SME
SEVEE & MAHER
ENGINEERS

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May 30, 2021

Ryan Keith, Code Enforcement Officer
Town of North Yarmouth
10 Village Square Road
North Yarmouth, Maine 04097

Subject: Village Center Estates Subdivision, Phase 2
Final Plan for Major Subdivision
Comment Response and Updated Plan Set

Dear Mr. Keith:

On behalf of Construction Aggregate Inc, Sevee & Maher Engineers, Inc. (SME) is pleased to provide the attached written response to peer review comments and an updated project plan set for the Village Center Estates Subdivision Project, Phase 2 located off Walnut Hill Road in North Yarmouth.

Plans have been revised to reflect review comments by Acorn Engineering dated March 22, 2021 forwarded to our office via email on January 5, 2021. Updates include stormwater stubs for house lots north of the proposed roadway and additional stabilization for the proposed ditch at the southerly end of the development.

This submission also includes a completed Major Subdivision Review Checklist. MEDEP is almost complete with the review of the SLODA application for this project and we anticipate a Department Order may be available before the Planning Board Meeting scheduled for April 13, 2021.

We look forward to presenting the project for final approval at the Planning Board meeting on April 13, 2021 and appreciate your consideration of our application. Please feel free to contact me at 207.829.5016, if you have any questions or need additional information.

Very truly yours,

SEVEE & MAHER ENGINEERS, INC.

Jeffrey T. Read, P.E.

Attachments

TOWN OF NORTH YARMOUTH
PLANNING BOARD
MAJOR SUBDIVISION REVIEW CHECKLIST

NAME OF APPLICANT: CONSTRUCTION AGGREGATE, INC. DATE: 3.30.2021

This checklist has been prepared to assist applicants in developing their applications. It should be used as a guide in assembling the information necessary for a complete application. However, the checklist does not substitute for the statutory criteria or the requirements of Article V. Subdivision Review Procedures & Criteria or Article X. Performance and Design Standards for Site Plan Review and Subdivision Review of the Land Use Ordinance. The Planning Board will use the checklist to make sure that your application is complete. The application need not contain separate plans as implied below. The perimeter survey, subdivision plan and engineering plans may be contained on the same drawing. However, detailed engineering drawings such as road profiles, drainage swales and erosion/sedimentation plans may best be presented on a separate sheet or sheets.

SUBDIVISION REGULATIONS	Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Not Applicable
GENERAL REQUIREMENTS				
1. Request for Hearing Form	☑	❑	❑	❑
2. Fee Calculation Sheet	☑	❑	❑	❑
3. Waiver or N/A Request Form, if required	❑	❑	❑	☑
4. Abutter List & Notification Statement	☑	❑	❑	❑
5. DEP Approval, if required (Article 3 - 3.9b)	❑	❑	❑	❑
6. Board of Zoning Appeal Approval, if required (Article 6 - 6.2)	❑	❑	❑	☑
7. MDOT Approval, if required (Article 8 – 4.J.2)	❑	❑	❑	☑
10-1 APPLICABILITY	☑	❑	❑	❑
10-2 GENERAL LAYOUT OF DEVELOPMENT				
A. Utilization of the Site	☑	❑	❑	❑
B. Lots				
B.1 Dimensional Requirements	☑	❑	❑	❑
B.2 Right of Way not included in Lot Area	☑	❑	❑	❑
B.3 Side Lot Lines perpendicular to Street	☑	❑	❑	❑
B.4 Lots Divided by Streams	❑	❑	❑	☑
B.5 Ratio of Lot Length to Lot Width	☑	❑	❑	❑
B.6 Provision or Preclusion of Future Subdivision	☑	❑	❑	❑

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B.7	Interconnected Development	☑	❑	❑	❑
C. Blocks - Utility/Pedestrian Easement		❑	❑	❑	☑
D. Utilities - Underground		☑	❑	❑	❑
E. Monuments					
E.1	Stone Monuments at Intersections	☑	❑	❑	❑
E.2	Stone Monuments or Capped Iron Pipe at Corners	☑	❑	❑	❑
E.3	Stone Monuments Minimum 4 inch square	☑	❑	❑	❑
E.4	All Others Marked by Suitable Monumentation	☑	❑	❑	❑
10-3 BROOK, POND, VERNAL POOL AND WETLAND BUFFERS					
A. <u>Purpose and Applicability</u>					
A.1	Protect Areas not covered in Section 9-1	❑	❑	❑	☑
A.2	Distinguish between High and Low Value Wetlands	☑	❑	❑	❑
A.3	More Restrictive Requirements Apply	❑	❑	❑	☑
B. <u>Protected Resources</u>					
B.1	Stream	☑	❑	❑	❑
B.2	Pond	❑	❑	❑	☑
B.3	Vernal Pool	❑	❑	❑	☑
B.4	High Value Wetlands	❑	❑	❑	☑
B.4.a	Contain Pond or Vernal Pool	❑	❑	❑	☑
B.4.b	Within Floodplain of Stream or Pond	❑	❑	❑	☑
B.4.c	Wetland Plant Species	❑	❑	❑	☑
B.5	Low Value Wetland	☑	❑	❑	❑
C. <u>Standards</u>					
C.1	Vegetative Buffers	☑	❑	❑	❑
C.2	Location, Species, Height, Canopy	☑	❑	❑	❑

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C.3	Buffer Width Related to Slope	❑	❑	❑	☑
C.4	Natural State to Greatest Extent Practical	☑	❑	❑	❑
C.5	Maintained in Natural State	☑	❑	❑	❑
C.5.a	Clearing of Dead and Diseased Trees	❑	❑	❑	☑
C.5.b	Underlying vegetation	☑	❑	❑	❑
C.6	Building and structure setback	❑	❑	❑	☑
C.7	Setback from low value wetland	❑	❑	❑	☑
C.8	Permanent markers	❑	❑	❑	☑
D. Plan Submittals					
D.1	Site plan	☑	❑	❑	❑
D.2	Existing vegetation	❑	❑	❑	☑
D.3	Buffer	❑	❑	❑	☑
D.4	Maintenance and restrictions	❑	❑	❑	☑
D.5	Deed restrictions and covenants	❑	❑	❑	☑
D.6	Plat	❑	❑	❑	☑
E. Exemptions					
E.1	Buffer and setbacks not required adjacent to	☑	❑	❑	❑
E.1.a	Swales and ditches	☑	❑	❑	❑
E.1.b	Artificial impoundments	☑	❑	❑	❑
E.1.c	Low value wetlands	☑	❑	❑	❑
E.2	Buffers and setbacks do not apply to	☑	❑	❑	❑
E.2.a	Storm water management facilities	☑	❑	❑	❑
E.2.b	Road crossings, bridges, culverts, utilities	❑	❑	❑	☑
E.2.c	Docks, boat ramps, direct access	❑	❑	❑	☑

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10-4 BUILDING DESIGN STANDARDS					
A. Applicability		☑	❑	❑	❑
B. Standards					
B.1	Visibly integrated	❑	❑	❑	☑
B.2	Window area	❑	❑	❑	☑
B.3	Minimum front yard building setback	❑	❑	❑	☑
B.4	Parking to side and rear of buildings	❑	❑	❑	☑
B.5	Drive-Through Facilities	❑	❑	❑	☑
10-5 COMMUNITY FACILITIES IMPACT ANALYSIS AND MITIGATION		❑	❑	❑	☑
10-6 EROSION AND SEDIMENTATION CONTROL					
A. Topography and Natural Surroundings		☑	❑	❑	❑
B. Best Management Practices					
B.1	Stripping, Removal, Re-Grading	☑	❑	❑	❑
B.2	Exposure to a Minimum	☑	❑	❑	❑
B.3	Temporary Measures	☑	❑	❑	❑
B.4	Permanent Measures	☑	❑	❑	❑
B.5	Sediment Basins or Silt Traps	☑	❑	❑	❑
B.6	Adjoining property and slope	☑	❑	❑	❑
B.7	Dust control	☑	❑	❑	❑
B.8	No grading or filling near water body	☑	❑	❑	❑
B.9	Measures monitored periodically	☑	❑	❑	❑
C. Soil Erosion and Control Plan		☑	❑	❑	❑
10-7 EMISSIONS		❑	❑	❑	☑
10-8 EXTERIOR LIGHTING					
A.	**Adequate for nighttime hours**	❑	❑	❑	☑
B.	**Street lighting**	❑	❑	❑	☑

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C.	**Lighting not produce deleterious effects**	❑	❑	❑	☑
D.	**Fixtures shielded or hooded**	❑	❑	❑	☑
E.	**Blinking lights prohibited**	❑	❑	❑	☑
F.	**Maximum height**	❑	❑	❑	☑
G.	**Spot lights prohibited**	❑	❑	❑	☑
10-9 FINANCIAL AND TECHNICAL CAPACITY					
A.	**Adequate financial resources**	☑	❑	❑	❑
B.	**Qualified contractors and consultants**	☑	❑	❑	❑
10-10 FLOODPLAIN MANAGEMENT					
A. Consistent with Floodplain Ordinance		❑	❑	❑	☑
B. Development/Subdivision Requirement		❑	❑	❑	☑
C. Building Prohibited on Floodplains					
C.1	Building prohibited in floodplain	❑	❑	❑	☑
C.2	Statement and restriction	❑	❑	❑	☑
C.3	Woodlands, grassland, pastureland, recreation	❑	❑	❑	☑
C.4	Piers, docks, wharves, bridges and boat ramps	❑	❑	❑	☑
10-11 HAZARDOUS, SPECIAL AND RADIOACTIVE MATERIALS					
A.	**Handling, storage and use per standards**	❑	❑	❑	☑
B.	**Reporting Requirement**	❑	❑	❑	☑
10-12 HISTORIC AND ARCHAEOLOGICAL SITES					
A.	**Protect resources**	❑	❑	❑	☑
B.	**Maine Historic Preservation Commission review**	☑	❑	❑	❑
10-13 LANDSCAPING, BUFFERS AND SCREENING					
A. Purpose		☑	❑	❑	❑
B. Standards					
B.1	Landscaping	☑	❑	❑	❑

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B.1.a	Natural state	☑	❑	❑	❑
B.1.b	Public roads, areas, recreation sites, buildings	☑	❑	❑	❑
B.1.c	Deciduous trees	☑	❑	❑	❑
B.1.d	Part of overall plan	☑	❑	❑	❑
B.2	Buffers and Screening	☑	❑	❑	❑
B.2.a	Adjacent uses and screening	☑	❑	❑	❑
B.2.b	Year-round visual screen	☑	❑	❑	❑
B.2.c	Parking lots and areas	❑	❑	❑	☑
B.2.d	Garbage collection areas	❑	❑	❑	☑
B.2.e	Sufficient buffering	☑	❑	❑	❑
B.2.f	Width of buffer	☑	❑	❑	❑
10-14 NATURAL BEAUTY AND AESTHETICS IN THE FARM AND FOREST DISTRICT, RESIDENTIAL SHORELAND DISTRICT AND RESOURCE PROTECTION DISTRICT		❑	❑	❑	☑
10-15 NOISE					
A.	**Control Levels for Neighboring Properties**	☑	❑	❑	❑
B.	**Sound Pressure Level Limits**	❑	❑	❑	☑
C.	**Measured by a Meter**	❑	❑	❑	☑
10-16 SEWAGE DISPOSAL					
A. <u>Subsurface Sewage Disposal</u>					
A.1	State of Maine Rules	☑	❑	❑	❑
A.2	Hydrogeologic assessment	❑	❑	❑	☑
A.2.a	Suitable soils	❑	❑	❑	☑
A.2.b	Water supplies	❑	❑	❑	☑
A.2.c	Groundwater quality	❑	❑	❑	☑
A.2.d	Monitoring wells	❑	❑	❑	☑
A.2.e	Operation and maintenance manual	❑	❑	❑	☑

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MAJOR SUBDIVISION REVIEW CHECKLIST

SUBDIVISION REGULATIONS		Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Not Applicable
B. Public Sewer System Disposal					
B.1	Not allowed in Farm and Forest District, Residential Shoreland District or Resource Protection District	❑	❑	❑	☑
B.2	Sewer District statement of capacity	❑	❑	❑	☑
10-17 SIGNS					
A.	**General Requirements**	❑	❑	❑	☑
B.	**Village Center District**	❑	❑	❑	☑
C.	**Identify or Advertise Premises**	❑	❑	❑	☑
D.	**Sign Area**	❑	❑	❑	☑
E.	**Installation and Height**	❑	❑	❑	☑
F.	**Height and Location by Roads**	❑	❑	❑	☑
G.	**Attached to Structure**	❑	❑	❑	☑
H.	**Maintenance and Removal**	❑	❑	❑	☑
I.	**Illumination**	❑	❑	❑	☑
J.	**Nonconforming Signs**	❑	❑	❑	☑
K.	**Special Event Signs**	❑	❑	❑	☑
L.	**Home Occupation Signs**	❑	❑	❑	☑
M.	**Signs in the Resource Protection District and the Residential Shoreland District**	❑	❑	❑	☑
10-18 SOIL SUITABILITY		☑	❑	❑	❑
10-19 SOLID WASTE DISPOSAL					
A.	**Disposal at Licensed Facility**	☑	❑	❑	❑
B.	**Alternative Arrangements**	❑	❑	❑	☑
10-20 STORAGE OF MATERIALS					
A.	**Sufficient Setbacks and Screening**	❑	❑	❑	☑
B.	**Dumpsters**	❑	❑	❑	☑
C.	**Physical Screening**	❑	❑	❑	☑

