

626-R-796 POST-CONSTRUCTION STORMWATER MANAGEMENT

(Adopted 06-19-25)

The Standard Specifications are revised as follows:

SECTION 626, BEGIN LINE 1, DELETE AND INSERT AS FOLLOWS:

**SECTION 626 – ~~BLANK~~POST-CONSTRUCTION STORMWATER
MANAGEMENT**

626.01 Description

This work shall consist of furnishing and installing permanent stormwater Post-Construction Best Management Practices, PCBMP, in accordance with the MS4 General Permit and the Construction Stormwater General Permit, CSGP, and in accordance with 105.03.

MATERIALS

626.02 Materials

Materials shall be in accordance with the following:

Castings.....	720
Coarse Aggregate, Class F or Higher	904.03
Concrete, Class A.....	702
Geotextile for Riprap.....	918.02(a)
Geotextile for Underdrains	918.02(b)
Inlets.....	720
Metal End Sections.....	908.06
Riprap.....	616
Structural Backfill.....	904.05

Filter stone shall consist of No. 2 stone in accordance with 904.

PCBMP pipe, riser pipe and outlet pipe shall be profile wall PVC in accordance with 715.02(b) and 907.22. PCBMP pipe and riser pipe shall be perforated.

CONSTRUCTION REQUIREMENTS

626.03 General Requirements

(a) Post-Construction Best Management Practices

PCBMPs shall be as shown on the plans. Any deviations from the planned installation shall be submitted for review and approval to the Engineer and to the Department's Post-Construction Stormwater Management Team at least 14 days prior to installation. Revised design calculations, signed by the professional engineer, shall be provided for all design changes made during the construction of the PCBMP.

A temporary BMP installed and then used as a permanent PCBMP shall be restored or modified to be in accordance with the PCBMP shown on the plans.

(b) Seeding and Sodding

Seeding and sodding shall be constructed as shown on the plans and in accordance with 621. Turf grass seeding shall be in accordance with 621.06(a) in rural areas and 621.06(b) in urban areas. Where specified, seed mixtures for floodplains shall be in accordance with 621.06(e) unless otherwise specified on the plans.

626.04 Dry Turf Grass Swales and Dry Native Grass Swales**(a) Construction**

Earthwork shall be as on the plans. Ditch excavation and grading shall be constructed as shown on the plans and in accordance with 203 and finished in accordance with 208. Soil compaction within the limits of the swale bottom shall be minimized.

(b) Check Dam, Permanent

Permanent check dams shall be composed of revetment riprap and constructed as shown on the plans. The revetment riprap shall be keyed in 18 in. below the flowline elevation. Revetment riprap shall not be placed on geotextiles.

(c) Seeding and Sodding

Seeding and sodding shall be in accordance with 626.03(b).

626.05 Vegetated Turf Grass Filter Strips and Vegetated Native Grass Filter Strips**(a) Construction**

Earthwork shall be as shown on the plans. Excavation and grading shall be constructed as shown on the plans and in accordance with 203 and finished in accordance with 208. Soil compaction within the limits of the vegetated filter strip shall be minimized.

(b) Level Spreaders

Level spreaders shall be constructed as shown on the plans and shall remain level. The lip of the level spreader on the downslope sides shall be at least 3 in. higher than existing grade and constructed of Class A concrete.

626.06 Dry Detention**(a) Construction**

Dry detention consists of dry detention ponds and dry detention swales. Dry detention, pilot channels, and swale block excavating and grading shall be constructed as shown on the plans and in accordance with 203 and finished in accordance with 208. Soil compaction within the limits of the dry detention bottom shall be minimized.

(b) Stone Trench Underdrain

Stone trench underdrain shall be constructed as shown on the plans. If the stone trench underdrain is constructed before the area draining to the stone trench underdrain is permanently stabilized with vegetative cover at 70% density, the stone trench underdrain shall be protected from sediment in accordance with 205.05(i).

The trench sides and bottom shall be lined with geotextile for underdrains in accordance with 918.02(b). No geotextile shall be placed on the upper surface of the stone trench underdrain.

PCBMP pipe and riser pipe shall be assembled with fittings and appurtenances as shown on the plans. All connections shall be cleaned and solvent-welded in accordance with the pipe manufacturer's recommendations. The base of the riser pipe shall be anchored in at least 1 cu ft of concrete. Commercially available bagged concrete mix may be used. The filter stone cone shall consist of filter stone and shall be a minimum of 1 ft thick surrounding the PCBMP riser pipe.

(c) Outlet Pipe

PCBMP outlet pipe shall be of the diameter shown on the plans. PCBMP outlet pipe shall include end section.

(d) Control Structure

Control structures shall consist of a Type F inlet with a Type 7 casting and shall be located upstream of the outlet pipe.

