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TOWN OF WATERFORD

Inland Wetlands & Watercourses Permit #C-24-05
430 Mohegan Avenue Parkway & 23B Old Norwich Road
24 Unit Residential Development

The Waterford Conservation Commission, in their capacity as the Town's Inland Wetland Agency, hereby authorizes the applicant to conduct regulated activities in designated areas located at 430 Mohegan Avenue Parkway & 23B Old Norwich Road, Waterford, CT, which are subject to jurisdiction in accordance with CT General Statutes, Section 22a-36 through 22a-45, inclusive, as amended, and the Waterford Inland Wetlands and Watercourses regulations.

This permit is a grant of approval to conduct the following regulated activities:

- Clearing, excavation and grading associated with construction of a 24 unit residential development served by a private driveway, municipal water and sewer, and a stormwater treatment / detention system upgradient of inland wetlands and watercourses;
- Fill and grading within 7,000+/- square ft. of upland review area for the construction of a portion of two stormwater treatment basin embankments and a graded outlet channel.
- Discharge of treated stormwater run-off to inland wetlands and watercourses.

These regulated activities are associated with the proposed construction of a 24 unit residential development located at 430 Mohegan Avenue Parkway & 23B Old Norwich Road, Waterford, Connecticut. The proposed activities are depicted on site plans entitled; "Roberts Village Drive, CGS 8-30g Affordable Housing, Site Development Plans For Conservation Commission Review" prepared for 1721, LLC, 430 Mohegan Avenue Parkway & 23B Old Norwich Road, Tax Map 76 Lots 10164 & 5600, Waterford, Connecticut" sheets 1 – 13, revised through 7/23/2024, prepared by Indigo Land Design, LLC.

The Conservation Commission authorizes the regulated activity with the following conditions of approval to minimize impacts associated with the proposed regulated activity and protect the inland wetlands and watercourses on this site:

SPECIAL CONDITIONS:

1. Revise plan sheets 8 of 14 and 14 of 14, revision date 7/31/2024, shall be incorporated into the final plan set for approval.
2. The authorized limit of permanent clearing and disturbance to the north and west of the on-site wetland shall be identified as the wetland non-encroachment boundary. No activity, including but not limited to clearing, grading, filling or removal of vegetation shall be

conducted within the non-encroachment area without specific authorization from the Conservation Commission. The purpose of this vegetated non-encroachment area is to protect inland wetland resources from direct and indirect impacts associated with adjacent land development.

3. The wetland non-encroachment boundary shall be marked in the field prior to the start of site clearing and approved by the Commission's agent. Following construction, the non-encroachment boundary shall be permanently marked at 50 ft. intervals with identification markers provided by the Conservation Commission affixed to trees or 4x4 wooden posts.
4. At all times during site construction, temporary diversion swales and temporary sediment traps shall be maintained to collect and settle site construction run-off and to prevent sediment discharge to the receiving wetlands and watercourse resources.
5. Two groundwater monitoring standpipes shall be installed in the detention basins at the onset of construction to a minimum depth of two ft. below the completed depth of the basin. Depth of surface ponding and seasonal high groundwater shall be monitored on a monthly basis for the duration of site construction. A final wet basin planting plan shall be prepared by a wetland scientist based on the collected basin hydrology data and submitted to the Commission's agent for approval prior to planting the stormwater basins.
6. The stormwater treatment basins shall be inspected by a CT licensed engineer during construction to verify consistency with the approved plans and specifications. An as-built survey of the stormwater system components shall be submitted to the Commission's agent with written verification from a CT licensed engineer that the system was constructed in accordance with the approved design plans. This submittal shall be completed prior to release of any bond amount.
7. Post construction monitoring of the stormwater basin vegetation and soil stabilization shall be conducted by a wetland scientist or other qualified professional for a period of two (2) years following completion of the stormwater basins to document vegetation establishment/success and functioning of the stormwater basins. Monitoring shall be conducted 2 times per year during the early and latter part of the growing season and include, vegetation establishment, depth of ponding and draw-down interval, slope and substrate stabilization, basin plantings survival, and inspection of soil stabilization downgradient of the basin outlets. Invasive plant species shall be removed from the basins. Total herbaceous coverage of the basin areas shall equal or exceed 80% at the end of the second monitoring year. Areas of erosion shall be repaired and re-planted under supervision of the Commission's agent.
8. A stormwater basin monitoring report is required to be submitted to the Conservation Commission's agent by October 30th of each monitoring year. The Commission may require corrective actions to maintain or repair the stormwater basins.
9. A cash bond or letter of credit shall be required for the cost of construction of the stormwater treatment basins, monitoring and post-construction monitoring and reporting in accordance with the approved plans and conditions of permit approval. A bond estimate shall be

prepared by the project engineer and submitted to the Waterford Planning Department for review and acceptance. The bond is required prior to the start of construction and shall be released upon request, in whole or in part, only by approval of the Waterford Conservation Commission or its designated agent following receipt of as-built verification of construction and monitoring reports of basin stabilization and function.

10. An operation and maintenance plan for the stormwater system components shall be prepared by the design engineer and submitted to the Commission's agent for approval prior to the issuance of a certificate of occupancy. The plan shall outline frequency and type of inspection and maintenance for each component of the system including the catch basins, vegetated swales, basin forebays, wetland detention basins, and outlet control structures. An inspection and maintenance checklist shall be implemented and maintained by the homeowners association to insure proper maintenance and operation of the stormwater control facilities.

