

1.0 Bioretention

1.17 BIORETENTION GENERAL SPECIFICATIONS

CONSTRUCTION NOTES

1. The contractor shall verify all information prior to excavation including elevations and locations of existing utilities.
2. The contractor shall notify the engineer immediately if any field conditions differ materially from those represented on these drawings and the specifications or if, in the contractor's opinion, said conditions conflict with the designs shown hereon.
3. The engineer shall inspect all planting bed areas before mulching to insure that adequate drainage exists. If any areas to be mulched show evidence of poor drainage, the contractor shall take corrective action.
4. The contractor shall avoid disturbing all existing trees. Any disturbance to trees or tree roots must be coordinated with the property owner.
5. Dimensions and shape will vary, refer to site plan.
6. River stone protection dimensions are typical and may vary per site. Consult the engineer and site plan for dimensions on a per site basis.
7. River stone protection shall slope to rain garden base.
8. Refer to site plan to determine outlet type (rock-lined overflow or draintech riser).
9. Refer to site plan for all elevations and inverts.
10. The contractor shall excavate 12 inches lower than the base elevation shown on the site plans. The slopes of the rain garden shall be at a 2:1 maximum.
11. The subgrade of the rain garden shall be level to ensure proper drainage. The contractor shall obtain engineer approval prior to backfilling with 12 inches of bioretention media.
12. The contractor shall install overflow if specified in site plans prior to backfilling with bioretention media.
13. The bioretention layer shall be level to ensure proper drainage. The contractor shall obtain engineer approval prior to spreading mulch and planting.
14. Inlet and outlet protection shall be underlain with geotextile fabric.
15. Inlets and outlets shall not inhibit the flow of water from the street. The river stone shall be placed below the bottom of the pipe.
16. The contractor shall till the berm section and backfill with topsoil.
17. All disturbed areas exclusive of rain garden and sloped berm shall be restored to original conditions by contractor.
18. The contractor shall have a pre-construction meeting with the project engineer prior to any work on site.

SPECIFICATIONS

1. Max cover over top of pipe is 4 feet. Contact ADS (pipe manufacturer) if otherwise greater.
2. The approval of materials and mixing of sand, compost, and soil shall be done under the supervision of the project engineer/landscape architect. Bioretention media shall consist of 70% sand and 30% compost mixture.
3. Sand shall at the minimum conform to the sieve analysis for concrete aggregate sand (ASTM c-33). USGA tee/green sieve gradation mix is preferable where available.
4. Underlying soils shall be tilled/scarified prior to spreading/mixing of bioretention media.

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5. All bioretention media shall be placed from the sides of the facilities, and in no event shall any tracked or wheeled equipment be permitted to cross the rain garden.
6. Rain garden shall be constructed to dimensions indicated on the site plan.
7. 3-5-inch diameter washed river stone shall be used for stone channel and inlet/outlet protection.
8. Non-dyed, triple-shredded hardwood mulch shall be used.
9. Planting of rain garden and sloped berm shall be completed as indicated on the site plan.
10. The contractor shall perform all work in conformance with the NJDOT Standard Specifications for Road and Bridge Construction, 2007 or latest version.

1.18 TRENCH DRAIN GENERAL SPECIFICATIONS

1. CONSTRUCTION NOTES

2. The contractor shall verify all information prior to excavation including elevations and locations of existing utilities.
3. The contractor shall notify the engineer immediately if any field conditions differ materially from those represented on these drawings and the specifications or if, in the contractor's opinion, said conditions conflict with the designs shown hereon.
4. The contractor shall avoid disturbing all existing trees. Any disturbance to trees or tree roots must be coordinated with the property owner.
5. Inlet and outlet protection shall be underlain with geotextile fabric.
6. Inlet and outlet curb cuts shall not inhibit the flow of water from the street. The curb cut shall be slightly lower than the road. The concrete slab shall be placed just below the bottom of the curb cut.
7. The contractor shall sawcut, remove, and replace a 6-foot section of curb for the concrete funnel. The entire curb shall be reinstalled with a 3-foot depressed section flush with the pavement and adjoining 18-inch 3:1 sloped sections.
8. The contractor shall pour the concrete flow pad as shown with 60° ridges. The ridges shall be 1 1/4 inches in height.
9. All areas exclusive from the trench drain and/or curb cut shall be restored to original conditions.
10. The contractor shall have a pre-construction meeting with the engineer prior to any work on-site.

SPECIFICATIONS

1. Trench drain shall be Econodrain® Series #12 as manufactured by Econodrain®, or approved equivalent.
2. The grate for the trench drain shall be cast iron ADA grate part number EG-1424-2 CI-ADA with locking fasteners, or equal.
3. End cap cutouts are to be removed upon approval.
4. Stone for protection shall be 3-5-inch diameter washed river stone.
5. The contract shall be performed in conformance with the NJDOT Standard Specifications for Road and Bridge Construction, 2007 or latest version.
6. The contractor shall only use concrete with 4,500 psi strength