Trash racks shall be chosen from the Department's QPL for Trash Racks. The trash rack shall be a minimum of 6 in. wider and 6 in. longer than the opening on the side of the inlet. The trash rack shall extend a minimum of 6 in. from the face of the inlet. The trash rack shall be connected to the structure in accordance with the manufacturer's recommendation.

626.07 Wet Swales

(a) Construction

Earthwork shall be as shown on the plans. Ditch excavation and grading shall be constructed as shown on the plans and in accordance with 203 and finished in accordance with 208.

(b) Outlet Pipe

PCBMP outlet pipe shall be smooth wall PVC pipe of the diameter shown on the plans and in accordance with 715.02(b).

(c) Control Structure

Control structures shall be constructed in accordance with 720 and as shown on the plans. Control structure material shall conform to the designed material as specified on the plans and in accordance with 907.04. Casting materials shall conform to the plans and 910.05.

If a trash rack is shown on the plans, it shall be in accordance with 626.06(d).

(d) Seeding and Sodding

Seeding and sodding shall include an emergent grass mix.

626.08 Wet Retention Pond

(a) Construction

Wet retention pond excavation and grading shall be constructed as shown on the plans and in accordance with 203 and finished in accordance with 208.

(b) Seeding and Sodding

Planting is not required below the permanent pool elevation.

(c) Outlet Pipe

PCBMP outlet pipe shall be smooth wall PVC pipe of the diameter shown on the plans and in accordance with 715.02(b).

(d) Control Structures

Control structures shall be located at the transition between the low flow PCBMP outlet pipe and the PCBMP outlet pipe and shall be constructed as shown on the plans and in accordance with 720. Control structure material shall conform to the designed material as specified on the plans and in accordance with 907.04. Casting materials shall conform to the plans and 910.05.

If a trash rack is shown on the plans, it shall be in accordance with 626.06(d).

626.09 Infiltration**(a) Construction**

Earthwork shall be as shown on the plans. Excavation and grading shall be constructed as shown on the plans and in accordance with 203 and finished in accordance with 208.

The underlying soils of proposed infiltration facilities shall be protected from compaction during construction. Heavy trucks and machinery shall not be stored within 50 ft of infiltration basins and infiltration swales during construction. Movement of heavy trucks and machinery over infiltration basin and infiltration swale locations shall be minimized except when necessary for construction of the infiltration basin or swale.

If the infiltration basin is constructed before the area draining into it is permanently stabilized with vegetative cover at 70% density, the infiltration basin shall be protected from sediment in accordance with 205.05(i).

The Contractor shall not allow an illicit discharge or a spill to reach the infiltration PCBMP. Refueling, equipment washing, and concrete washouts shall not be placed within the area draining to the infiltration basin or swale. The Contractor shall be responsible for the surface and subsurface clean-up and site restoration from any illicit discharge impacts to the infiltration PCBMP and surrounding area.

(b) Outlet Pipe

PCBMP outlet pipe, if required, shall be in accordance with 626.02 and 626.06(c).

(c) Control Structure

Control structures, if required, shall be in accordance with 626.06(d).

626.10 Stormwater Treatment Unit

Hydrodynamic separators shall be chosen from the Department's QPL of Stormwater Treatment Units. The unit shall be chosen to meet the flow rate and the water quality treatment rate as shown on the plans. The final make and model for each unit shall be submitted to the Engineer and the Department's PCSM team for review and approval at least 14 calendar days prior to the installation of the unit. If the stormwater treatment unit is constructed before the area draining into it is permanently stabilized with vegetative cover at 70% density, the stormwater treatment unit shall be protected from sediment in accordance with 205. After installation, each stormwater treatment unit shall be cleaned of any accumulations of sediment, construction debris, or other foreign matter of any kind and shall be kept clear of such accumulation until final inspection.

A copy of the current manufacturer's installation and maintenance recommendations shall be provided prior to installation of manufactured PCBMPs. Shipping, handling, storage, and installation of manufactured PCBMPs shall be in accordance with the manufacturer's recommendations or as directed. In the event of conflict between the Department's specifications and the manufacturer's recommendations, the Contractor shall adhere to the more restrictive regulation.

(a) Materials and Storage

Metal stormwater treatment units shall be polymer coated. Plastic hydrodynamic separators will not be allowed.

The Contractor shall exercise care in the storage and handling of the stormwater treatment unit components prior to and during installation. Any materials found to be defective will be rejected in accordance with 106.07. If the Contractor damages the unit during installation or if the unit or components leak or break after installation, the unit shall be replaced with no additional payment.

(b) Construction Requirements

The stormwater treatment unit shall be installed in the locations shown on the plans. The construction and installation of precast concrete structures shall be in accordance with 720.03. The stormwater treatment unit shall be anchored in concrete or buoyancy calculations shall be provided to the Engineer and Department's PCSM Team at least 14 days prior to installation.