STANDARD CONDITIONS:

1. The Conservation Commission's agent shall be notified at least 48 hours prior to commencement of any regulated activity.
2. Final stabilization of disturbed soil areas, including all temporary and permanent soil disturbances, shall be stabilized with the application of loam, seed and appropriate erosion control measures.
3. At all times during site work and until soil areas are stabilized, the applicant shall install and maintain erosion and sediment control measures such as fabric filter fence, staked hay bales or other measures deemed necessary by the Commission's agent to prevent erosion and sedimentation impacts to wetlands and watercourses.
4. Erosion control and soil stabilization measures shall comply with the approved plans and the guidelines as established in the Connecticut Guidelines for Soil Erosion and Sediment Control, 2002, CTDEEP Bulletin 34.
5. Upon direction of the Commission's agent, erosion and sediment control measures shall be removed by the applicant following stabilization of the site.

All work and all regulated activities conducted pursuant to this authorization shall be consistent with the terms and conditions of this permit. Any structures, excavation, deposition of fill, obstructions of flow, encroachments or other regulated activities not specifically identified and authorized herein shall constitute a violation of this permit and may result in permit modification, suspension or revocation.

In the event that any additional wetland or watercourse regulated activities are required as a result of other agency permitting to support the proposed activity, the Waterford Conservation Commission reserves the right to reconsider the proposed regulated activity and may require modifications to minimize the impact to wetland resources.

In evaluating this application, the Commission has relied on information provided by the applicant. If such information subsequently proves to be false, incomplete and/or inaccurate, this permit may be modified, suspended or revoked.

This permit shall be valid for a period of 5 years. Permit extensions may be authorized in accordance with CT General Statutes § 22a-36 through 22a-45 inclusive. If the regulated activity is not completed within this time frame, the permit may be held to be invalid by the Conservation Commission or the applicant may be required to petition the Commission for an extension or re-issuance of the permit. The Commission may require the applicant to furnish additional information at that time.

The Conservation Commission renders this Summary Ruling in accordance with the Waterford Inland Wetlands and Watercourses Regulations based on the following considerations:

- A. The activity does not involve direct impacts to inland wetlands or watercourses. The activity will not diminish the capacity of the on-site wetlands and watercourses to support fish and wildlife, supply and protect ground and surface waters, control erosion, assimilate pollutants or to facilitate drainage.
- B. Short-term construction impacts are minimized with a phased construction sequence and erosion and sediment control plan to reduce the potential for adverse sediment impacts.
- C. Potential long-term impacts to on-site and off-site wetland resources are minimized by maintenance of wetland hydrology, control of discharge velocities, implementation of stormwater treatment systems, and maintenance of a vegetated wetland buffer designated as a wetland non-encroachment area.
- D. Strict adherence to the terms and conditions imposed with this permit will protect the quality of wetlands and surface waters on this property.

This permit will be strictly enforced. If the Conservation Commission finds that the applicant has not complied with the permit conditions or has exceeded the scope of this permit as set forth herein, or, if the intended use of the general site is not as represented by the application or the plan of record, the Commission may suspend or revoke this permit, direct the Environmental Officer to issue a cease and desist order, require the applicant to modify, extend or revise the site work, or require the applicant to restore the area to its original condition.

Date Issued: August 8, 2024

Issued By: _____

DRAFT
Chairman, Richard F. Muckle
Waterford Conservation Commission

Effective Date: _____

STORMWATER MANAGEMENT BASIN MIXTURE SCHEDULE

STORMWATER MANAGEMENT BASIN FLOOR MIX - SEED MIXTURE SPECIFICATION
 25% REDTOP PANICGRASS, PA ECOTYPE (PANICUM RIGIDULUM (P. STIPITATUM), PA ECOTYPE)
 10% VIRGINIA MILDREY, PA ECOTYPE (ELYNUS VIRGINICUS, PA ECOTYPE)
 15% ALKALIGRASS, TULIS (PUCCONELLA DISTANS, TULIS)
 15% FOM. BLUEGRASS (POA PALUSTRIS)
 10% CREEPING BENTGRASS (AGROSTIS STOLONIFERA)
 10% TICKLEGRASS (ROUGH BENTGRASS), PA ECOTYPE (AGROSTIS SCABRA, PA ECOTYPE)
 5% SOFT RUSH (JUNCUS EFFUSUS)
 2% AUTUMN BENTGRASS, PA ECOTYPE (AGROSTIS PERENNANS, PA ECOTYPE)
 1% PATH RUSH, PA ECOTYPE (JUNCUS TENUIS, PA ECOTYPE)