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SUBDIVISION REGULATIONS		Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Not Applicable
D.	**Buffers and Screening**	☑	❑	❑	❑
10-21 STORM WATER CONTROL					
A.	**Designed to Minimize Runoff**	☑	❑	❑	❑
B.	**Requirements**				
B.1	Design by Maine engineer	☑	❑	❑	❑
B.2	Easement width	☑	❑	❑	❑
B.3	Oil and grease traps	☑	❑	❑	❑
B.4	Designing engineer statement	☑	❑	❑	❑
B.5	Designed to Town Roadway Criteria	☑	❑	❑	❑
B.6	Maintenance Plan	☑	❑	❑	❑
10-22 RECREATION AND OPEN SPACE LAND IN DEVELOPMENTS					
A.	**Applicability and Purpose**	☑	❑	❑	❑
B.	**Retention of Useable Open Space and Recreation Land in Residential Developments**				
B.1	Reservation of land	☑	❑	❑	❑
B.2	Identified needs	☑	❑	❑	❑
C.	**Waivers for Minor Subdivisions**	❑	❑	❑	☑
D.	**Ownership and Maintenance of Common Open Space and/or Recreation Land**				
D.1	Owned by	☑	❑	❑	❑
D.1.a	Lot owners' association	❑	❑	❑	☑
D.1.b	Conservation association	❑	❑	❑	☑
D.1.c	Town	☑	❑	❑	❑
D.2	Further subdivision prohibited	☑	❑	❑	❑
D.3	Monitoring Fee	❑	❑	❑	☑
E.	**Homeowners Association Requirements**	☑	❑	❑	❑
10-23 WATER SUPPLY					
A.	**Public Water Supply**				
A.1	Written statement from Yarmouth Water District	☑	❑	❑	❑

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A.2	System approve by Yarmouth Water District and North Yarmouth Fire Chief	☑	❑	❑	❑
B. Required Connection to Public Water Supply		☑	❑	❑	❑
C. Individual Wells		❑	❑	❑	☑
D. Fire Protection					
D.1	Hydrant locations	☑	❑	❑	❑
D.2	Storage capacity	❑	❑	❑	☑
D.3	Hydrant specifications	☑	❑	❑	❑
D.4	Easement	❑	❑	❑	☑
10-24 WATER QUALITY					
A. Water Quality					
A.1	No discharge in surface or groundwater	☑	❑	❑	❑
A.2	Maine DEP and Fire Marshal's Office standards	❑	❑	❑	☑
A.3	License from Maine DEP	❑	❑	❑	☑
A.4	Discharge treated	☑	❑	❑	❑
B. Groundwater		☑	❑	❑	❑
C. Wellhead Protection		☑	❑	❑	❑
D. Requirements for Hydrogeologic Assessments					
D.1	Class A (high intensity) Soil Survey	☑	❑	❑	❑
D.2	Water table	☑	❑	❑	❑
D.3	Drainage conditions	☑	❑	❑	❑
D.4	Existing groundwater quality	☑	❑	❑	❑
D.5	Analysis and evaluation	☑	❑	❑	❑
D.6	Map of wastewater systems and wells	☑	❑	❑	❑
E. Projections of Groundwater Quality		☑	❑	❑	❑
F. Drinking Water Standards		☑	❑	❑	❑
G. Demonstrate Treatment		❑	❑	❑	☑

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H. Contaminants		☑	❑	❑	❑
I. Construction Standards		❑	❑	❑	☑
J. System and Well Zones		☑	❑	❑	❑
10-25 PROTECTION OF SIGNIFICANT WILDLIFE HABITAT					
A. Designed to Protect		☑	❑	❑	❑
B. Identify and Map Wildlife Habitats		☑	❑	❑	❑
C. Consult and Obtain Written Report		❑	❑	❑	☑
D. Deer Wintering Areas		❑	❑	❑	☑
E. Deed Restrictions		❑	❑	❑	☑
10-26 PUBLIC ACCESS TO THE SHORELINE		❑	❑	❑	☑
10-27 BACK LOTS AND ACCESS					
A. Right-of-Way					
A.1	Width and frontage	☑	❑	❑	❑
A.2	Emergency vehicles	☑	❑	❑	❑
A.3	Existing lot and right-of-way	❑	❑	❑	☑
A.4	Backlots prohibited in subdivisions	❑	❑	❑	☑
A.5	Private Roads Serving Three or More Residential Units and/or Non-residential Uses	☑	❑	❑	❑
A.6	In the Farm and Forest District, Residential Shoreland District and Resource Protection District – lot size and width	❑	❑	❑	☑
A.7	In the Village Center District and Village Residential District – dimensional requirements	❑	❑	❑	☑
10-28 ACCESS MANAGEMENT STANDARDS					
A. Applicability		☑	❑	❑	❑
B. Adequacy of the Public Road System		☑	❑	❑	❑
C. Safe Sight Distances					
C.1.	Designed	☑	❑	❑	❑
C.2	Measurements	☑	❑	❑	❑

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C.2.a	Sight distance	☑	❑	❑	❑
C.2.b	Height	☑	❑	❑	❑
C.2.c	Truck traffic	❑	❑	❑	☑
C.2.d	Recreational vehicle traffic	❑	❑	❑	☑
C.4	Placement	☑	❑	❑	❑
C.5	Site triangle	☑	❑	❑	❑
D. Access Management and Safety Standards					
D.1	Hazardous conflicts	☑	❑	❑	❑
D.2	Residential Lots	☑	❑	❑	❑
D.2.i	Farm and Forest District, Residential Shoreland District and Resource Protection District	❑	❑	❑	☑
D.2.ii	Village Center District and Village Residential District	☑	❑	❑	❑
D.3	Commercial and Other Non-Residential Lots	❑	❑	❑	☑
D.3.i	Farm and Forest District, Residential Shoreland District and Resource Protection District	❑	❑	❑	☑
D.3.ii	Village Center District and Village Residential District	❑	❑	❑	☑
D.4	Shared Driveways	❑	❑	❑	☑
D.5	Road, Pedestrian and Bicycle Connections Between Developments	❑	❑	❑	☑
D.6	Subdivisions	☑	❑	❑	❑
D.7	Corner Lot Access	☑	❑	❑	❑
D.8	Access Ways to Non-Residential Developments or to Multiplex Developments	❑	❑	❑	☑
D.9	Driveway Turn-Around Area	❑	❑	❑	☑
D.10	Driveway Grades	☑	❑	❑	❑
D.11	Access Way Location and Spacing	☑	❑	❑	❑
D.11.a	Location from intersection	☑	❑	❑	❑
D.11.b	Existing private roads	☑	❑	❑	❑

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SUBDIVISION REGULATIONS		Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Not Applicable
D.11.c	Demonstration of No Alternative	❑	❑	❑	☑
10-29 SUBDIVISION STREET CONNECTIVITY REQUIRED IN THE VILLAGE CENTER AND VILLAGE RESIDENTIAL DISTRICT					
A. Purpose		☑	❑	❑	❑
B. Applicability		☑	❑	❑	❑
C. Requirements					
C.1	Designed as public through roads	☑	❑	❑	❑
C.2	Adjacent uses	❑	❑	❑	☑
C.3	Continue to boundary	❑	❑	❑	☑
C.4	Provide increased connectivity	❑	❑	❑	☑
C.5	Temporary dead end road	❑	❑	❑	☑
C.6	Reserved streets	❑	❑	❑	☑
C.7	Waivers	❑	❑	❑	☑
C.7.a	Length	❑	❑	❑	☑
C.7.b	Hammerhead	☑	❑	❑	❑
C.7.c	No driveway off turn-around	❑	❑	❑	☑
C.7.d	Adequate emergency access	☑	❑	❑	❑
10-30 SUBDIVISION STREET LENGTH AND CONNECTION REQUIREMENTS IN THE FARM AND FOREST DISTRICT AND RESIDENTIAL SHORELAND DISTRICT					
A. Purpose		☑	❑	❑	❑
B. Standards			❑		
B.1	Emergency second access street	❑	❑	❑	☑
B.2	Length	☑	❑	❑	❑
B.3	Connectivity Requirements	❑	❑	❑	☑
10-31 PEDESTRIAN WAYS AND BICYCLE ACCESS, CIRCULATION AND FACILITIES					
A. Applicability and Purpose		☑	❑	❑	❑
B. Standards					

TOWN OF NORTH YARMOUTH
PLANNING BOARD
MAJOR SUBDIVISION REVIEW CHECKLIST

	SUBDIVISION REGULATIONS	Received by Planning Board	Applicant Requests to be Waived	Waiver Approved by Planning Board	Not Applicable
B.1	Village Center District and Village Residential District	☑	❑	❑	❑
B.2	Farm and Forest District and Residential Shoreland District, Resource Protection District	❑	❑	❑	☑
B.3	Sidewalks	☑	❑	❑	❑
B.4	Connect to existing	☑	❑	❑	❑
B.5	Site Plan	☑	❑	❑	❑
B.6	Parking Plans	❑	❑	❑	☑
B.6.a	Bicycle parking	❑	❑	❑	☑
B.6.b	Pedestrian ways	❑	❑	❑	☑
B.6.c	Village Center District and Village Residential District sidewalks on frontage	☑	❑	❑	❑
10-32 INTERNAL VEHICULAR CIRCULATION					
A. Safe Movement					
A.1	Clear route	❑	❑	❑	☑
A.2	Emergency vehicles	❑	❑	❑	☑
A.3	Layout and design	❑	❑	❑	☑
A.4	Designed to harmonize with site	☑	❑	❑	❑
10-33 OFF STREET PARKING					
A. Applicability		☑	❑	❑	❑
B. General Requirements		☑	❑	❑	❑
C. Parking Layout and Design					
C.1	On lot or adjacent lot	☑	❑	❑	❑
C.2	Arranged so not necessary to back out on road	☑	❑	❑	❑
C.3	Located behind or to side of building	❑	❑	❑	☑
C.4	Landscaping plan	❑	❑	❑	☑
C.5	Joint use of parking area	❑	❑	❑	☑
C.6	Durable surface	☑	❑	❑	❑

TOWN OF NORTH YARMOUTH
PLANNING BOARD
MAJOR SUBDIVISION REVIEW CHECKLIST

SUBDIVISION REGULATIONS		Submitted by Applicant	Not Applicable	Applicant Requests to be Waived	Received by Planning Board
C.7	Parking space size	☑	❑	❑	❑
C.8	Diagonal parking	❑	❑	❑	☑
D. Parking Space Requirements					
D.1	Sufficient to accommodate	☑	❑	❑	❑
D.2	Size of structure	❑	❑	❑	☑
D.3	Reduce structure for sufficient parking	❑	❑	❑	☑
D.4	On-street parking	❑	❑	❑	☑
D.5	Availability of parking	❑	❑	❑	☑
D.6	Pedestrian and bicycle safety	☑	❑	❑	❑
D.7	Other standards	❑	❑	❑	☑
E. Waivers		❑	❑	❑	☑
10-34 OFF STREET LOADING REQUIREMENTS					
A. Specific Uses					
A.1	Maximum number of trucks	❑	❑	❑	☑
A.2	Type of business	❑	❑	❑	☑
A.3	Location of loading facility	❑	❑	❑	☑
A.4	Screening	❑	❑	❑	☑
A.5	Desirability of service roads or alleys	❑	❑	❑	☑
A.6	Other characteristics	❑	❑	❑	☑
A.7	Traditional layout and historical character	❑	❑	❑	☑
A.8	Minimize noise impacts	❑	❑	❑	☑

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March 30, 2021

Ryan Keith, Code Enforcement Officer
Town of North Yarmouth
10 Village Square Road
North Yarmouth, Maine 04097

Subject: Village Center Estates Subdivision, Phase 2
Final Plan for Major Subdivision
Response to Peer Review Comments dated March 22, 2021

Dear Mr. Keith:

On behalf of Construction Aggregate Inc, Sevee & Maher Engineers, Inc. (SME) is pleased to provide the following response to peer review comments for the Village Center Estates Subdivision Project, Phase 2 located off Walnut Hill Road in North Yarmouth.

SME is providing this letter as a written response to Acorn Engineering comments dated March 22, 2021 prior to the Planning Board meeting scheduled for April 13, 2021.

DEPARTMENT HEAD COMMENTS:

The following comments were received from the Code Enforcement Office in an email dated March 23, 2021.

