction. Install at least one row of Baffles between the riser structure and all pipes or channels discharging to the Basin. Designers may use 0% dead space when using Baffles.
6. Provide calculations using Sedimot, SEDCAD, Pond Pack and other computer models or Design Aids showing that the basin will meet a minimum 80% trapping efficiency.
7. Provide calculations showing that the basin is designed to meet pre-construction peak flow rates for the 2-year 10-year, and 25-year 24-hour storm events.
8. Design a stabilized Emergency Spillway that safely passes the 100-year 24-hr storm event with a minimum freeboard of 1.0 feet between the 100-year 24-hour water surface elevations to the top of the dam.

Post construction staged orifices, low flow orifices, or staged weirs are installed in the Primary Riser structure prior to the construction phase.

1.3.5.1 Forebays

Sediment Basins that will be converted to permanent detention basins require forebays.

The function of the forebay is to trap the majority of the coarse fractions of the suspended solids in the runoff before it enters the main dry detention area.

When sizing **permanent** detention basins to capture **post construction** 85% of TSS based on annual loading, the forebay will include approximately 75 percent of the required sediment storage volume based on a minimum cleanout cycle of 5 years.

When designing the **permanent** basin to capture the first inch of runoff from impervious areas (water quality treatment volume), the forebay volume (or combined volume of forebays) is equal to a minimum of 10% of the overall water quality treatment volume. Each Forebay is sized according to the outlets contribution to the basin. Provide a forebay for all inlets to a detention basins and place forebays upstream of the main detention

area. A forebay is not required for an outlet that contributes less than 10% of the total drainage area or to the basin.

Design forebay side slopes to be 2H:1V or flatter.

The forebay is separated from the larger detention basin area by berms, barriers, or baffles that may be constructed of earth, stones, riprap, gabions, or geotextiles. The berm, barrier, or baffles act as a trap for coarse sediments and minimize their movement into the main detention basin.

Design the forebay in a manner that it is accessible for easy cleanout because it will eventually fill in with coarse particles. Design the access to the forebay with a maximum slope of 15-20 percent extending from the top of the embankment to the toe.

1.4 Construction

Construct the *Surface Outlet and Baffle Sediment Basin* in accordance with these Specifications, Standard Drawings, as indicated on the Plans, or as directed by the Engineer.

1.4.1 Equipment

Ensure that the equipment necessary for the proper installation of the *Surface Outlet and Baffle Sediment Basin* is on site, in acceptable working condition, and approved by the Engineer regarding both type and condition before the start of work under this section. Provide sufficient equipment to execute the work in accordance with the project schedule.

1.4.2 Installation Requirements

Installation includes constructing the sediment basin, installing the Primary Riser Structure, installing the Riser Outlet Barrel, installing Baffles, furnishing, installation and cleanout of Floating Skimmers, providing and placing Riprap pad on bottom of Basin underneath the Floating Skimmer, providing and placing an Emergency Spillway and liner, disposing of excess materials, removing Baffles, Emergency Spillway liner and Floating Skimmer, backfilling basin area with suitable material and providing proper drainage when basin area is abandoned

1.4.3 Site Work

Locate and construct the *Surface Outlet and Baffle Sediment Basin* before performing other earthwork on-site. Clear and grub the entire area of the Basin and Emergency Spillway in accordance with the Plans. Turn the entire area to a depth of 6 inches with a disk harrow and compact it to 95.0% compaction. Fill all holes in the foundation area of the dam with suitable material and compact to 95.0% compaction.

1.4.4 Temporary and Permanent Sediment Control Basins

Locate and construct the *Surface Outlet and Baffle Sediment Basin* as shown in the Plans. Construct the bottom of the Basin on a 0.5% slope. If the inflow into the Basin is from a pipe or from a ditch with a flow line higher than the bottom of the basin, place Riprap at the end of the pipe or ditch down to the bottom elevation of the Basin to prevent erosion.

Perform Temporary Stabilization by seeding and protect the temporary seeded area with a Temporary ECB on all areas of the Basin, except for the bottom of the Basin. .

When grading operations are complete and the permanent grassing or stabilization is in place, restore the area occupied by the temporary *Surface Outlet and Baffle Sediment Basin* as nearly as practicable to the original ground line and seed the area.

1.4.5 Earth Dam Embankment

Construct the earth dam to the dimensions shown on the Plans. The maximum earth dam inside slopes is 3H:1V., and the maximum earth dam outside slopes is 3H:1V Typical earth dam height to top width dimensions are provided in the following table.