STORMWATER MANAGEMENT BASIN CONSTRUCTION NOTES

- AFTER ROUGH GRADING AND SHAPING, THE AREA OF THE BASINS SHALL BE MARKED OFF BY APPROPRIATE FENCING TO PREVENT THE MOVEMENT OF CONSTRUCTION VEHICLES OVER AND THE POSSIBLE OVER COMPACTION OF THE UNDERLYING NATURAL SOILS.
- BASINS SHALL NEVER BE USED FOR SEDIMENT CONTROL DURING AN ACTIVE CONSTRUCTION PERIOD.
- DURING CONSTRUCTION, SEDIMENT SHALL BE PREVENTED FROM ENTERING THE AREAS OF THE BASINS. THE CONTRACTOR SHALL ENSURE THAT THE AREAS DRAINING TO THE BASINS ARE STABILIZED IN A TIMELY MANNER AND MAINTAINED OVER THE ENTIRE AREA DRAINING TO THE BASINS.
- THE DESIGN ENGINEER SHALL MONITOR THE CONSTRUCTION OF THE WATER QUALITY BASINS. WILL PERFORM ALL FOLLOW UP INSPECTIONS, ASSESSMENTS AND REPORTS AND REMEDIATION WORK (IF NECESSARY) AND SHALL PROVIDE CERTIFICATION THAT THE SYSTEM WAS INSTALLED IN SUBSTANTIAL CONFORMANCE WITH THE APPROVED PLANS.
- ALL DISTURBED AREAS SHALL BE FINE GRADED, RAKED, SEEDED AND MULCHED IN A TIMELY MANNER. BOTTOM OF THE BASINS SHALL BE SEEDED AND MULCHED IN ACCORDANCE WITH "ERUNT SEED MIXTURE SCHEDULE" ON THIS SHEET. SEEDING SHALL BE QUICKLY ESTABLISHED. MINIMUM VEGETATIVE COVERAGE OF 90% SHALL BE TARGETED AND MAINTAINED.
- THE FOREBAYS SHALL CONTAIN 30% OF THE WOY FOR STORMWATER MANAGEMENT BASIN #1B AND 24% OF THE WOY FOR STORMWATER MANAGEMENT BASIN #1C. THE FOREBAYS SHALL BE FORMED BY A MODIFIED RIPRAP BERM. THE RIPRAP BERM SHALL HAVE A HEIGHT OF 1.0' FOR STORMWATER MANAGEMENT BASIN #1B AND A HEIGHT OF 1.5' FOR STORMWATER MANAGEMENT BASIN #1C. EACH FOREBAY SHALL ALSO HAVE A FIXED VERTICAL SEDIMENT DEPTH MARKER INSTALLED TO MEASURE SEDIMENT DEPOSITION.
- AN 12" BIOFILTRATION SOIL MIX SHALL BE INSTALLED ALONG THE ENTIRE BOTTOM OF STORMWATER MANAGEMENT BASIN #1B AND #1C. THE BIOFILTRATION MIX SHALL CONSIST OF 50-60% SAND, 20-30% TOPSOIL, AND 20-30% WEED-FREE LEAF COMPOST OR EQUIVALENT.
- A BASIN FLOOR PLANTING SCHEDULE IS PROVIDED BELOW FOR STORMWATER MANAGEMENT BASINS #1B AND #1C. PRIOR TO INSTALLATION, THE BASIN SHALL BE MONITORED DURING CONSTRUCTION TO DETERMINE THE EXTENT AND DEPTH OF FLOODING WITHIN THE BASIN AND THE PLANTING SCHEDULE SHALL BE ADJUSTED ACCORDINGLY PER THE PROJECT SOIL SCIENTIST. THE FINAL PLANTING SCHEDULE SHALL BE REVIEWED AND APPROVED BY THE TOWN ENVIRONMENTAL PLANNER PRIOR TO INSTALLING.

CLA Engineers, Inc.

Civil • Structural • Survey

317 MAIN STREET • NORWICH, CT 06360 • (860) 886-1966 • (860) 886-9165 FAX

July 1, 2024

Planting Schedule - Roberts Ct (Indigo)

Common name	Scientific name	Quantity (1B/1C)	Spacing	WL Status
Tussock sedge	<i>Carex stricta</i>	300 (78/222)	2ft on center	OBL
Soft rush	<i>Juncus effusus</i>	300 (78/222)	2ft on center	OBL
Pickersweed	<i>Pontederia cordata</i>	300 (78/222)	2ft on center	OBL
Three-way sedge	<i>Dulichium arundinaceum</i>	300 (78/222)	2ft on center	OBL
Blue flag iris	<i>Iris versicolor</i>	300 (78/222)	2ft on center	OBL
Bur-reed	<i>Spartanium americanum</i>	300 (78/222)	2ft on center	OBL

All plantings to be randomly distributed at basin bottom (127' elevation for basin 1B, 124' for basin 1C)

Mathematical calculations:

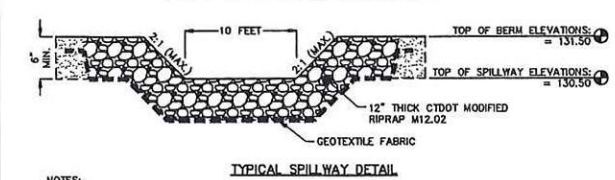
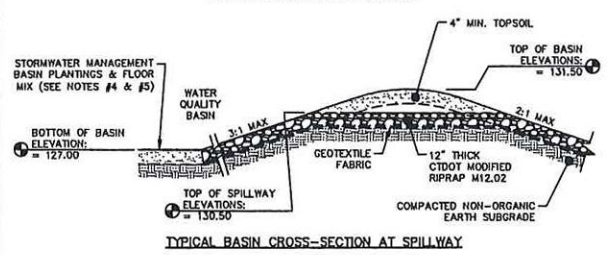
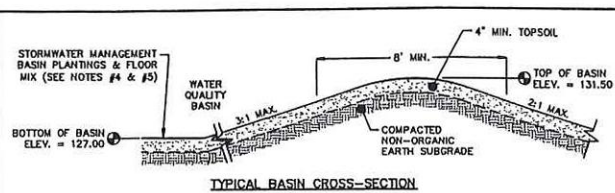
Basin 1C approx. 4837 sqft: 1209 plants with 2ft spacing
 Basin 1B approx. 1711 sqft: 428 plants with 2ft spacing
 Number of total plants required based on 2ft spacing approx. 1637
 Total number of each species assuming equal amounts of all plants approx. 272 (6 flats each)

Seed mix: New England Erosion Control/Restoration Mix For Detention Basins and Moist Sites
 Use 5 pounds at 1250 sqft/b around edges of basin 1B and 1C- do not add to basin bottom
 Contact: 413-548-8000