1. **Please provide documentation/calculations for the drainage capacity of the proposed ditch at the southerly end of the development. If the USF's have been designed for a 25-year storm event please confirm the ditch can also convey the flow and with or without riprap.**

   SME Response: Drainage at the proposed ditch at the southerly end of the development has been evaluated using HydroCAD to model each ditch segment as a separate reach (1R, 2R, and 3R) to verify capacity and vendor erosion control materials design software (ECMDS) to verify stability for each section. Our HydroCAD model outlines each ditch segment has adequate capacity. Ditch flow for each reach is less than 10 percent of total capacity during a 25-year storm. Modeling printouts are attached for reference.

   Rip-rap and geotextile reinforcement have been added to the plan set based on the stability evaluation provided by the vendor ECMDS. Copies of the ECMDS stability calculation results are also attached for reference.

2. **Section 10 of the SLODA application states that the Homeowner's Association (HOA) will assume the responsibility for the stormwater buffers that are proposed to help meet the project's requirements for treatment and attenuation. We recommend that deed restrictions be pursued to ensure these legal protections run with the land in perpetuity, independent of the HOA.**

SME Response: Deed restrictions are planned for the project to protect stormwater buffers. Sample Declaration of Restrictions language is provided in Appendix F of the Stormwater Management report submitted previously. Finalized restrictions will be provided as part of the Condition Compliance with MEDEP.

3. **Given the steep, sustained slopes the site presents, the Applicant should provide a typical grading pattern to prevent the uphill neighbor's runoff from adversely affecting the downhill neighbors. While we understand that the house lots will be sold prior to development, a general grading design and expectation should be provided so proper stormwater management can be achieved throughout the entire development without the downhill house lots experiencing flooding issues.**

   SME Response: Grading plans for individual lots will be submitted to the Town for review prior to construction as part of the building permit application process. A note has been added to the subdivision plan to outline the process.

4. **The Draft HOA provided in the application appears to apply solely to Phase I of the Village Estates Development and does not address the site-specific conditions of Phase II.**

   SME Response: The draft has been updated to include the gravel wetland and buffers. A copy is attached for reference.

5. **The Applicant should consider providing storm drain stubs for each of the individual house lots, particularly to the north of Wildlife Lane to outlet foundation drains given the high groundwater table. The storm drain stubs could also facilitate connections from roof drains or field inlets the individual lot owners may install.**

   SME Response: General locations for storm drain stubs have been added to the plan set. Final locations will be coordinated with individual house lot designs.

6. **It's assumed the discharge from the 15" storm drain is intended to be routed to the level lip spreader on Lot 12. If so, we recommend a diversion berm be detailed such that the flow to the level lip spreader, does not back up, and inadvertently flow back into the ditch line to the downgradient USF#7.**

   SME Response: A diversion berm has been added to the plan set on the Grading and Erosion Control Plan, Drawing C-104.

7. **Subcatchment (SC) 4A in the Pre-Development Map (Sheet D-100) has inconsistent slopes between the map label and HydroCAD input. Additionally, based upon the available lidar, it appears the sheet flow should be broken up in to two distinct flow segments given the notable grade break that occurs, rather than applying one slope to the entire 100' flow segment.**

   SME Response: Drawing D-100 has been updated to reflect the slope in the stormwater model. There is no notable grade break in the sheet flow segment of the Tc path for subcatchment 4A. Dividing the 100-foot sheet flow segment into multiple sections will have negligible impact on modeling results for the subcatchment and is not necessary.

8. **SC 4B in the Pre-Development Map (Sheet D-100) has inconsistent slopes between the map label and HydroCAD input. Please reconcile.**

   SME Response: Drawing D-100 has been updated to reflect the slope in the stormwater model.

9. **The Tc flow segments for shallow concentrated flow within SC's 4A and 4B in the Pre-Development Map appear simplified and should contemplate changes in slope to determine the time associated with each flow segment.**

   SME Response: Using varied slopes over multiple segments as compared to an average slope over a single segment has minimal impact on the time of concentration calculation. We find the use of average slopes over longer segments produces similar results with reduced potential for calculation errors.

10. **The Tc path for SC 5A in the Pre-Development model does not appear to have the correct slope applied to its sheet flow regime.**

    SME Response: The slope has been modified to reflect the correct slope. Updated calculations for the subcatchment are attached. Net reductions in peak flow runoff from existing to developed conditions are 0.51 cfs, 1.3 cfs, and 2.04 cfs for the 2-, 10-, and 25-year storm events, respectively.

11. **The Applicant should provide a narrative/justification on the use of the various Reaches used in the post development model, particularly regarding the geometry and slope of the various 4R Reaches. The input data for these reaches generally does not appear to be consistent with the proposed plans or the existing topography.**

    SME Response: The shallow trapezoidal channels used in the various 4R reaches are designed to approximate the overland flow conditions leaving the level spreader and treatment devices in this portion of the project. Within the constraints of the modeling software, the wide, flat-bottomed channels provide a close estimate for sheet flow/shallow concentrated flow through the no-cut buffer areas. Results are enhanced by applying realistic slope and vegetative conditions to the model. This methodology has been reviewed and approved by MEDEP on this and multiple other projects.

12. **Given the rural setting and opportunity for wildlife habitat, we recommend animal guards be added to the daylit underdrains to prevent animals from using these pipes as shelter/food storage thus resulting in clogging.**

    SME Response: Underdrains will be fitted with caps drilled with appropriately sized orifices to regulate discharge from each treatment device, which will significantly reduce the potential for animal access and potential clogging. The developer will take this suggestion into account and install animal guards at their discretion.

13. **Formal ditching appears to be proposed to the south of Spillway Drive, but not on the northerly side. How will runoff from the northerly half of Spillway Drive be properly conveyed? Currently, the design suggests that the road runoff will have to cross over the individual house lots and**

driveways before making its way to the forested buffer. Is this the intent and if so, how will the future homeowners ensure this runoff is conveyed to the buffer?

SME Response: Runoff from the northerly half of Spillway Drive cross over the individual house lots and driveways before making its way to the forested buffer. Future homeowners ensure this runoff is conveyed to the buffer by preparing individual lot grading plans for review by the Town prior to construction as part of the building permit application process.

14. **Level Spreader Detail on Sheet C-303: there appears to be a discrepancy between the top and bottom elevations of the system. Additionally, the bottom and back of the spreader channel should be lined with erosion control matting, consistent with MDEP specifications.**

    SME Response: The detail has been updated to correct the elevation discrepancy. In all other regards, the existing detail conforms to the requirements outlined for level spreader construction contained in MEDEP's *Maine Stormwater Management Design Manual, Technical Design Manual Volume III*, dated May 2016.

15. **Because the USF's are utilizing additional ponding above the 18" of water quality volume to attenuate flooding, the Applicant should apply the detention basin standards where applicable. Consistent with the Maine DEP BMP Manual, the minimum elevation of the top of the settled embankment must be at least one foot above the peak water surface in the basin with the emergency spillway flowing at design depth for a discharge routed through the emergency spillway only. It does not appear that any of the USF's are meeting this standard.**

    SME Response: The underdrained soil filters are not using additional ponding above the 18" of water quality volume to attenuate flooding. Any ponding above 18-inches will drain through the outlet or overflow structures. Spot grades have been added to the details for clarity.

16. **Given the shallow groundwater table identified within the high intensity soil survey test pits, the Applicant should consider providing an underdrain below the impermeable liner as part of the USF systems to provide relief from the hydrostatic pressures that will likely be inflicted by groundwater.**

    SME Response: Plans have been updated to include an optional 4-inch underdrain to be installed below the impermeable liner if groundwater is present during filter installation. The developer will provide the underdrain based on observed conditions at the site.

17. **A detail should be provided for the cross culvert near the intersection of Wildlife Lane and Village View Lane.**

    SME Response: Culvert installation details are included in the plan set. Culvert installation is included in our typical trench detail on drawing C-302. Culvert inlet and outlet protection details are included on C-301.

18. **Given Wildlife Lane's steep, sustained slopes between STA 8+00 and 16+00, has consideration been given to installing headstones within the curbing to facilitate drainage at the catch basin**

locations? This would help act as a "backstop" for gutter flow, ensuring that stormwater is dispersed to each BMP and analysis point as modeled.

SME Response: Catch basins will feature cascade grates to collect gutter flow. The detail has been updated for clarity.

19. **Several sections of the application reference privately drilled wells, yet the plans depict 1" water stubs to each lot. Please clarify the development's intended domestic water supply and fire suppression if applicable.**

    SME Response: The project will include public water and three fire hydrants.

20. **There appears to be very little horizontal separation between the 8" water main and the proposed street trees. Has the Yarmouth Water District reviewed this particular condition?**

    SME Response: Yarmouth Water District has reviewed the plans and takes no exception to the location of street trees. Additional coordination will be completed during construction.

21. **Main Road – Typical Road Section on Sheet C-301: the cross slope of the sidewalk should be clarified to ensure ADA accessibility.**

    SME Response: The detail has been updated for clarity with 2 percent maximum slope to meet ADA standards.

22. **Has a turning template been applied to the hammerhead at the end of Spillway Drive to ensure it can accommodate a fire truck in accordance with Section 8.4 of the Land Use Ordinance.**

    SME Response: A turning template has been applied to the hammerhead at the end of Spillway Drive to ensure it can accommodate a fire truck in accordance with Section 8.4 of the Land Use Ordinance. A figure is attached for reference.

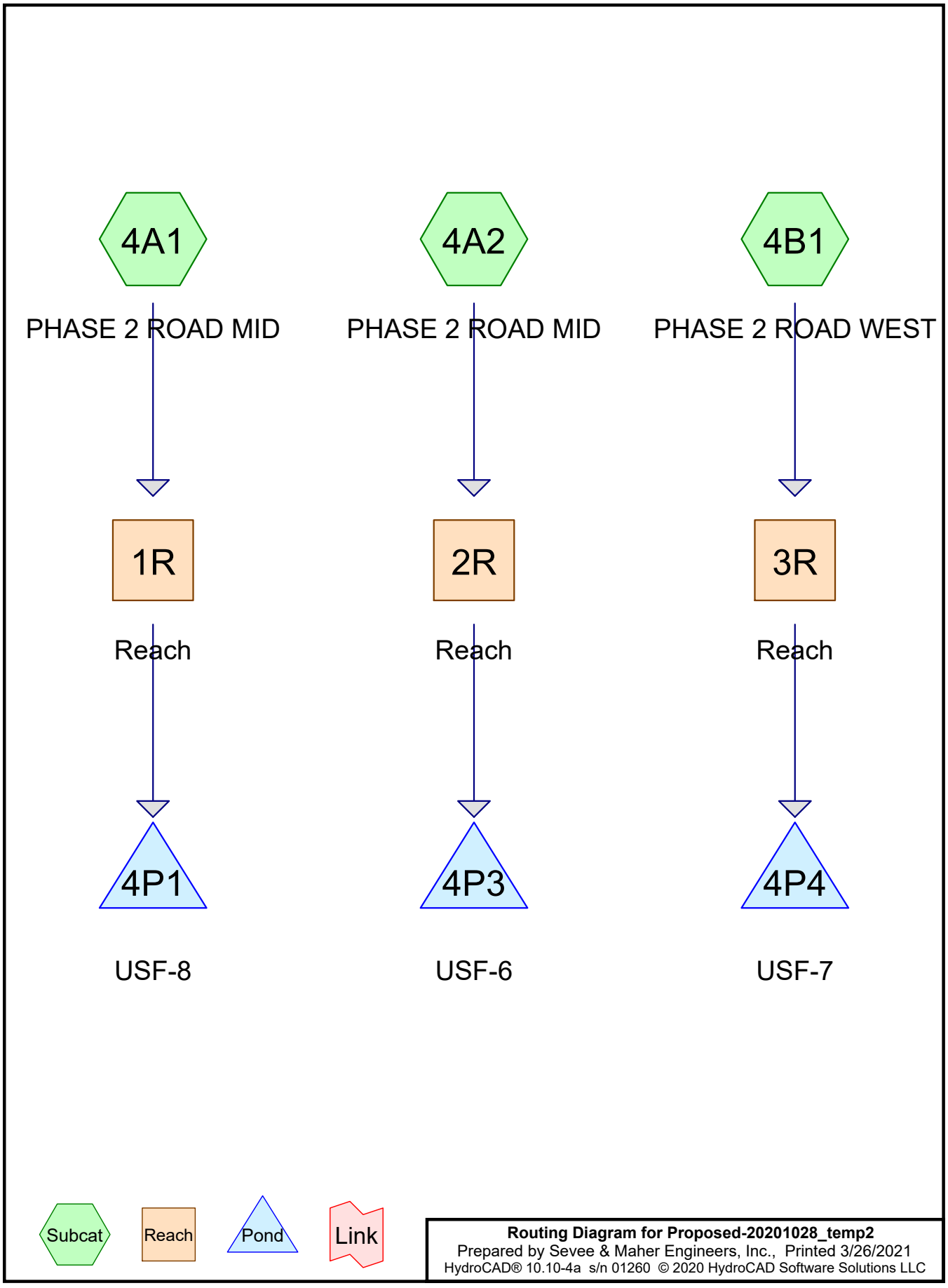
Please do not hesitate to call if the Planning Board requires additional information to review the project at the meeting scheduled for April 13, 2021.