Dam Height (Ft)	Minimum Top Width (Ft)
<10	8
11-14	9
15-19	10

For permanent Multipurpose Basins construct a key and core on all earth dam embankment areas. Construct the key and core with clay or other impervious materials. Construct the dam core to the dimensions shown on the Plans and to an elevation level with the flowline of the Emergency Spillway. Construct the core with a top width of 8 feet and 1:1 side slopes. Place fill adjacent to pipes or other structures in 4-inch layers and compact by hand or by manually directed tampers or plate vibrators. Place the fill over pipes to a minimum of 2 feet before using heavy equipment. Do not place fill around concrete structures until the concrete has cured sufficiently to support the load. As soon as final grades are reached, seed all areas.

1.4.6 Aggregate Diaphragm or Anti Seep Collars

Construct an aggregate diaphragm or anti seep collar parallel to the dam, around the outlet pipe immediately at the outlet side of the cutoff trench. Construct the aggregate diaphragm to a depth of 2 feet extending three times the pipe diameter vertically and horizontally, and a minimum of 18 inches beneath the pipe. Use FA-10 fine aggregate. Place a minimum of 2 feet of fill material over the diaphragm.

1.4.7 Aggregate Drain

Construct an aggregate drain for the diaphragm, 1.5 times the diameter of the pipe or a minimum of 1 foot around the pipe, to the down stream edge of the dam. Use FA-10 fine aggregate for the aggregate drain. Install a Riprap pad over a fabric filter where the drain and the outlet pipe exit the fill. Extend the Riprap pad at least 2 feet outside the aggregate drain in all directions.

1.4.8 Emergency Spillway

Construct an Emergency Spillway on original ground at the grades and locations shown on the Plans. Construct a spillway outfall channel to the main outfall channel as shown on the Plans. Protect the Spillway by:

1. Seeding the sides and bottom of the Emergency Spillway and spillway outfall channel and protecting the Spillway with an appropriate TRM as directed by the Engineer unless otherwise specified on the Plans.

2. Lining the sides and bottom of the Emergency Spillway and spillway outfall channel with a non-woven geotextile fabric and protecting the Spillway with Class B Riprap, as directed by the Engineer, or as shown on the Plans.

1.4.9 Primary Riser Spillway and Outlet Barrel

Temporary *Surface Outlet and Baffle Sediment Basin* Primary Riser Spillways consists of a solid circular concrete monolithic base or extended base riser with no staged orifices.

Multipurpose *Surface Outlet and Baffle Sediment Basin* Primary Riser Spillways consist of a riser with staged orifices/weirs.

For **Temporary** *Surface Outlet and Baffle Sediment Basin*, install the top of the Primary Riser at a minimum elevation 4.0 feet above the Basin bottom.

Install the Primary Riser Spillway after final grading and excavating the Basin footprint is complete. Use the following instructions when installing the Primary Riser Spillway:

1. Remove all loose soil and debris in the area where the riser is installed.
2. Excavate, prepare, and compact the location of the riser with dimensions two (2) feet greater than the riser bottom diameter.
3. Place the concrete Primary Riser and level the structure with the appropriate equipment.
4. Join all Outlet Barrel Pipe sections to the Riser so that the connections are water tight.
5. Fill the riser bottom to the flow line of the Outlet Barrel Pipe as required.
6. Join all Outlet Barrel Pipe so that the connections are water tight.

For **Temporary** *Surface Outlet and Baffle Sediment Basin*, use reinforced concrete pipe for the Outlet Barrel, and use reinforced concrete pipe or corrugated metal pipe for the Primary Riser. Use the pipe sizes shown on the Plans.

For **Multipurpose** Basins, construct a Primary Riser consisting of reinforced concrete pipe. Install a trash rack and antivortex device. Place a stub out de-watering orifice at the same flow line as the Outlet Barrel as shown on the Plans. Use either reinforced concrete or aluminum alloy pipe for the Outlet Barrel. Join all pipe sections so that the connections are watertight.

Place a trash rack and anti-vortex device over the top of the Primary Riser as shown on the Plans. Use the diameter indicated on the Plans for the Primary Riser and the Outlet Barrel.

Place the Outlet Barrel on a 0.5% slope.

Provide outlet protection to prevent erosion and scouring using Riprap, TRM, or similar erosion prevention at the barrel outlet of the Basin. Ensure outlet velocities do not exceed the capability of the BMP selected.

Line the outflow channel with Class B Riprap or install a stilling basin as indicated on the Plans. Use a non-woven geotextile under the Riprap.

1.4.10 Floating Skimmer

Install an appropriate Floating Skimmer attached to the bottom of the Primary Riser structure.