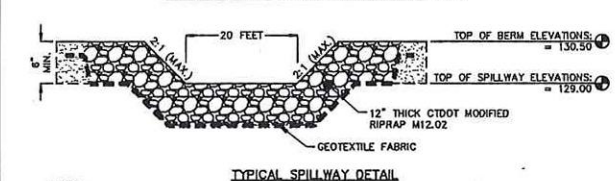
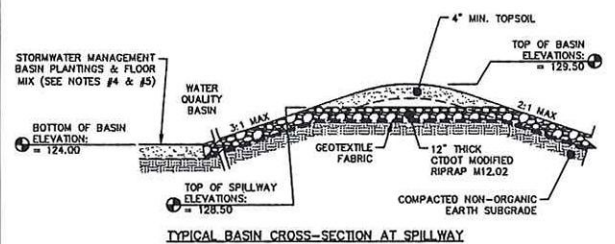
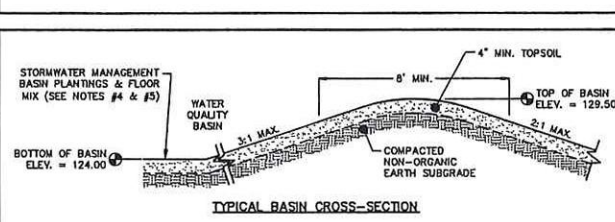
- Description from manufacturer (New England Wetland Plants): The New England Erosion Control/Restoration Mix for Detention Basins and Moist Sites contains a selection of native grasses and wildflowers designed to colonize generally moist, recently disturbed sites where quick growth of vegetation is desired to stabilize the soil surface. It is an appropriate seed mix for ecologically sensitive restorations that require stabilization as well as long-term establishment of native vegetation.
- This mix is particularly appropriate for detention basins that do not hold standing water. Many of the plants in this mix can tolerate infrequent inundation, but not constant flooding. The mix may be applied by hand, by the mechanical spreader, or by hydro-seeder. After sowing, lightly rake, roll or cultipack to insure good seed to soil contact. Best results are obtained with a Spring or late Summer seeding. Late Fall and Winter dormant seeding requires an increase in the application rate. A light mulching of clean, weed-free straw is recommended.

M. Ahern, Soil Scientist I
 CLA Engineers, Norwich, CT

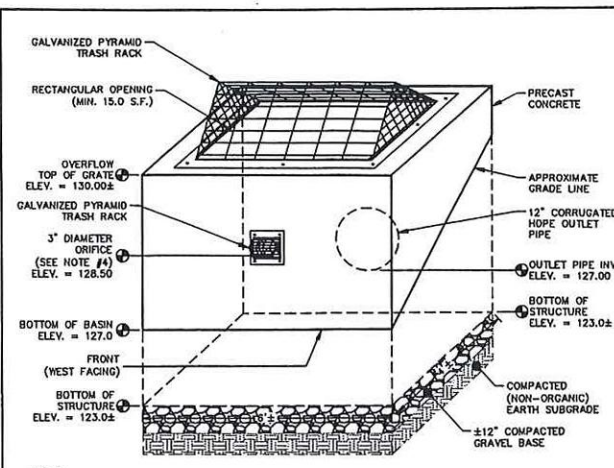
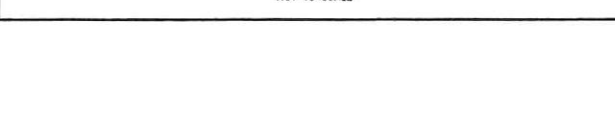
PLANTING SCHEDULE FOR STORMWATER MANAGEMENT BASINS #1B & #1C



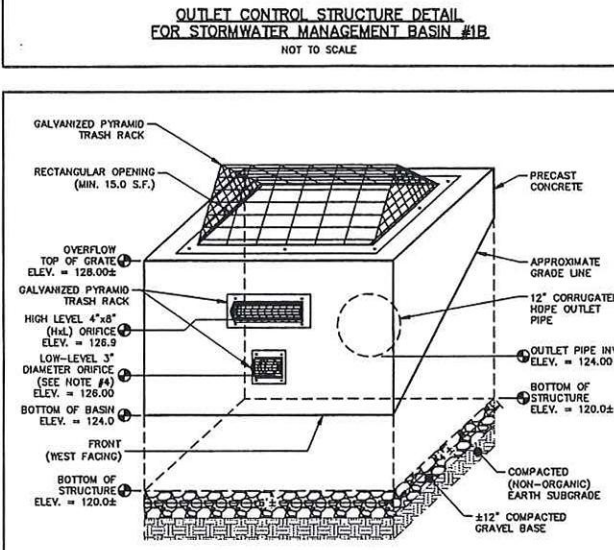
- NOTES:
- REFER TO "STORMWATER MANAGEMENT BASIN CONSTRUCTION NOTES" ON THIS SHEET FOR ADDITIONAL INFORMATION.
 - BOTTOM OF STORMWATER MANAGEMENT BASIN TO BE SEEDED WITH "STORMWATER MANAGEMENT BASIN FLOOR MIX" BY ERUNT CONSERVATION SEEDS.
 - SIDE SLOPES AND TOP OF STORMWATER MANAGEMENT BASIN TO BE SEEDED WITH "PERMANENT SEED MIXTURE" (SEE NOTES ON THIS SHEET) AND MULCHED.
 - INSTALL PLANTINGS ALONG BOTTOM OF BASIN PER "PLANTING SCHEDULE FOR STORMWATER MANAGEMENT BASINS #1B & #1C" ON THIS SHEET. SEE STORMWATER MANAGEMENT BASIN CONSTRUCTION NOTE #6.
 - THE BOTTOM OF THE BASIN SHALL BE OVER EXCAVATED 12 INCHES AND A 12-INCH BIOFILTRATION SOIL MIX SHALL BE INSTALLED ALONG THE ENTIRE BOTTOM OF THE STORMWATER MANAGEMENT BASIN. THE BIOFILTRATION MIX SHALL CONSIST OF 50-60% SAND, 20-30% TOPSOIL, AND 20-30% WEED-FREE LEAF COMPOST OR EQUIVALENT. THE BIOFILTRATION MIX AND UNDERLYING SOILS SHALL NOT BE COMPACTED.