Very truly yours,

SEVEE & MAHER ENGINEERS, INC.

Jeffrey T. Read, P.E.

Attachments


4A1
PHASE 2 ROAD MID
4A2
PHASE 2 ROAD MID
4B1
PHASE 2 ROAD WEST
1R
Reach
2R
Reach
3R
Reach
4P1
USF-8
4P3
USF-6
4P4
USF-7
Subcat
Reach
Pond
Link
Routing Diagram for Proposed-20201028_temp2
Prepared by Sevee & Maher Engineers, Inc., Printed 3/26/2021
HydroCAD® 10.10-4a s/n 01260 © 2020 HydroCAD Software Solutions LLC

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 4A1: PHASE 2 ROAD MID Runoff Area=165,053 sf 13.64% Impervious Runoff Depth=3.60"
Flow Length=1,222' Tc=25.7 min CN=80 Runoff=9.68 cfs 1.137 af

Subcatchment 4A2: PHASE 2 ROAD MID Runoff Area=131,106 sf 14.76% Impervious Runoff Depth=3.80"
Flow Length=1,155' Tc=21.2 min CN=82 Runoff=8.79 cfs 0.954 af

Subcatchment 4B1: PHASE 2 ROAD WEST Runoff Area=74,202 sf 14.57% Impervious Runoff Depth=3.80"
Flow Length=1,171' Tc=23.8 min CN=82 Runoff=4.73 cfs 0.540 af

Reach 1R: Reach Avg. Flow Depth=0.75' Max Vel=5.73 fps Inflow=9.68 cfs 1.137 af
n=0.022 L=350.0' S=0.0286 '/' Capacity=132.28 cfs Outflow=9.66 cfs 1.137 af

Reach 2R: Reach Avg. Flow Depth=0.61' Max Vel=7.85 fps Inflow=8.79 cfs 0.954 af
n=0.022 L=425.0' S=0.0706 '/' Capacity=207.92 cfs Outflow=8.77 cfs 0.954 af

Reach 3R: Reach Avg. Flow Depth=0.45' Max Vel=7.67 fps Inflow=4.73 cfs 0.540 af
n=0.022 L=160.0' S=0.1000 '/' Capacity=247.47 cfs Outflow=4.73 cfs 0.540 af

Pond 4P1: USF-8 Peak Elev=220.00' Storage=8,265 cf Inflow=9.66 cfs 1.137 af
Primary=0.04 cfs 0.069 af Secondary=9.20 cfs 0.959 af Outflow=9.24 cfs 1.028 af

Pond 4P3: USF-6 Peak Elev=229.97' Storage=7,011 cf Inflow=8.77 cfs 0.954 af
Primary=0.06 cfs 0.098 af Secondary=8.45 cfs 0.765 af Outflow=8.51 cfs 0.863 af

Pond 4P4: USF-7 Peak Elev=261.82' Storage=3,594 cf Inflow=4.73 cfs 0.540 af
Primary=0.02 cfs 0.027 af Secondary=4.66 cfs 0.455 af Outflow=4.68 cfs 0.482 af

Summary for Subcatchment 4A1: PHASE 2 ROAD MID

Runoff = 9.68 cfs @ 12.36 hrs, Volume= 1.137 af, Depth= 3.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	12,500	98	Roofs
	10,016	98	Paved roads w/curbs & sewers, HSG C
	6,379	61	>75% Grass cover, Good, HSG B
	74,051	80	>75% Grass cover, Good, HSG D
	14,325	74	>75% Grass cover, Good, HSG C
	47,782	77	Woods, Good, HSG D
	165,053	80	Weighted Average
	142,537		86.36% Pervious Area
	22,516		13.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0400	0.10		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
5.6	444	0.0700	1.32		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
2.0	264	0.1000	2.21		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps
0.8	241	0.0660	5.22		**Shallow Concentrated Flow, D-E** Paved Kv= 20.3 fps
0.4	84	0.0300	3.95	4.85	**Pipe Channel, E-F** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.030
0.1	89	0.1100	21.63	259.55	**Trap/Vee/Rect Channel Flow, F-G** Bot.W=0.00' D=2.00' Z= 3.0 '/' Top.W=12.00' n= 0.022 Earth, clean & straight
25.7	1,222	Total			

Summary for Subcatchment 4A2: PHASE 2 ROAD MID

Runoff = 8.79 cfs @ 12.28 hrs, Volume= 0.954 af, Depth= 3.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	10,000	98	Roofs
*	9,345	98	Road
	88,668	80	Pasture/grassland/range, Good, HSG D
	23,093	77	Woods, Good, HSG D
	131,106	82	Weighted Average
	111,761		85.24% Pervious Area
	19,345		14.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	100	0.0850	0.13		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
6.5	462	0.0560	1.18		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
1.4	189	0.1050	2.27		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps
0.7	220	0.0700	5.37		**Shallow Concentrated Flow, D-E** Paved Kv= 20.3 fps
0.2	184	0.0700	18.11	22.22	**Pipe Channel, STORM DRAIN** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
21.2	1,155	Total			

Summary for Subcatchment 4B1: PHASE 2 ROAD WEST

Runoff = 4.73 cfs @ 12.32 hrs, Volume= 0.540 af, Depth= 3.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.80"

	Area (sf)	CN	Description
*	8,750	98	Roofs
*	2,059	98	Road
	42,765	80	Pasture/grassland/range, Good, HSG D
	20,628	77	Woods, Good, HSG D
	74,202	82	Weighted Average
	63,393		85.43% Pervious Area
	10,809		14.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.3	100	0.0600	0.12		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
7.4	588	0.0710	1.33		**Shallow Concentrated Flow, B--C** Woodland Kv= 5.0 fps
1.6	194	0.0800	1.98		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps
0.3	105	0.0650	5.18		**Shallow Concentrated Flow, D-E** Paved Kv= 20.3 fps
0.2	184	0.0700	18.11	22.22	**Pipe Channel, STORM DRAIN** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
23.8	1,171	Total			

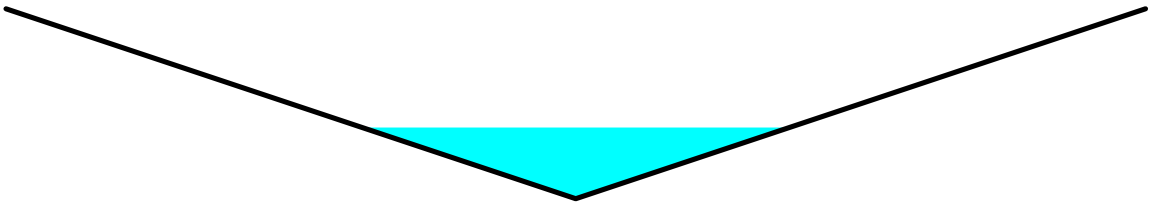
Summary for Reach 1R: Reach

Inflow Area = 3.789 ac, 13.64% Impervious, Inflow Depth = 3.60" for 25-Year event
Inflow = 9.68 cfs @ 12.36 hrs, Volume= 1.137 af
Outflow = 9.66 cfs @ 12.38 hrs, Volume= 1.137 af, Atten= 0%, Lag= 1.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 5.73 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 2.49 fps, Avg. Travel Time= 2.3 min

Peak Storage= 590 cf @ 12.37 hrs
Average Depth at Peak Storage= 0.75' , Surface Width= 4.50'
Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 132.28 cfs

0.00' x 2.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 12.00'
Length= 350.0' Slope= 0.0286 '/'
Inlet Invert= 228.00', Outlet Invert= 218.00'



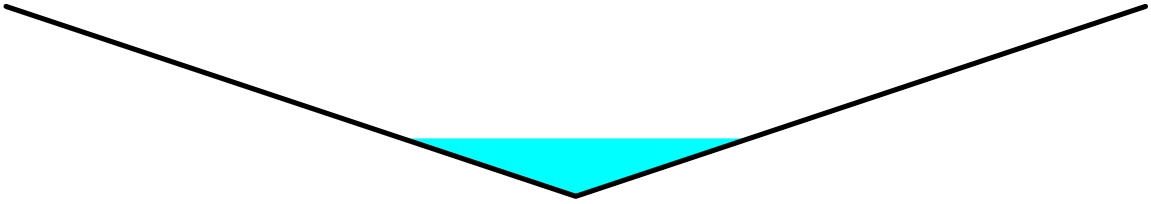
Summary for Reach 2R: Reach

Inflow Area = 3.010 ac, 14.76% Impervious, Inflow Depth = 3.80" for 25-Year event
Inflow = 8.79 cfs @ 12.28 hrs, Volume= 0.954 af
Outflow = 8.77 cfs @ 12.31 hrs, Volume= 0.954 af, Atten= 0%, Lag= 1.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 7.85 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 3.36 fps, Avg. Travel Time= 2.1 min

Peak Storage= 475 cf @ 12.30 hrs
Average Depth at Peak Storage= 0.61' , Surface Width= 3.66'
Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 207.92 cfs

0.00' x 2.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 12.00'
Length= 425.0' Slope= 0.0706 '/'
Inlet Invert= 260.00', Outlet Invert= 230.00'



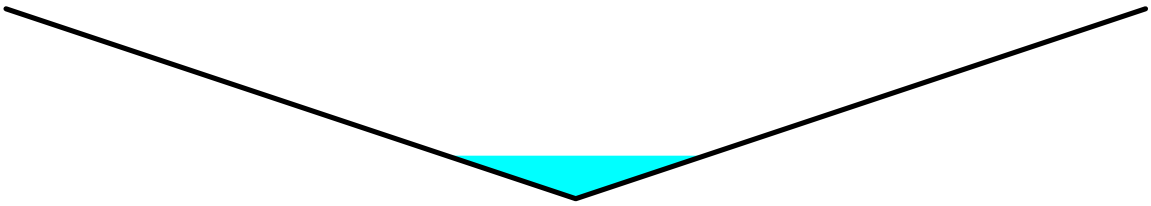
Summary for Reach 3R: Reach

Inflow Area = 1.703 ac, 14.57% Impervious, Inflow Depth = 3.80" for 25-Year event
Inflow = 4.73 cfs @ 12.32 hrs, Volume= 0.540 af
Outflow = 4.73 cfs @ 12.33 hrs, Volume= 0.540 af, Atten= 0%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 7.67 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 3.35 fps, Avg. Travel Time= 0.8 min

Peak Storage= 99 cf @ 12.33 hrs
Average Depth at Peak Storage= 0.45' , Surface Width= 2.72'
Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 247.47 cfs

0.00' x 2.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 12.00'
Length= 160.0' Slope= 0.1000 '/'
Inlet Invert= 276.00', Outlet Invert= 260.00'



Summary for Pond 4P1: USF-8

Inflow Area = 3.789 ac, 13.64% Impervious, Inflow Depth = 3.60" for 25-Year event
Inflow = 9.66 cfs @ 12.38 hrs, Volume= 1.137 af
Outflow = 9.24 cfs @ 12.46 hrs, Volume= 1.028 af, Atten= 4%, Lag= 4.3 min
Primary = 0.04 cfs @ 12.46 hrs, Volume= 0.069 af
Secondary = 9.20 cfs @ 12.46 hrs, Volume= 0.959 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 220.00' @ 12.46 hrs Surf.Area= 7,144 sf Storage= 8,265 cf

Plug-Flow detention time= 88.0 min calculated for 1.028 af (90% of inflow)
Center-of-Mass det. time= 40.9 min (877.3 - 836.4)

Volume	Invert	Avail.Storage	Storage Description
#1	215.50'	26,512 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
215.50	3,000	0.0	0	0
218.00	3,000	0.0	0	0
219.50	4,234	100.0	5,426	5,426
220.00	7,149	100.0	2,846	8,271
222.00	11,092	100.0	18,241	26,512

Device	Routing	Invert	Outlet Devices
#1	Primary	215.75'	**2.0" Round Culvert** L= 263.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 215.75' / 215.00' S= 0.0029 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.02 sf
#2	Secondary	219.50'	**10.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.04 cfs @ 12.46 hrs HW=220.00' (Free Discharge)
└**1=Culvert** (Barrel Controls 0.04 cfs @ 1.84 fps)

Secondary OutFlow Max=9.20 cfs @ 12.46 hrs HW=220.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 9.20 cfs @ 1.84 fps)

Summary for Pond 4P3: USF-6

Inflow Area = 3.010 ac, 14.76% Impervious, Inflow Depth = 3.80" for 25-Year event
Inflow = 8.77 cfs @ 12.31 hrs, Volume= 0.954 af
Outflow = 8.51 cfs @ 12.37 hrs, Volume= 0.863 af, Atten= 3%, Lag= 3.2 min
Primary = 0.06 cfs @ 12.37 hrs, Volume= 0.098 af
Secondary = 8.45 cfs @ 12.37 hrs, Volume= 0.765 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 229.97' @ 12.37 hrs Surf.Area= 4,696 sf Storage= 7,011 cf