Excavate a shallow pit under the Floating Skimmer to account for sediment that accumulates on the Basin bottom around the Floating Skimmer. The pit allows the Floating Skimmer to completely drain the basin. At a minimum, the pit has dimensions of 4feet x 4feet with a minimum depth of 2 feet. Fill the Skimmer Pit with Class A or Class B Riprap to the top elevation of the Skimmer Pit. Ensure the top elevation of the Skimmer Pit is lower than the invert of the outlet barrel from the riser.

1.4.11 Baffles

Install 3 rows of Baffles a minimum of 4-feet in height with a spacing of ¼ the basin length for Basins greater than 25 feet in length. Install 2 rows of Baffles with a spacing of 1/3 the basin length for Basins less than 25 feet in length.

Ensure that at least one row of Baffles is placed between the Primary Riser structure and all pipes or channels discharging to the Basin.

Baffles may consist of Porous Baffles, or Riprap Baffles.

Install Riprap Baffles a minimum of 4-feet in height consisting of Class A or B Riprap. Do not place washed stone on the face of the Riprap Baffles.

1.4.12 Sediment Cleanout Stake

Install a metal sediment clean out stake that is 4-feet above the Basin bottom in the first Baffle cell upstream of the first Baffle. Cleanout the *Surface Outlet and Baffle Sediment Basin* when the sediment level reaches the 2-foot mark on the sediment cleanout stake (50% of the sediment storage volume).

1.5 Inspection and Maintenance

The key to a functional *Surface Outlet and Baffle Sediment Basin* is continual monitoring, regular maintenance and regular sediment removal. Attention to sediment accumulations within the Basin is extremely important. Continually monitor sediment deposition in the Basin.

Inspect *Surface Outlet and Baffle Sediment Basin* a minimum of once per week and make necessary repairs immediately, inspections are also recommended within 24-hours after each rainfall event that produces ½-inches or more of precipitation until final stabilization is achieved. . Inspect all *Surface Outlet and Baffle Sediment Basin* components including but not limited to:

- Inlet/outlet pipes – Inspect pipes for sediment and debris blockage, maintenance is required when the pipe is 1/3 blocked or damaged to a point to restrict flow.
- Inlet /outlet protection – Inspect inlet/outlet protection and repair or replace when protection is damaged, Riprap is displaced, or covered by sediment.
- Floating Skimmer - Inspect the Floating Skimmer after each rain event to ensure that it is not clogged with sediment. Remove sediment that accumulates on the Riprap pad underneath the Floating Skimmer.
- Inspect *Surface Outlet and Baffle Sediment Basin* after each significant rainfall.
- Inspect the Emergency Spillway for erosion and damage.
- Clean trapped sediment from *Surface Outlet and Baffle Sediment Basin* when sediment accumulations reach the 2-foot mark on the sediment clean out stake.
- Remove trapped sediment from the site, or stabilized on site.
- Repair, seed, and replace ECBs on Basin side slope areas that have eroded or have become damaged by equipment from silt cleanout.
- Inspect Baffles after each rain event for erosion damage.

1.6 Removal

Remove **Temporary** *Surface Outlet and Baffle Sediment Basin* when the watershed is completely stabilized. Remove temporary *Surface Outlet and Baffle Sediment Basin* within 30 days after final site stabilization is achieved or after it is no longer needed.

Permanently stabilize areas disturbed as a result of Temporary *Surface Outlet and Baffle Sediment Basin* removal.

1.7 Acceptance

Remove Floating Skimmers and Baffles from Multipurpose *Surface Outlet and Baffle Sediment Basins* when the construction phase of commercial sites ends, or at the time of 50% build out for residential sites when the Basin is converted to the permanent Multipurpose Basin for permanent water quality and quantity control. Remove deposited sediment, re-grade the Basin contours as needed, and make any necessary modifications to the Emergency Spillway to meet the Permanent Basin requirements when the Basin is converted to the permanent Multipurpose Basin.

Temporary *Surface Outlet and Baffle Sediment Basin s* converted to Permanent Multipurpose Basins will be retained and maintained after completion of the project by the owner of the site.

Obtain Engineer acceptance and approval of all Temporary and Multipurpose *Surface Outlet and Baffle Sediment Basin* installations.

Provide an As-Built plan to Greenville County certified by a registered professional upon the completion of the construction of the Permanent Multipurpose Basins submitted in the Final Storm Water Management Site Plan. The registered professional certification ensures that Permanent Multipurpose Basins are constructed as shown on the As-Built plans and that Permanent Multipurpose Basins meet the approved site plan and specifications or achieve the function they were designed to perform.

Provide home owners association documents to Greenville County defining the responsible party for maintaining Permanent Multipurpose Basins installed in the subdivision.