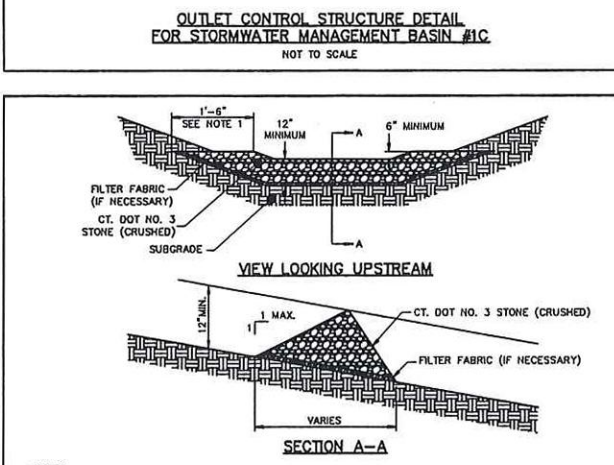
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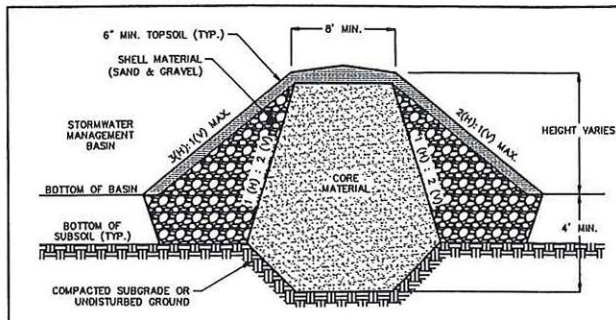
- NOTES:
- ANY JOINTS IN RISERS SHALL BE MORTARED AND WATERTIGHT TO THE SATISFACTION OF THE ENGINEER.
 - SHOP DRAWINGS SHALL BE SUBMITTED TO DESIGN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
 - WIDTH AND DEPTH DIMENSIONS MAY VARY SLIGHTLY.
 - THE 3" DIAMETER ORIFICE SHALL HAVE A 3" DIAMETER SCH. 40 SOLID PVC PIPE INSERTED INTO THE OPENING (NOT SHOWN FOR CLARITY). THE PIPE SHALL PROJECT 2 TO 3 INCHES INTO THE BASIN AND SHALL HAVE A GALVANIZED PYRAMID TRASH RACK OVER THE PIPE.



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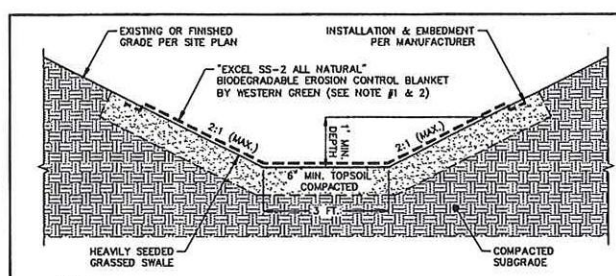
- NOTES:
- KEY STONE INTO THE BANKS AS SHOWN TO PREVENT FLOW FROM FLANKING THE CHECK DAM.
 - ALL STONE CHECK DAMS SHALL BE MAINTAINED DURING CONSTRUCTION. ANY ACCUMULATED SILT OR DEBRIS SHALL BE REMOVED ONCE THE SITE IS STABILIZED.
 - STONE CHECK DAMS SHALL BE PLACED AS SHOWN ON THE SITE PLANS AND AT NO LESS THAN 75 FT. INTERVALS ALONG GRASSED SWALES #1A, #1B AND #1C.
 - ALL STONE CHECK DAMS SHALL BE LEFT IN PLACE PERMANENTLY.



GRADATION TABLES			
SHELL MATERIAL		CORE MATERIAL	
SIEVE SIZE	% PASS	SIEVE SIZE	% PASS
5"	10	No. 10	100
3/4"	50-100	No. 40	75-100
No. 4	25-75	No. 200	40-100
FRACTION PASSING NO. 4 SHALL HAVE LESS THAN 15% PASSING NO. 200 SIEVE			

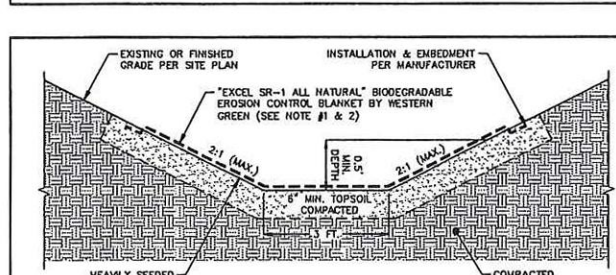
- NOTES:
- ALL MATERIALS SHALL BE COMPACTED TO AT LEAST 95% MODIFIED OPTIMUM DENSITY.
 - ENTIRE BERM AND SURROUNDING DISTURBED AREAS SHALL BE COMPLETELY STABILIZED AND SEEDED WITH EROSION CONTROL/RESTORATION MIX.
 - IT IS RECOMMENDED THAT THE BERM BE CONSTRUCTED IN THE SUMMER MONTHS IF POSSIBLE SINCE THE CORE MATERIALS WILL BE DIFFICULT TO PLACE AND COMPACT IF THEY BECOME WET.
 - CONSTRUCTION OF THE DETENTION BASIN BERM SHALL BE SUPERVISED AND INSPECTED BY THE DESIGN ENGINEER. CORE COMPACTION TESTS AND SIEVE ANALYSIS TESTS SHALL BE PERFORMED TO DEMONSTRATE CONFORMANCE TO BERM SPECIFICATIONS. ALL TEST RESULTS SHALL BE PROVIDED TO THE DESIGN ENGINEER.
 - ANTI-SEEP COLLAR SHALL BE INSTALLED AROUND OUTLET PIPE AS NECESSARY.