Plug-Flow detention time= 97.2 min calculated for 0.862 af (90% of inflow)
Center-of-Mass det. time= 50.2 min (876.9 - 826.7)

Volume	Invert	Avail.Storage	Storage Description
#1	225.50'	18,988 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
225.50	2,745	0.0	0	0
228.00	2,745	0.0	0	0
229.50	3,902	100.0	4,985	4,985
230.00	4,744	100.0	2,162	7,147
232.00	7,097	100.0	11,841	18,988

Device	Routing	Invert	Outlet Devices
#1	Primary	225.75'	**1.5" Round Culvert** L= 33.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 225.75' / 224.00' S= 0.0530 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.01 sf
#2	Secondary	229.50'	**10.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.06 cfs @ 12.37 hrs HW=229.97' (Free Discharge)
1=Culvert (Barrel Controls 0.06 cfs @ 4.52 fps)

Secondary OutFlow Max=8.44 cfs @ 12.37 hrs HW=229.97' (Free Discharge)
2=Broad-Crested Rectangular Weir (Weir Controls 8.44 cfs @ 1.79 fps)

Summary for Pond 4P4: USF-7

Inflow Area = 1.703 ac, 14.57% Impervious, Inflow Depth = 3.80" for 25-Year event
Inflow = 4.73 cfs @ 12.33 hrs, Volume= 0.540 af
Outflow = 4.68 cfs @ 12.37 hrs, Volume= 0.482 af, Atten= 1%, Lag= 2.2 min
Primary = 0.02 cfs @ 12.37 hrs, Volume= 0.027 af
Secondary = 4.66 cfs @ 12.37 hrs, Volume= 0.455 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 261.82' @ 12.37 hrs Surf.Area= 2,743 sf Storage= 3,594 cf

Plug-Flow detention time= 90.0 min calculated for 0.482 af (89% of inflow)
Center-of-Mass det. time= 39.1 min (866.8 - 827.7)

Volume	Invert	Avail.Storage	Storage Description
#1	257.50'	11,963 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
257.50	1,395	0.0	0	0
260.00	1,395	0.0	0	0
261.50	2,322	100.0	2,788	2,788
262.00	2,983	100.0	1,326	4,114
264.00	4,866	100.0	7,849	11,963

Device	Routing	Invert	Outlet Devices
#1	Primary	257.75'	**1.0" Round Culvert** L= 43.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 257.75' / 257.00' S= 0.0174 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.01 sf
#2	Secondary	261.50'	**10.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.02 cfs @ 12.37 hrs HW=261.82' (Free Discharge)
1=Culvert (Barrel Controls 0.02 cfs @ 2.80 fps)

Secondary OutFlow Max=4.64 cfs @ 12.37 hrs HW=261.82' (Free Discharge)
2=Broad-Crested Rectangular Weir (Weir Controls 4.64 cfs @ 1.46 fps)

North American Green
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Poseyville, Indiana 47633
Tel. 800.772.2040
>Fax 812.867.0247
www.nagreen.com
ECMDS v7.0

CHANNEL ANALYSIS

> > > swale 1R

Name	swale 1R
Discharge	9.68
Channel Slope	0.0286
Channel Bottom Width	0
Left Side Slope	3
Right Side Slope	3
Low Flow Liner	
Retardence Class	C 6-12 in
Vegetation Type	Sod Former
Vegetation Density	Very Good 80-95%
Soil Type	Loam (MH)

Rock Riprap

Phase	Reach	Discharge	Velocity	Normal Depth	Mannings N	Permissible Shear Stress	Calculated Shear Stress	Safety Factor	Remarks	Staple Pattern
Rock Riprap Unvegetated	Straight	9.68 cfs	2.76 ft/s	1.08 ft	0.058	2 lbs/ft2	0.91 lbs/ft2	2.19	STABLE	--

S75

Phase	Reach	Discharge	Velocity	Normal Depth	Mannings N	Permissible Shear Stress	Calculated Shear Stress	Safety Factor	Remarks	Staple Pattern
S75 Unvegetated	Straight	9.68 cfs	4.4 ft/s	0.86 ft	0.031	1.6 lbs/ft2	1.53 lbs/ft2	1.05	STABLE	D
Underlying Substrate	Straight	9.68 cfs	4.4 ft/s	0.86 ft	0.031	1.29 lbs/ft2	0.72 lbs/ft2	1.78	STABLE	D

Unreinforced Vegetation

Phase	Reach	Discharge	Velocity	Normal Depth	Mannings N	Permissible Shear Stress	Calculated Shear Stress	Safety Factor	Remarks	Staple Pattern
Unreinforced Vegetation	Straight	9.68 cfs	3.11 ft/s	1.02 ft	0.05	4 lbs/ft2	1.82 lbs/ft2	2.2	STABLE	--
Underlying Substrate	Straight	9.68 cfs	3.11 ft/s	1.02 ft	0.05	4 lbs/ft2	0.86 lbs/ft2	4.64	STABLE	--

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CHANNEL ANALYSIS

> > > swale 2R

Name	swale 2R
Discharge	8.79
Channel Slope	0.0706
Channel Bottom Width	0
Left Side Slope	3
Right Side Slope	3
Low Flow Liner	
Retardence Class	C 6-12 in
Vegetation Type	Sod Former
Vegetation Density	Very Good 80-95%
Soil Type	Loam (MH)

Rock Riprap

Phase	Reach	Discharge	Velocity	Normal Depth	Mannings N	Permissible Shear Stress	Calculated Shear Stress	Safety Factor	Remarks	Staple Pattern
Rock Riprap Unvegetated	Straight	8.79 cfs	4.54 ft/s	0.8 ft	0.046	0 lbs/ft2	1.68 lbs/ft2	0	UNSTABLE	--

SC250

Phase	Reach	Discharge	Velocity	Normal Depth	Mannings N	Permissible Shear Stress	Calculated Shear Stress	Safety Factor	Remarks	Staple Pattern
SC250 Unvegetated	Straight	8.79 cfs	5.99 ft/s	0.7 ft	0.032	3 lbs/ft2	3.08 lbs/ft2	0.97	UNSTABLE	E
Underlying Substrate	Straight	8.79 cfs	5.99 ft/s	0.7 ft	0.032	2.41 lbs/ft2	1.46 lbs/ft2	1.65	STABLE	E
SC250 Reinforced Vegetation	Straight	8.79 cfs	5.11 ft/s	0.76 ft	0.039	10 lbs/ft2	3.33 lbs/ft2	3	STABLE	E
Underlying Substrate	Straight	8.79 cfs	5.11 ft/s	0.76 ft	0.039	10 lbs/ft2	1.58 lbs/ft2	6.32	STABLE	E

C125

Phase	Reach	Discharge	Velocity	Normal Depth	Mannings N	Permissible Shear Stress	Calculated Shear Stress	Safety Factor	Remarks	Staple Pattern
C125 Unvegetated	Straight	8.79 cfs	6.07 ft/s	0.69 ft	0.031	2.3 lbs/ft2	3.06 lbs/ft2	0.75	UNSTABLE	D
Underlying Substrate	Straight	8.79 cfs	6.07 ft/s	0.69 ft	0.031	1.85 lbs/ft2	1.45 lbs/ft2	1.27	STABLE	D

Unreinforced Vegetation

Phase	Reach	Discharge	Velocity	Normal Depth	Mannings N	Permissible Shear Stress	Calculated Shear Stress	Safety Factor	Remarks	Staple Pattern
Unreinforced Vegetation	Straight	8.79 cfs	5.11 ft/s	0.76 ft	0.039	4 lbs/ft2	3.33 lbs/ft2	1.2	STABLE	--
Underlying Substrate	Straight	8.79 cfs	5.11 ft/s	0.76 ft	0.039	4 lbs/ft2	1.58 lbs/ft2	2.53	STABLE	--

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CHANNEL ANALYSIS

> > > swale 3R

Name	swale 3R
Discharge	4.73
Channel Slope	0.1
Channel Bottom Width	0
Left Side Slope	3
Right Side Slope	3
Low Flow Liner	
Retardence Class	C 6-12 in
Vegetation Type	Sod Former
Vegetation Density	Very Good 80-95%
Soil Type	Loam (MH)

Rock Riprap

Phase	Reach	Discharge	Velocity	Normal Depth	Mannings N	Permissible Shear Stress	Calculated Shear Stress	Safety Factor	Remarks	Staple Pattern
Rock Riprap Unvegetated	Straight	4.73 cfs	5.61 ft/s	0.53 ft	0.033	2 lbs/ft2	1.57 lbs/ft2	1.28	STABLE	--

SC250

Phase	Reach	Discharge	Velocity	Normal Depth	Mannings N	Permissible Shear Stress	Calculated Shear Stress	Safety Factor	Remarks	Staple Pattern
SC250 Unvegetated	Straight	4.73 cfs	5.89 ft/s	0.52 ft	0.031	3 lbs/ft2	3.23 lbs/ft2	0.93	UNSTABLE	E
Underlying Substrate	Straight	4.73 cfs	5.89 ft/s	0.52 ft	0.031	2.41 lbs/ft2	1.53 lbs/ft2	1.58	STABLE	E
SC250 Reinforced Vegetation	Straight	4.73 cfs	5.05 ft/s	0.56 ft	0.038	10 lbs/ft2	3.48 lbs/ft2	2.87	STABLE	E
Underlying Substrate	Straight	4.73 cfs	5.05 ft/s	0.56 ft	0.038	10 lbs/ft2	1.65 lbs/ft2	6.06	STABLE	E

C125

Phase	Reach	Discharge	Velocity	Normal Depth	Mannings N	Permissible Shear Stress	Calculated Shear Stress	Safety Factor	Remarks	Staple Pattern
C125 Unvegetated	Straight	4.73 cfs	5.93 ft/s	0.52 ft	0.031	2.3 lbs/ft2	3.22 lbs/ft2	0.71	UNSTABLE	D
Underlying Substrate	Straight	4.73 cfs	5.93 ft/s	0.52 ft	0.031	1.85 lbs/ft2	1.53 lbs/ft2	1.21	STABLE	D

Unreinforced Vegetation

Phase	Reach	Discharge	Velocity	Normal Depth	Mannings N	Permissible Shear Stress	Calculated Shear Stress	Safety Factor	Remarks	Staple Pattern
Unreinforced Vegetation	Straight	4.73 cfs	5.05 ft/s	0.56 ft	0.038	4 lbs/ft2	3.48 lbs/ft2	1.15	STABLE	--
Underlying Substrate	Straight	4.73 cfs	5.05 ft/s	0.56 ft	0.038	4 lbs/ft2	1.65 lbs/ft2	2.42	STABLE	--

BYLAWS OF
VILLAGE CENTER ESTATES HOMEOWNERS' ASSOCIATION

ARTICLE I
Name, Offices, and Purpose

Section 1. Name. The name of the Association is the Village Center Estates Homeowners' Association.

Section 2. The purposes of the Association are:

a. To establish an association of Lot owners for the fulfillment and enforcement of the Lot owners' responsibilities as described in the Declaration. The effectiveness of this Association depends upon the cooperation and participation of the members.

b. In addition to all of the powers, authority and responsibilities granted to or imposed upon this Association as a nonprofit corporation by the laws of the State of Maine, all of which this Association shall have, this Association shall have the following specific powers to the fullest extent permitted by law:

> To levy and collect regular and special assessments and other charges against members as Lot owners; to appoint agents, to hire employees, and to make contracts; to promulgate rules and regulations as may be permitted by the Declaration, for the members of the Association; and generally to do any and all lawful acts necessary or convenient for the fulfillment of the foregoing purposes permitted under Title 13-B of the Maine Revised Statutes, as amended.

ARTICLE II
Definitions

Section 1. "Association" shall mean and refer to the nonprofit corporation, Village Center Estates Homeowners' Association, its successors and assigns.

Section 2. "Property" shall mean and refer to that certain real property in North Yarmouth, Maine, shown as "Lots 1 through 14," "Village View Lane," as shown on a plan entitled "Village Center Estates,", dated May, 2018, prepared by Sevee & Maher Engineers,, Inc. and recorded in the Cumberland County Registry of Deeds in Plan Book _____, Page _____ (hereinafter referred to as the "Plan"), as it may be amended from time to time, and such additions thereto as may hereafter be brought within the jurisdiction of the Association.

Section 3. "Lot" shall mean and refer to any of the individual lots of land, Lots 1 through 10, as shown upon the Plan.

Section 4. "Owner" shall mean and refer to the record owner, whether one or more persons or entities, of the fee simple title to any Lot that is a part of the Properties, including contract sellers, but excluding those having such interest merely as security for the performance of an obligation.

Section 5. "Declarant" shall mean and refer to Walnut Hill Investments LLC, its nominee or assignee.