(c) Working Drawings

The Contractor shall submit working drawings to the Engineer and Department's PCSM Team at least 14 days prior to installation. No work shall begin prior to approval. Working drawings shall list site specific elevations, pipe sizes, and orientation of the structure. All requested deviations from the plans shall be certified by an engineer licensed in the State of Indiana. Each submittal shall include the job name, designation number, and contract number.

(d) Locations of Existing Appurtenances and Associated Piping

Existing and proposed locations of appurtenances and associated piping will be shown on the plans. The Contractor shall ensure the proper fit of all materials and structures to existing appurtenances and associated piping.

(e) Installation

The stormwater treatment unit shall be installed in accordance with the manufacturer's recommendations and contract documents.

The Contractor shall fill all voids associated with lifting provisions provided by the manufacturer. These voids shall be filled with non-shrinking grout providing a finished surface consistent with adjacent surfaces. The Contractor shall trim all protruding lifting provisions flush with the adjacent concrete surface in a manner which leaves no sharp points or edges.

(f) Excavation

Excavation for installation of the stormwater treatment unit shall be in accordance with 720.03.

(g) Backfill

Backfill shall be in accordance with 211 and 720.03.

626.11 As-Built Submittal

The Contractor shall submit as-built information for the PCBMPs, including location coordinates, type of PCBMP, date of installation, and for manufactured products the make and model installed, upon completion of the work.

626.12 Method of Measurement

PCBMP pipe, PCBMP outlet pipe, and PCBMP riser pipe will be measured in accordance with 715.13.

Mulching material, seed mixtures, mulched seeding and sodding, sodding, water, and mobilization and demobilization for seeding will be measured in accordance with 621.13.

Excavation and grading will be measured in accordance with 203.27. No. 2 stone that is used as filter stone will be measured by the cubic yard based on the theoretical volume to the neat lines as shown on the plans. Geotextile for underdrains will be measured in accordance with 718.09. Revetment riprap will be measured in accordance with 616.12.

Inlets and castings for control structures will be measured in accordance with 720.06. Concrete anchors for the PCBMP riser pipe will not be measured. Excavation and grading will be measured for payment in accordance with 203.28. Control structures will be measured in accordance with 720.06.

Cleanouts and grated tops of risers will not be measured. Metal end sections will be measured in accordance with 715.13. Trash racks will be measured by the number or racks installed. Stormwater treatment units will be measured per each, complete in place.

626.13 Basis of Payment

PCBMP pipe, PCBMP outlet pipe, and PCBMP riser pipe will be paid for at the contract unit price per linear foot as Pipe, PCBMP; Pipe, PCBMP Riser; and Pipe, PCBMP Outlet respectively as shown below.

The Contractor will not be paid twice for installation of the same BMP/PCBMP.

Mulching material, seed mixtures, mulched seeding and sodding, sodding, water, and mobilization and demobilization for seeding will be paid for in accordance with 621.14.

Excavation and grading will be paid in accordance with 203.28. Geotextile for underdrains will be paid for in accordance with 718.10. Revetment riprap will be paid for in accordance with 616.13. No. 2 filter stone will be paid for at the contract unit price per cubic yard.

Inlets and castings for control structures will be paid for in accordance with 720.07.

Trash racks will be paid for at the contract unit price per each. Stormwater treatment units will be paid for at the contract unit price per each for the size specified, complete in place.

Payment will be made under:

<i>Pay Item</i>	<i>Pay Unit Symbol</i>
<i>No. 2 Filter Stone</i>	<i>CYS</i>
<i>Pipe, PCBMP</i>	<i>LFT</i>
<i>Pipe, PCBMP Outlet</i>	<i>LFT</i>
<i>Pipe, PCBMP Riser</i>	<i>LFT</i>
<i>Stormwater Treatment Unit, _____</i>	<i>EACH</i>
<i>size</i>	
<i>Trash Rack</i>	<i>EACH</i>

The cost of the grated top of the riser pipe shall be included in the riser pipe.

The cost of the concrete anchors and the perforated grated top for the PCBMP riser pipe shall be included in the riser pipe.

The cost of cleanouts shall be included in the cost of pipe, PCBMP.

The cost of the stormwater treatment unit structure, excavation, dewatering, structure backfill, connection to existing or proposed sewer, flexible boom connectors, manhole steps, frames and castings and all other items necessary for a complete installation shall be included in the cost of the stormwater treatment unit.

The cost for collecting, assembling, and submitting the as built data shall be included in the cost of construction engineering.

All pipe fittings, reducers, increasers, closed caps, grated caps, cleanout ports, solvent cleaner and cement, and other incidentals needed to construct the stone trench underdrain system shall be included in the cost of the pipe, PCBMP.

All pipe, pipe fittings, baffles, concrete, diversion structures, access frame and cover or inlet casting grate, excavation, dewatering, backfill, labor, equipment, delivery cost, manufacturer's representative, and other required appurtenances and necessary incidentals to construct an off-line or inline stormwater treatment unit shall be included in the cost of stormwater treatment unit.