WATER QUALITY BASIN BERM DETAIL



- NOTES:
- THE SWALE SHALL HAVE AN "EXCEL SS-2 ALL NATURAL" BIODEGRADABLE EROSION CONTROL BLANKET BY WESTERN GREEN (OR EQUIVALENT). THE LINER SHALL BE INSTALLED 1 FT. (MIN.) ABOVE THE BOTTOM OF THE SWALE.
 - THE EROSION CONTROL BLANKET SHALL MEET OR EXCEED "TYPE 2.0" FOR FEDERAL HIGHWAY ADMINISTRATION ROLLED EROSION CONTROL PRODUCTS, INCLUDING SHEAR STRENGTH AND LONGEVITY.
 - THE SWALE AND ALL DISTURBED AREAS SHALL BE HEAVILY SEEDED IN CONFORMANCE WITH THE PERMANENT SEED MIXTURE (SEE SHEET 3 OF 13) AFTER GRADING IS COMPLETED AND PRIOR TO THE INSTALLATION OF THE EROSION CONTROL BLANKET.
 - THE MAT SHALL BE INSTALLED IN STRICT CONFORMANCE WITH WITH ALL REQUIREMENTS AND SPECIFICATIONS PROVIDED BY THE MANUFACTURER.
 - THE MAT SHALL BE SECURELY ANCHORED INTO THE SOIL AT ALL TRAILING EDGES. THE MAT SHALL BE FASTENED TO THE SOIL WITH WOOD STAKES AND METAL STAPLES, OR AS OTHERWISE RECOMMENDED BY THE MANUFACTURER.
 - THE SWALE SHALL HAVE PERMANENT CHECK DAMS INSTALLED (NO SHOWN) - SEE DETAIL.

GRASSED SWALE #1A WITH EROSION CONTROL BLANKET DETAIL



- NOTES:
- THE SWALE SHALL HAVE AN "EXCEL SR-1 ALL NATURAL" BIODEGRADABLE EROSION CONTROL BLANKET BY WESTERN GREEN (SEE NOTE #1 & 2).
 - THE EROSION CONTROL BLANKET SHALL MEET OR EXCEED "TYPE 2.0" FOR FEDERAL HIGHWAY ADMINISTRATION ROLLED EROSION CONTROL PRODUCTS, INCLUDING SHEAR STRENGTH AND LONGEVITY.
 - THE SWALE AND ALL DISTURBED AREAS SHALL BE HEAVILY SEEDED IN CONFORMANCE WITH THE PERMANENT SEED MIXTURE (SEE SHEET 3 OF 13) AFTER GRADING IS COMPLETED AND PRIOR TO THE INSTALLATION OF THE EROSION CONTROL BLANKET.
 - THE MAT SHALL BE INSTALLED IN STRICT CONFORMANCE WITH WITH ALL REQUIREMENTS AND SPECIFICATIONS PROVIDED BY THE MANUFACTURER.
 - THE MAT SHALL BE SECURELY ANCHORED INTO THE SOIL AT ALL TRAILING EDGES. THE MAT SHALL BE FASTENED TO THE SOIL WITH WOOD STAKES AND METAL STAPLES, OR AS OTHERWISE RECOMMENDED BY THE MANUFACTURER.
 - THE SWALE SHALL HAVE PERMANENT CHECK DAMS INSTALLED (NO SHOWN) - SEE DETAIL.

GRASSED SWALE #1B & #1C WITH EROSION CONTROL BLANKET DETAIL

PLAN PREPARED BY:
 INDIGO LAND DESIGN, LLC
 JOSEPH WREN, P.E.
 CT REG. NO. 21090
 40 ELM STREET, 2ND FLOOR
 OLD SAYBROOK, CT 06458
 TEL: 860-389-8888
 WEB: INDIGO-LAND.COM

NOT FOR CONSTRUCTION UNTIL THIS NOTE IS REMOVED

NO.	DATE	DESCRIPTION
1	7/21/2024	QAM REVISIONS PER TOWN COMMENTS, MISC.
2	7/23/2024	REVISIONS PER TOWN COMMENTS, MISC.
3	7/23/2024	REVISIONS PER TOWN COMMENTS, MISC.
4	7/27/2024	REVISIONS PER TOWN COMMENTS, MISC.