Section 6. "Declaration" shall mean and refer to the "Declaration of Restrictions, VILLAGE CENTER ESTATES," applicable to the Property, dated _____, 2017, to be recorded in the Cumberland County Registry of Deeds.

Section 7. "Member" shall mean and refer to those persons entitled to membership as provided in the Declaration.

ARTICLE III
Meetings of Members

Section 1. Place of Meetings. Meetings of members may be held at the offices of the Association or at any other place within or without the State of Maine, as determined by the officers. It is permissible to hold meetings wherein one or two of the members to be present may be present by means of a conference call amplified to be heard by all those present in the meeting room.

Section 2. Annual Meeting. The first annual meeting of the members shall be held within one year from the date of incorporation of the Association, and each subsequent regular annual meeting of the members shall be held on the same day of the same month of each year thereafter, at the hour of six o'clock, p.m., unless otherwise mutually agreed. If the day for the annual meeting is a legal holiday, the meeting will be held at the same hour on the first day following which is not a legal holiday at the offices of the Association or at such other time and place as the members may determine. At the annual meeting, directors for the upcoming year shall be elected and other business shall be conducted. If a quorum shall not be present, such meeting may be adjourned by the members present for a period not exceeding sixty (60) days.

In case it shall happen at any time that an election shall not be held on the day herein before designated, such election may by be held at any subsequent meeting of the members at which a quorum may be present, such meeting to be called by the Board of Directors or any member or members holding not less than a majority of the number of voting rights, or by the Registered Agent, upon written request of such directors or members, by giving notice of the time and the place of holding such meeting in the manner provided by these Bylaws for giving notice of meetings.

Section 3. Special Meetings. Special meetings of the members, except as otherwise expressly provided, may be called by any of the following:

A. The President of the Association;
B. Written request of not less than thirty-three percent (33%) of the members; or
C. The Board of Directors.

Section 4. Notice of Meetings.

A. Except when notice is waived, as hereinafter provided, written or printed notice of each annual or special meeting of members shall be sent by the Registered Agent to all members entitled to vote at the meeting, by mailing the same, postage prepaid, not less than fifteen (15) days and not more than fifty (50) days prior to the meeting, addressed to such members at their respective addresses as recorded upon the books of the Association. Such notice shall state the place, day and hour of the meeting, and the purpose or purposes for which it is called. An affidavit of the mailing of such notice with a copy of the notice attached made by the person depositing the notices in the post office shall be sufficient proof of compliance with this requirement. No notice of any regular or special meeting of members is required, if all members entitled to vote or their respective attorneys thereunto duly authorized file with the records of the meeting a written waiver of such notice.

Section 5. Waiver of Notice and Call.

A. Notice of a meeting of members need not be given to any member who signs a waiver of notice in person or by proxy, either before or after the meeting.

B. Such signed waiver of notice shall also constitute a waiver of formal call of the meeting.

C. Attendance of a member at a meeting, in person or by proxy, shall of itself constitute waiver of notice and call, and of any defects therein, except when the member attends a meeting solely for the purpose of stating his objection, at the beginning of the meeting, to the transaction of any business on the ground that the meeting is not lawfully
called or convened, or that insufficient notice thereof was given.

Section 6. Record Date for Determining Members.

Members of record at the close of business, two business days prior to the date notice of meeting is mailed or given, shall be the members entitled to notice and have voting rights.

Section 7. Quorum of Members. The presence at the beginning of any meeting of the Association, in person or by proxy, of more than fifty percent (50%) of the members of the Association shall constitute a quorum for the transaction of all business.

Section 8. Proxies. At all meetings of members, each member may vote in person or by proxy. All proxies shall be in writing and filed with the secretary. Every proxy shall be revocable and shall automatically cease upon conveyance by the member of his Lot.

Section 9. Unanimous Consent. Any action required or permitted to be taken at a meeting of the members, including annual meetings, may be taken without a meeting, if a consent in writing, setting forth the actions so taken, is signed by all of the members entitled to vote thereon.

Section 10. Order of Business. The order of business at all meetings shall be generally as follows, if applicable:

A. Roll Call.
B. Proof of Notice of Meeting or Waiver of Notice.
C. Reading of Minutes of preceding meeting.
D. Reports of Officers.
E. Report of Board of Directors.
F. Report of Committees.
G. Election of the Board of Directors.
H. Unfinished Business.
I. New Business.
J. Adjournment.

ARTICLE IV
Membership in the Association

Section 1. Membership. The members of the Association shall consist of each Owner of a Lot.

Section 2. Election. Each Owner of Lots 1-14 shall become a member upon ownership of a Lot. Such membership shall be thereafter effective until each such Owner shall convey each Lot or residence, whether or not for value, by gift, devise or otherwise. Where property is owned by more than one Owner, such Owners shall be considered one member.

Section 3. Voting. Voting of members shall be in accordance with the provisions of the Declaration and the Articles of Incorporation for the Association. Votes allocated to a member may be cast pursuant to a proxy duly executed in writing by a member. A proxy is void if it is not dated or purports to be revocable without notice. A proxy shall automatically terminate ten (10) months after its date, unless it specifies a shorter time.

At any meeting at which a quorum is present, the affirmative vote of a majority of the members present shall determine any question except the election of the Directors, unless a greater percentage vote is required by Law or by these Bylaws. In the election of Directors, those receiving the greatest number of votes, though less than a majority shall be elected.

The Board of Directors of the Association shall manage the Association and exercise such powers on behalf of the Association, subject to the terms of these Bylaws.

Section 4. The Association is a corporation that is not organized for profit and no property or profit thereof shall inure to the benefit of any person except in furtherance of the non-profit making purposes of the Association.

ARTICLE V
Board of Directors

Section 1. General. The business and affairs of the Association shall be managed by a Board of Directors, which shall exercise such powers on behalf of the Association, subject to the terms of these Bylaws. The initial Board of Directors shall consist of three (3) persons to be appointed by the Declarant. The members so appointed may be removed and replaced by Declarant at Declarant's sole discretion. No later than sixty (60) days after the Declarant's completion of the construction, marketing and sale of all Lots, the Members shall elect a Board of Directors consisting of at least three (3) and no more than ten (10) individuals. Each director shall hold office for a one (1) year term and until his successor shall have been elected and qualified.

Section 2. Election. Within the sixty (60) day period immediately preceding the date by which directors appointed by the Declarant must resign pursuant to the Declaration and these Bylaws, a Special Meeting of the Association shall be held at which the Members shall vote for the election of at least three (3) and no more than ten (10) directors, which directors shall replace the prior directors appointed by the Declarant upon their mandatory resignation. All successor directors elected at said Special Meeting shall take office upon the resignations of the directors called for under the Declaration and these Bylaws and shall serve until the Annual Meeting next following their election. Thereafter, the Board of Directors shall be elected by the members at the Annual Meeting.

Section 3. Meeting. The Board of Directors may provide, by resolution, for regular meetings at a time and place, within or without the State designated in such resolution. Annual meetings shall usually follow the annual meetings of the members. Special meetings of the Board of Directors may be called by or at the request of the President or any two directors at a time and place designated by the Board of Directors.

Section 4. Notice. Regular meetings of the Board of Directors may be held without notice if the time and place of the meetings are fixed by the Board. If a time and place has not been fixed, regular meetings and special meetings shall be held upon written notice sent by mail not less than three (3) business days before the meeting. Any director may waive notice in writing either before or after the meeting. Notice of adjournment of a meeting need not be given if the time and place to which it is adjourned is fixed and announced at such meeting. Neither the business to be transacted at, nor the purpose for which any Board meeting is called need be specified in the notice or waiver of notice. Attendance of a director at a meeting shall constitute a waiver of any notice and any defect in such notice.

Section 5. Quorum. A majority of directors then in office shall constitute a quorum for the transaction of business. If there are less than a majority at any meeting, a majority of the

directors present may adjourn the meeting from time to time without further notice. The vote of a majority of the directors present at a meeting at which a quorum is present shall be the act of the Board of Directors. The Directors present at a duly called or held meeting at which a quorum was once present may continue to do business notwithstanding the withdrawal of enough directors to leave less than a quorum.

Section 6. Action. Action taken by the Board of Directors shall be by majority vote.

Section 7. Compensation. The Board of Directors shall receive no compensation for their services as Directors; however, the members may by vote at any meeting reimburse Directors for out of pocket expenses incurred in such capacity.

Section 8. All members of the Board of Directors shall be members of the Association, except those appointed by Declarant as permitted herein.

Section 9. Committees. The Board of Directors may, by resolution, designate an executive committee and other committees consisting of two (2) or more directors and such committees may exercise all the power of the Board except those prohibited by law.

Section 10. Unanimous Consent. Any action required or permitted to be taken at a meeting of the Board of Directors, including annual meetings, may be taken without a meeting, if a consent in writing, setting forth the actions so taken, is signed by all of the directors entitled to vote thereon.

Section 11. Vacancies. Any vacancy in the Board of Directors may be filled for the unexpired term by a majority of the remaining directors though less than a quorum of the Board.

Section 12. In addition to all the powers, authority and responsibilities granted to or imposed upon this Association by the laws of the State of Maine, the Association shall have the specific powers to:

A. Adopt and amend Bylaws;

B. Prepare a proposed budget for presentation to the annual meeting of members;

C. Adopt and amend Rules and Regulations regarding the use, repair, maintenance and replacement of any property owned or managed by the Association;

D. Hire and terminate employees, agents and independent contractors;

E. Pay taxes and assessments which may be levied against any part of the Association Property and provide for the payment of the same by the members through budget approval;

F. Determine the appropriate annual pro-ration and apportionment of dues among members, and the timely due date for payment thereof;

G. Take such action against such members as may be appropriate and lawful to collect unpaid dues or assessments;

H. Institute, defend, or intervene in litigation or administrative proceedings in its own name on behalf of itself or members of the Board of Directors on matters affecting the Association;

I. Maintain and provide long-term funding for the inspection and maintenance of the grassed underdrained soil filters, gravel wetland, and stormwater buffers on the Association Property. The filters shall be maintained semi-annually as set forth pursuant to Chapter 7.1 of the Maine DEP BMP Technical Design Manual; and

J. Exercise any other powers conferred by the Declaration or these Bylaws

ARTICLE VI
Officers and Term of Office

Section 1. Reservation of Authority. Until the members specifically vote to elect directors, or the same shall come into existence by operation of law, all authorities, privileges and rights ordinarily delegated to directors are vested in the Registered Agent of the Corporation. Meetings of the members may be represented to be meetings of directors if the nomenclature used by others demands it.

Section 2. Officers, Powers and Duties. The Association shall have as officers, a President, Treasurer and Registered Agent and such other officers, which may included one or more Vice Presidents, one or more Assistant Treasurers, a Secretary and one or more Assistant Secretaries, as the members may from time to time determine. The officers of the Association shall be the same as the officers of the Board of Directors. The several officers shall have such powers and duties not inconsistent with these Bylaws, as the Board of Directors may from time to time determine. The same person may occupy one or more offices. Officers shall be chosen annually, may be removed at any time with or without cause by the Board of Directors and subject to such removal shall continue in office until their successors are chosen and qualified. The Board of Directors may establish an Executive Committee to act between the directors meetings with such authorities as the Board of Directors may from time to time determine.

Section 3. Election of Officers. All officers shall be elected by ballot of the directors, except that in the first instance all such officers may be elected at the first meeting of incorporation to serve until their successors are duly chosen and qualified. The Treasurer and Assistant Treasurer shall give bond for the faithful performance of their duties, if the directors shall so require, in such form and for such sum as the directors shall determine. The Registered Agent shall be a resident of the State of Maine and shall be sworn to the faithful performance of his duties.

Section 4. Vacancies. In case of a vacancy in any office for any cause, the directors may elect a successor to the vacant office, and any successor so elected shall hold office until the next annual meeting of the directors and until his successor shall be duly elected and qualified.

Section 5. President. The President shall be the chief executive officer of the Association, shall preside at all meetings of the members and directors and shall also have such powers and duties as the Board of Directors shall from time to time determine.

Section 6. Vice Presidents. Vice Presidents, if and when elected, shall have such powers and duties as the Board of Directors and the President shall designate.

Section 7. Treasurer. The Treasurer shall be the general financial agent of the Association. Subject to the direction of the directors, he shall have custody of the monies and securities of the Association, except his own bond, and shall keep in books of the Association which shall be in his custody accurate records of all transactions of the office, which shall be open at all reasonable times to the inspection of any director. He shall have the authority to sign and endorse all checks and notes received by the Association, draw and accept all bills and drafts and also receive and give proper receipts and discharges for all monies due the Association from whatever source, unless otherwise restricted. He shall perform such other duties as the Board of Directors may prescribe.

Section 8. Assistants. Assistant Secretaries and Assistant Treasurers shall assist the Secretary or Treasurer, as the case may be, in the performance of his duties and at the request of such officers or of the President, shall perform the duties of such officers in the event of the absence or inability to act of such officers. They shall also perform such duties as the Board of Directors may from time to time prescribe for them or as the President may from time to time direct. Each Assistant Treasurer shall, if requested to do so by the Board of Directors, furnish bond in such amount as may be determined by the Board of Directors.