CONSTRUCTION DETAILS (STORMWATER AND E&S CONTROL)
 PREPARED FOR 1721, LLC
 430 MOHEGAN AVENUE PARKWAY & 238 OLD NORWICH ROAD
 TAX MAP 76 LOTS 10164 & 5600
 WATERFORD, CONNECTICUT

DATE: MAY 21, 2024
 SCALE: AS NOTED
 DRAWN BY: CO, MA, RG, RM
 CHECKED BY: JW
 DWG. NO.: CD-1
 SHEET NO.: 8 of 14
 JOB NO.: 2023-922

- a. The stormwater system components shall have inspections and routine and non-routine maintenance and corrective measures performed as outlined in this operation and maintenance plan.
- b. All stormwater system components shall be inspected after any major storm events or as otherwise specified.
- c. The standard inspection checklist on this sheet may be used during maintenance inspections. Complete a standard inspection checklist for each structural stormwater feature and prepare a site plan or sketch showing the locations of each. All system components may not be applicable.
- d. A copy of the inspection checklist can also be found in Appendix B of the "Connecticut Stormwater Quality Manual", published Sept. 30, 2003, last revised Mar. 26, 2014, or as amended.

a. All inspections, routine and non-routine maintenance and corrective measures shall be conducted by properly licensed inspectors and contractors selected and financed by the property/homeowner's association.

- a. An as-built plan of the stormwater system shall be prepared by a licensed land surveyor. It shall include the location, elevations, and sizes of all stormwater management structures and features.
- b. Upon completion of the stormwater system, the design engineer shall prepare a letter of compliance certifying that it was constructed in substantial conformance with the approved plans.
- c. Inspections and routine and non-routine maintenance/corrective measures shall be documented to demonstrate compliance with maintenance activities.
- d. A copy of the as-built, letter of compliance, and maintenance activities shall be kept on file with the property/homeowner's association.
- e. A yearly signed statement shall be submitted by the property/homeowner's association to the Watford Planning Department indicating that the stormwater facility has been properly maintained and is functioning as designed, per Section 25.6.4.3.3 of the zoning regulations.

- a. Inspect catch basins/sumps twice per year, in late spring after snowmelt and in late fall after leaf fall and before the first snowfall.
- a. Establish a catch basin clearing frequency such that the catch basin sumps are never more than 50% full. Clean more frequently catch basins with known heavier sediment and debris loads or drainage problems, including the catch basins with deep sumps and hooded outlets, as necessary.
- c. Catch basins should include the following: (1) a means of debris removal, such as floating debris hydrocarbons from the water surface loads the catch basins, and removal of trash and debris from catch basin grates. These levels should be monitored during inspections to ensure that removal of these materials is performed when necessary.

c. Catch basin cleanings (solid material, such as sand, silt, leaves, and debris removed from storm drainage systems during cleaning operations) should be properly disposed of either via reuse or via disposal at an approved site. Sand and organic matter shall be tested for suitability if reused.

d. Handle and dispose of catch basin and storm drainage system cleanings in accordance with CT DEEP guidelines and requirements. Refer to CT DEEP "Guidelines for Municipal Management Practices for Street Sweepings & Catch Basin Cleanings", as amended.

- a. Inspect after major storms (1 inch or more of precipitation) in the first 3 months following construction.
- b. Inspect outlet control structures and outfalls 3 times per year. Inspect sediment forebay twice per year and the rest of the system annually, including inlet and pond embankment.
- c. Maintenance activities such as sediment removal, mowing, and repairs should be performed with minimal disturbance to outlet control structures. Construction equipment to avoid soil compaction and damage to vegetation. Heavy equipment may be used for sediment removal and other maintenance activities if the equipment is positioned outside the limits of the system. Heavy construction equipment should not be allowed within the limits of the system for maintenance purposes.
- d. Remove trash and organic debris (leaves) in the spring and fall.
- e. Remove sediment from the sediment forebay when it accumulates to a depth of 50% of the height of the forebay berm.
- f. Remove sediment from the permanent pond when the pool volume has become reduced significantly, or when significant algal growth is observed.
- g. The vegetative cover should be maintained at 85%. If vegetation has damage, the area should be reestablished in accordance with the original specifications.
- h. Periodically remove the side slopes along the growing season. Maintain side slope vegetation at 4 inches or higher. Inspect and remove invasive vegetation as necessary. Maintain higher vegetation along the edge of the pond to deter waterfowl.
- i. Inspect wetland plants and mangroves/harvest dead or dying plants as necessary.
- j. Remove trees and woody vegetation within 25 feet of all direct, pipe outlet structures, spillways and embankments. Prune trees and vegetation where dead, dying or branch structures are observed. Plant reinforcement plantings as necessary.
- k. Prune wetland vegetation on a regular schedule. Inspect wetland plants and mangroves/harvest dead or dying plants as necessary. Plant reinforcement plantings as necessary.

- a. Inspect after major storms (1 inch or more of precipitation) in the first 3 months following construction.
- b. Inspect twice per year in late spring after snowmelt and in late fall after leaf fall and before the first snowfall.
- c. Remove trash and organic debris (leaves) in the spring and fall.
- d. Remove sediment from the swale surface when the sediment accumulation exceeds 2 inches or when drawdown time exceeds 48 hours after the end of a storm event.
- e. Weed swales as necessary. Regularly mow grass to a height of 4 to 6 inches. Maintain a healthy, vigorous stand of grass cover. Re-seed as necessary. Mowing should not be performed when the ground is soft to avoid rutting or compaction.
- f. Periodically remove grass clippings to prevent clogging of the surface of the swale.

Source: Adapted from the CT Stormwater Manual, dated 9/30/2015, last revised 3/26/2014

- Use native plants that are adapted to Connecticut's climate and that require minimal watering, fertilizer and pesticide application. Choose vegetation that is best suited to the local conditions and requirements.
- Mow more grass clippings into the lawn in order to help soil retain moisture and to recycle nutrients.
- Avoid the use of conventional fertilizers and pesticides. Use organic lawn care methods to the maximum extent possible. If you must use fertilizers or pesticides, choose products that are labeled for use on lawns.
- Fertilize no more than twice a year, once in May/June (not before spring green up) and once in September. Use slow-release formulas (50% or more water insoluble nitrogen).
- Fertilize at a rate of no more than 3 pounds of nitrogen per 1000 square feet. Typically apply one-third of the total of the fertilizer recommended on the fertilizer bag label and then monitor lawn response and adjust as needed.
- Use a phosphorus-free fertilizer unless soil tests indicate that the soils are low in phosphorus.
- Avoid using a fertilizer labeled "Pre-emergent". Do not apply fertilizer to saturated or frozen ground.
- Avoid spreading fertilizer on impervious surfaces.