Section 9. Registered Agent. The Registered Agent shall be sworn to the faithful discharge of his duties and shall record in books kept for that purpose all the votes and proceedings of the Board of Directors at their meetings. He shall also perform such other duties as shall be prescribed by the Board of Directors.

Section 10. Salaries. The several officers of the Association shall not receive salaries for their services.

Section 11. Indemnification.

A. Each person who shall be or shall have been an officer of this Association shall be indemnified by this Association against all liabilities and expenses at any time imposed upon or reasonably incurred by him in connection with, arising out of or resulting from any action, suit or proceeding in which he may be involved or with which he may be threatened, by reason of his then serving or theretofore having served as an officer of this Association, or of any other corporation, of which he shall at the request of this Association then be serving or theretofore

have served as an officer or director or by reason of any alleged act or omission by him in any such capacity, whether or not he shall be serving as an officer or director of this or such other corporation at the time any or all of such liabilities or expenses shall be imposed upon or incurred by him.

B. The matters covered by the foregoing indemnity shall include any amounts paid by any such person in compromise or settlement if such compromise or settlement shall be approved as in the best interests of the Corporation by vote of a majority of disinterested Board of Directors and members present or represented at a meeting called for that purpose; but such matters shall not include liabilities or expenses imposed or incurred in connection with any matters as to which such person shall be finally adjudged in such action, suit or proceeding to be liable to this or such other corporation by reason of dereliction in the performance of his duty as such officer.

C. Each person who shall become an officer of this Association or of any such other corporation as aforesaid shall be deemed to have accepted and to have continued to serve in reliance in such office in reliance upon the indemnity herein provided. These indemnity provisions shall be separable, and if any portion thereof shall be adjudged to be invalid, such invalidity shall not affect any other portion which can be given effect without the invalid portion.

ARTICLE VII
Checks, Notes, Drafts and Other Instruments

Section 1. Checks, notes, drafts and other instruments for the payment of money drawn or endorsed in the name of the Association may be signed by any officer or officers or person or persons authorized by the Board of Directors to sign the same. No officer or person shall sign any such instrument as aforesaid unless authorized by the Board of Directors to do so.

Section 2. Any loans from members to the Association shall be memorialized by promissory notes from the Association.

ARTICLE VIII
Assessments

As more fully provided in the Declaration, each member is obligated to pay to the Association annual and special assessments which are secured by a continuing lien upon the property against which the assessment is made. No Lot Owner may waive or otherwise escape liability for the assessments provided for herein by nonuse of the Association Property or abandonment of his Lot.

ARTICLE IX
Corporate Seal

The Association shall have a seal in circular form having within its circumference the words: Village Center Estates Homeowners' Association.

ARTICLE X
Amendments

Section 1. These Bylaws may be amended at a regular or special meeting of the members, by a vote of a majority of a quorum of members present in person or by proxy, along with the written approval of Declarant.

Section 2. In the case of any conflict between the Articles of Incorporation and these Bylaws, the Articles shall control; and in the case of any conflict between the Declaration and these Bylaws, the Declaration shall control.

ARTICLE XI
Miscellaneous

The fiscal year of the Association shall begin on the first day of January and end on the 31st day of December of every year, except that the first fiscal year shall begin on the date of incorporation.

CERTIFICATION

I, the undersigned, do hereby certify:

THAT the foregoing Bylaws constitute the original Bylaws of said Village Center Estates Homeowners' Association.

IN WITNESS WHEREOF, Benjamin C. Grover of Construction Aggregate Inc., incorporator of Village Center Estates Homeowners' Association, has executed this document this _____ day of _____, 2007.

CONSTRUCTION AGGREGATE INC.:

_____ By: _____

Witness Benjamin C. Grover
Its duly authorized Manager

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 5A: EAST Runoff Area=92,984 sf 0.00% Impervious Runoff Depth=0.64"
Flow Length=566' Tc=17.5 min CN=67 Runoff=0.92 cfs 0.113 af

Pond AP5: AP-5 Inflow=0.92 cfs 0.113 af
Primary=0.92 cfs 0.113 af

Summary for Subcatchment 5A: EAST

Runoff = 0.92 cfs @ 12.29 hrs, Volume= 0.113 af, Depth= 0.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
46,753	61	Pasture/grassland/range, Good, HSG B
26,789	77	Woods, Good, HSG D
19,442	70	Woods, Good, HSG C
92,984	67	Weighted Average
92,984		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	100	0.1000	0.14		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
1.1	126	0.1580	1.99		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
4.7	340	0.0300	1.21		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps
17.5	566	Total			

Summary for Pond AP5: AP-5

Inflow Area = 2.135 ac, 0.00% Impervious, Inflow Depth = 0.64" for 2-Year event
Inflow = 0.92 cfs @ 12.29 hrs, Volume= 0.113 af
Primary = 0.92 cfs @ 12.29 hrs, Volume= 0.113 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 5A: EAST Runoff Area=92,984 sf 0.00% Impervious Runoff Depth=1.53"
Flow Length=566' Tc=17.5 min CN=67 Runoff=2.57 cfs 0.272 af

Pond AP5: AP-5 Inflow=2.57 cfs 0.272 af
Primary=2.57 cfs 0.272 af

Summary for Subcatchment 5A: EAST

Runoff = 2.57 cfs @ 12.26 hrs, Volume= 0.272 af, Depth= 1.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.60"

Area (sf)	CN	Description
46,753	61	Pasture/grassland/range, Good, HSG B
26,789	77	Woods, Good, HSG D
19,442	70	Woods, Good, HSG C
92,984	67	Weighted Average
92,984		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	100	0.1000	0.14		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
1.1	126	0.1580	1.99		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
4.7	340	0.0300	1.21		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps
17.5	566	Total			

Summary for Pond AP5: AP-5

Inflow Area = 2.135 ac, 0.00% Impervious, Inflow Depth = 1.53" for 10-Year event
Inflow = 2.57 cfs @ 12.26 hrs, Volume= 0.272 af
Primary = 2.57 cfs @ 12.26 hrs, Volume= 0.272 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 5A: EAST Runoff Area=92,984 sf 0.00% Impervious Runoff Depth=2.38"
Flow Length=566' Tc=17.5 min CN=67 Runoff=4.15 cfs 0.423 af

Pond AP5: AP-5 Inflow=4.15 cfs 0.423 af
Primary=4.15 cfs 0.423 af

Summary for Subcatchment 5A: EAST

Runoff = 4.15 cfs @ 12.25 hrs, Volume= 0.423 af, Depth= 2.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.80"

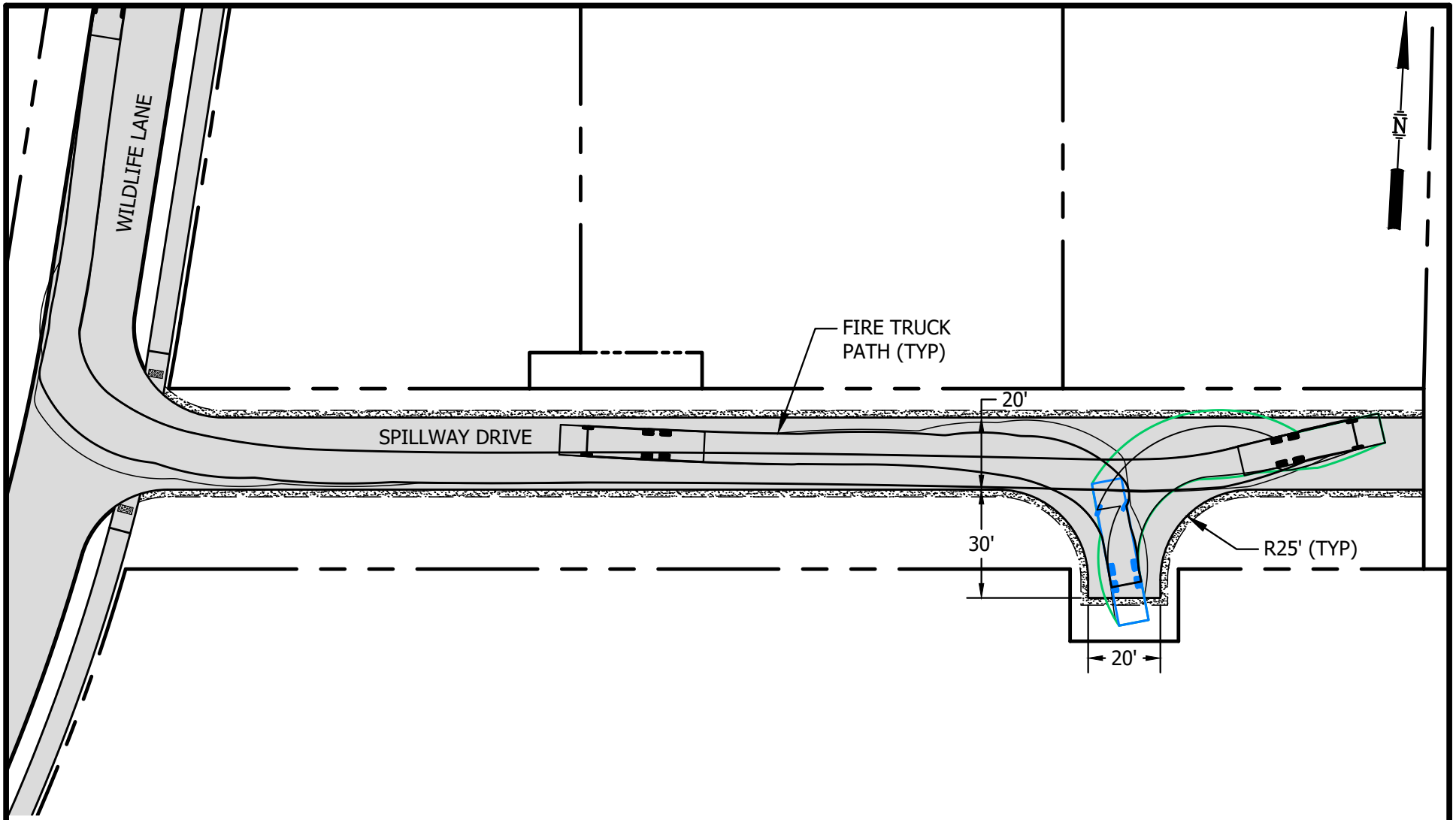
Area (sf)	CN	Description
46,753	61	Pasture/grassland/range, Good, HSG B
26,789	77	Woods, Good, HSG D
19,442	70	Woods, Good, HSG C
92,984	67	Weighted Average
92,984		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	100	0.1000	0.14		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
1.1	126	0.1580	1.99		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
4.7	340	0.0300	1.21		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps
17.5	566	Total			

Summary for Pond AP5: AP-5

Inflow Area = 2.135 ac, 0.00% Impervious, Inflow Depth = 2.38" for 25-Year event
Inflow = 4.15 cfs @ 12.25 hrs, Volume= 0.423 af
Primary = 4.15 cfs @ 12.25 hrs, Volume= 0.423 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs



NOTES:

VEHICLE USED FOR TURNING TEMPLATE IS E-ONE HP100
AERIAL FIREFIGHTING VEHICLE.
VEHICLE SPECIFICATIONS ARE AS FOLLOWS:

OVERALL LENGTH	= 40.0 FT
OVERALL WIDTH	= 8.333 FT
OVERALL BODY HEIGHT	= 11.0 FT
MIN BODY GROUND CLEARANCE	= 1.393 FT
TRACK WIDTH	= 8.333 FT
LOCK-TO-LOCK TIME	= 6.00s
WALL TO WALL TURNING RAD	= 45.0 FT