- a. Minimum frequency of twice per year, in spring as soon as possible after snow melt and following winter activities such as sanding to capture sand and debris before it is washed into the storm drainage system.
- b. Street sweeping shall be handled in accordance with CT DEEP "Guidelines for Municipal Management Practices for Street Sweepings & Catch Basin Cleanings", as amended.

- Snow accumulations removed from the roadway and parking lots should be placed in upland areas only, where sand and other debris will remain after snowmelt for later removal.
- Snow should not be pushed or dumped into waterbodies or wetlands, stormwater quality basins, swales, or on top of catch basins.
- Snow shall be handled in accordance with CT DEEP "Best Management Practices for Disposal of Snow Accumulations from Roadways and Parking Lots", as amended.

INSPECTION CHECKLIST

DATE/TIME: _____

INSPECTOR: _____

WEATHER DURING INSPECTION: _____

TYPE OF INSPECTION (check if applicable):

AS IS BUILT PLANS AVAILABLE: Yes ☐ No ☐

INLET APPLICABLE: Yes ☐ No ☐Appendix B - Structural Stormwater BMP Maintenance Inspection Checklist

CONDITION: Satisfactory ☐ Unsatisfactory ☐

[illegible]

BASIN/CHL	APPLICABLE: Yes ☐ No ☐
Check or note applicable element(s): infiltration trench, infiltration basin, bioretention, sand filter, subsurface gravel wetland	Guidance on what to look for: -Accumulated debris -Damage (e.g. erosion/ animal burrowing) -Overgrown/ dead vegetation -Standing water -Condition of wetland vegetation

CONDITION: Satisfactory ☐ Unsatisfactory ☐

[illegible]

FILTER BED APPLICABLE: Yes ☐ No ☐	
Circle or note applicable element(s): bioretention, sand filter, tree filter, dry water quality swale, permeable pavement	Guidance on what to look for: - Accumulated debris/ sediment - Overgrown/ dead vegetation and weeds - Standing water above filter bed - Erosion/ rutting in upgradient areas

[illegible]

CONDITION:	Satisfactory ☐	Unsatisfactory ☐
RECOMMENDED MAINTENANCE:	NOTES	
	DATE FOR FOLLOW UP	

SUBSURFACE RESERVOIR/OBSERVATION WELL

APPLICABLE: Yes ☐ No ☐

Circle or note applicable element(s):
infiltration trench, underground infiltration system, dry well, bioretention, tree filter, dry water quality swale, subsurface gravel wetland*

Guidance on what to look for:
-Standing water in the

*If underdraw in present

[illegible]

Berm/ Weir		APPLICABLE: Yes ☐ No ☐		PAGE 4
Circle or note applicable element(s) stormwater ponds, stormwater wetlands including subsurface gravel wetland, water quality swales		Guidance on what to look for: -Debris sediment buildup -Damage (e.g. erosion, cracks, spalling, seepage/ weeps, failure, animal burrow)		

CONDITION: Satisfactory ☐ Unsatisfactory ☐

[illegible]

Circle or note applicable element(s): outlet curb cut openings, raised overflow structures or risers, outflow weirs, outlet pipes/culverts, stone riprap apron, stone riprap stilling basin or plunge pool	Guidance on what to look for: -Accumulated debris/sediment at the outlet and within the structure (if applicable) -Structural damage or erosion
CONDITION: Satisfactory ☐	Unsatisfactory ☐

RECOMMENDED MAINTENANCE	NOTES
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PAGE 5

Maintenance Access	APPLICABLE: Yes ☒ No ☐
<u>All BMPs are applicable</u> <u>Guidance on what to look for:</u> -Access to pretreatment and all parts of BMP that require routine maintenance or sediment removal	

-Overgrown/ dead vegetation preventing or impeding access by maintenance personnel or equipment

CONDITION: Satisfactory ☐		Unsatisfactory ☐	
RECOMMENDED MAINTENANCE:		NOTES:	
DATE OF REPAIR/WORK:			

Other: _____

Note applicable element(s): _____

CONDITION: Satisfactory ☐ Unsatisfactory ☐

RECOMMENDED MAINTENANCE	NOTES

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Appendix B - Structural Stormwater BMP Maintenance Inspection Checklist

	#	DATE	DESCRIPTION	BY
	3	7/31/2024	O&M REVISIONS PER TOWN COMMENTS, MISC.	RG
	2	7/23/2024	REVISIONS PER TOWN COMMENTS, MISC.	RG
	1	7/17/2024	REVISIONS PER TOWN COMMENTS, MISC.	RG

STORMWATER OPERATION & MAINTENANCE (O&M) PLAN

PREPARED FOR 1721, LLC
4330 MOHEGAN AVENUE PARKWAY & 23B OLD NORWICH ROAD
TAX MAP 76 LOTS 10164 & 5600
WATERFORD, CONNECTICUT

DATE: MAY 21, 2024
SCALE: AS NOTED
DRAWN BY: CO, MA, RG, RM
CHECKED BY: JW
DWG. NO.: SOM-1
SHEET NO.: 14 of 14
JOB. NO.: 2023-922