20 0 40 FEET

FIRE TRUCK TURN AROUND
SPILLWAY DRIVE
CONSTRUCTION AGGREGATE INC.
VILLAGE CENTER ESTATES, PHASE 2
NORTH YARMOUTH, MAINE

SME
SEVEE & MAHER
ENGINEERS

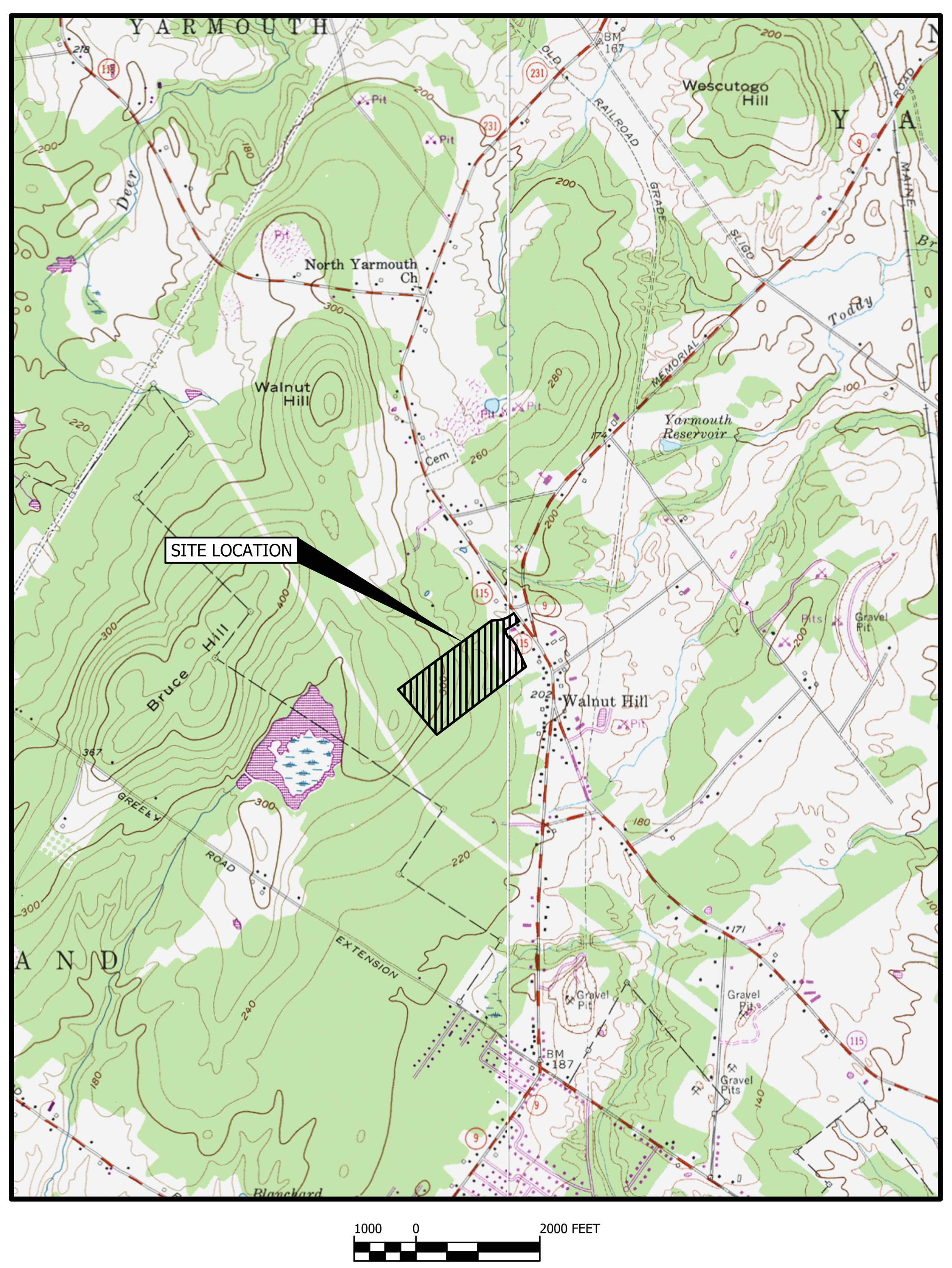
DWG: BASE LMN: FIRE TRUCK CTB: SME-STD REV: 3/29/2021

\\Nserver\cfs\Ben Grover\Village Center Estates Phase 2\Acad\Plans\BASE.dwg, 3/29/2021 11:11:33 AM, jrl

CONSTRUCTION AGGREGATE INC.
VILLAGE CENTER ESTATES, PHASE 2
NORTH YARMOUTH, MAINE

TITLE	DWG NO
COVER SHEET	
GENERAL NOTES, LEGEND, AND ABBREVIATIONS	C-100
EXISTING CONDITIONS PLAN	C-101
SUBDIVISION PLAN	C-102
SITE LAYOUT AND UTILITIES PLAN	C-103
GRADING AND EROSION CONTROL PLAN	C-104
WILDLIFE LANE PLAN AND PROFILE - STA 0+00 TO STA 8+50	C-200
WILDLIFE LANE PLAN AND PROFILE - STA 8+50 TO STA 16+29.52	C-201
SPILLWAY DRIVE PLAN AND PROFILE	C-202
UNDERDRAINED SOIL FILTER PLANS AND SECTION	C-203
UNDERDRAINED SOIL FILTER PLANS AND SECTION	C-204
STORMWATER MANAGEMENT AREA GRAVEL WETLAND	C-205
EROSION CONTROL NOTES AND DETAILS	C-300
SECTIONS AND DETAILS	C-301
SECTIONS AND DETAILS	C-302
SECTIONS AND DETAILS	C-303
SECTIONS AND DETAILS	C-304
STORMWATER MANAGEMENT PLAN - PRE-DEVELOPMENT CONDITIONS	D-100
STORMWATER MANAGEMENT PLAN - POST-DEVELOPMENT CONDITIONS	D-101

LOCATION MAP



SME
SEVEE & MAHER ENGINEERS
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
4 Blanchard Road, PO Box 85A, Cumberland Center, Maine 04021
Phone 207.829.5016 • Fax 207.829.5692 • smemaine.com

GENERAL NOTES:

1. BASE MAP DERIVED FROM SURVEY PERFORMED BY WAYNE T. WOOD & CO. ENTITLED "PLAN OF LAND OF SMITH ON WALNUT HILL ROAD IN NORTH YARMOUTH, MAINE FOR FREDERICK CHERNER, 4 PINEWOOD DR. ~CUMBERLAND CTR, ME 04021", DATED JUNE, 2018.
2. EXISTING ZONING LINE AND GROUNDWATER PROTECTION OVERLAY ZONE DIGITIZED FROM TOWN OF NORTH YARMOUTH ZONING MAP.
3. ALL SITE AND CONSTRUCTION ACTIVITIES SHALL BE IN COMPLIANCE WITH MEDEP BEST MANAGEMENT PRACTICES AND EXISTING FEDERAL, STATE, AND LOCAL PERMITS AND PERMITTING REQUIREMENTS FOR THE SITE.
4. SOILS INFORMATION FROM HIGH INTENSITY SOIL SURVEY COMPLETED BY MARK HAMPTON ASSOCIATES ON DECEMBER 3, 2019.
5. THE EXISTING CONTOURS SHOWN IN THE PHASE I AREA ARE FROM DESIGN DRAWINGS BY SME, DATED AUGUST 29, 2018. THE EXISTING CONTOURS SHOWN IN THE PHASE II AREA ARE TAKEN FROM LIDAR AS AVAILABLE FROM MAINE GIS DATA CATALOG.

SURVEYOR'S NOTES

1. OWNERS OF RECORD ARE GAIL S. BRUNS, CINDY A. CHERNER AND J. WHITMAN SMITH BY DEED OF DISTRIBUTION OF SIDNEY D. SMITH RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 12,863 ON PAGE 144 AND NORMAN L. & NELSON L. SMITH BY DEED OF DISTRIBUTION OF NORMAN L. SMITH RECORDED IN THE SAID REGISTRY OF DEEDS BOOK 32,519 PAGE 82.
2. ALL BEARINGS ARE REFERENCED TO MAGNETIC NORTH OF THE YEAR 1983 PER THE PLAN IN SURVEYOR'S PLAN REFERENCE NOTES #9 AND ARE CALCULATED FROM ANGLES OF AN ACTUAL ON THE GROUND SURVEY.
3. THE SUBJECT PARCEL IS SHOWN ON THE TOWN OF NORTH YARMOUTH, MAINE TAX MAP 7 AS LOT 34.
4. THE EXISTING CONTOURS SHOWN ARE TAKEN FROM LIDAR AS AVAILABLE FROM MAINE GIS DATA CATALOG.
5. WETLANDS SHOWN ARE AS DELINEATED BY SWEET ASSOCIATES ON A PLAN DATED JUNE 10, 2016. ADDITIONAL WETLANDS SHOWN ARE AS DELINEATED BY MARK HAMPTON ASSOCIATES ON JULY 1, 2018.
6. THE RICHARD BASTON PROPERTY MAY HAVE AN EASEMENT OR RIGHT OF WAY ACROSS THIS PROPERTY OVER THE SECTION OF THIS PARCEL LABELED AS THE "OSGOOD/ DOLLOFF LOT" FOR THE PURPOSES OF ACCESSING THE BASTON LOT FOR WOOD HARVESTING ACTIVITIES.

SURVEYOR'S PLAN REFERENCE NOTES

1. "PLAN OF LAND ON MEMORIAL HIGHWAY IN NORTH YARMOUTH, MAINE FOR FREDERICK CHERNER" DATED SEPTEMBER 2017 BY WAYNE T. WOOD & CO.
2. "GUIDI FLASH HOLDINGS ~ STONE POST SUBDIVISION ~ ROUTE 115 ~ NORTH YARMOUTH, MAINE" DATED MARCH 2016 BY SEVEE & MAHER ENGINEERING RECORDED IN PLAN BOOK 216 PAGE 384.
3. "CONDOMINIUM PLAT WALNUT HILL CONDOMINIUM 2 WALNUT HILL ROAD, NORTH YARMOUTH, MAINE MADE FOR PIPER, LLC" DATED APRIL 15, 2015 BY OWEN HASKELL, INC. RECORDED IN PLAN BOOK 215 PAGE 138.
4. "PLAN OF LAND FOR THOMAS AND SARE CURTIS" DATED OCTOBER 2013 BY COLONIAL SURVEYING COMPANY, LLC RECORDED IN PLAN BOOK 215 PAGE 31.
5. "UPDATE TO A STANDARD BOUNDARY SURVEY SHOWING LAND OF REBECCA L. SWIGGETT FOR THE TRUST FOR PUBLIC LAND GREELY ROAD EXTENSION & PLEASANT VALLEY ROAD, CUMBERLAND & NORTH YARMOUTH, MAINE" DATED AUGUST 26, 2013 REVISED 6/3/2014.
6. "RIGHT OF WAY MAP STATE AID HIGHWAY NOS. 2 & 3 (ROUTES 9 & 115) NORTH YARMOUTH, CUMBERLAND COUNTY" DATED JUNE 2004.
7. "STANDARD BOUNDARY SURVEY FOR RICHARD & HELEN KNIGHT, GREELY ROAD EXTENSION, CUMBERLAND / NORTH YARMOUTH, MAINE" DATED FEB 1, 1996 REVISED THRU 7/15/96 RECORDED IN PLAN BOOK 196 PAGE 395.
8. "STANDARD BOUNDARY SURVEY ON ROUTE 115 IN NORTH YARMOUTH, MAINE FOR NELLIE LEIGHTON & PAUL & BETTY KAY TURINA" DATED 1/26/1989 BY DANIEL T.C. LAPOINT.
9. "STANDARD BOUNDARY SURVEY PLAN OF LAND ON ROUTE 115 IN NORTH YARMOUTH, MAINE FOR NORMAN L. SMITH, SIDNEY D. SMITH" DATED 4/17/1987 BY DANIEL T. C. LAPOINT.
10. "PLAN OF LAND FOR PAUL CLARK, ROUTE 115, NORTH YARMOUTH, ME" DATED 7/10/1978 BY C. R. STORER, INC. RECORDED IN PLAN BOOK 120 PAGE 30.

GENERAL SITE NOTES:

1. EXCAVATE AND STOCKPILE ON-SITE TOPSOIL. TOPSOIL IS TO REMAIN THE PROPERTY OF THE OWNER DURING CONSTRUCTION, AND SHALL NOT BE REMOVED FROM THE SITE. AFTER FINAL LOAM AND SEED EXCESS TOPSOIL SHALL BE REMOVED FROM SITE BY CONTRACTOR.
2. PAVEMENT EDGES SHALL BE TRUE TO LINE. SAWCUT EXISTING PAVEMENT IN SMOOTH STRAIGHT LINE WHERE NEW PAVEMENT JOINS, PROVIDE TACK COAT LAYER AS SPECIFIED.
3. PROVIDE TRAFFIC CONTROL SIGNAGE AND STRIPING AS SHOWN AND IN ACCORDANCE WITH U.S.D.O.T. MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MOST RECENT VERSION).
4. HORIZONTAL DATUM: NAD83, WEST, FT. VERTICAL DATUM: NAVD 88.

GRADING NOTES:

1. ADD 4" LOAM, SEED AND MULCH TO DISTURBED AREAS UNLESS OTHERWISE NOTED. PROVIDE EROSION CONTROL MESH ON ALL SLOPES STEEPER THAN 3:1, AND ALONG DITCH CHANNELS.
2. MAINTAIN TEMPORARY EROSION CONTROL MEASURES FOR THE FULL DURATION OF CONSTRUCTION. INSPECT WEEKLY AND AFTER EACH STORM AND REPAIR AS NEEDED. REMOVE SEDIMENTS FROM THE SITE. PLACE IN AREA OF LOW EROSION POTENTIAL, AND STABILIZE WITH SEED AND MULCH.
3. PLACE TEMPORARY SOIL STABILIZATION WITHIN 7 DAYS OF INITIAL DISTURBANCE. PLACE PERMANENT SOIL STABILIZATION WITHIN 7 DAYS OF FINAL GRADING.

UTILITY NOTES:

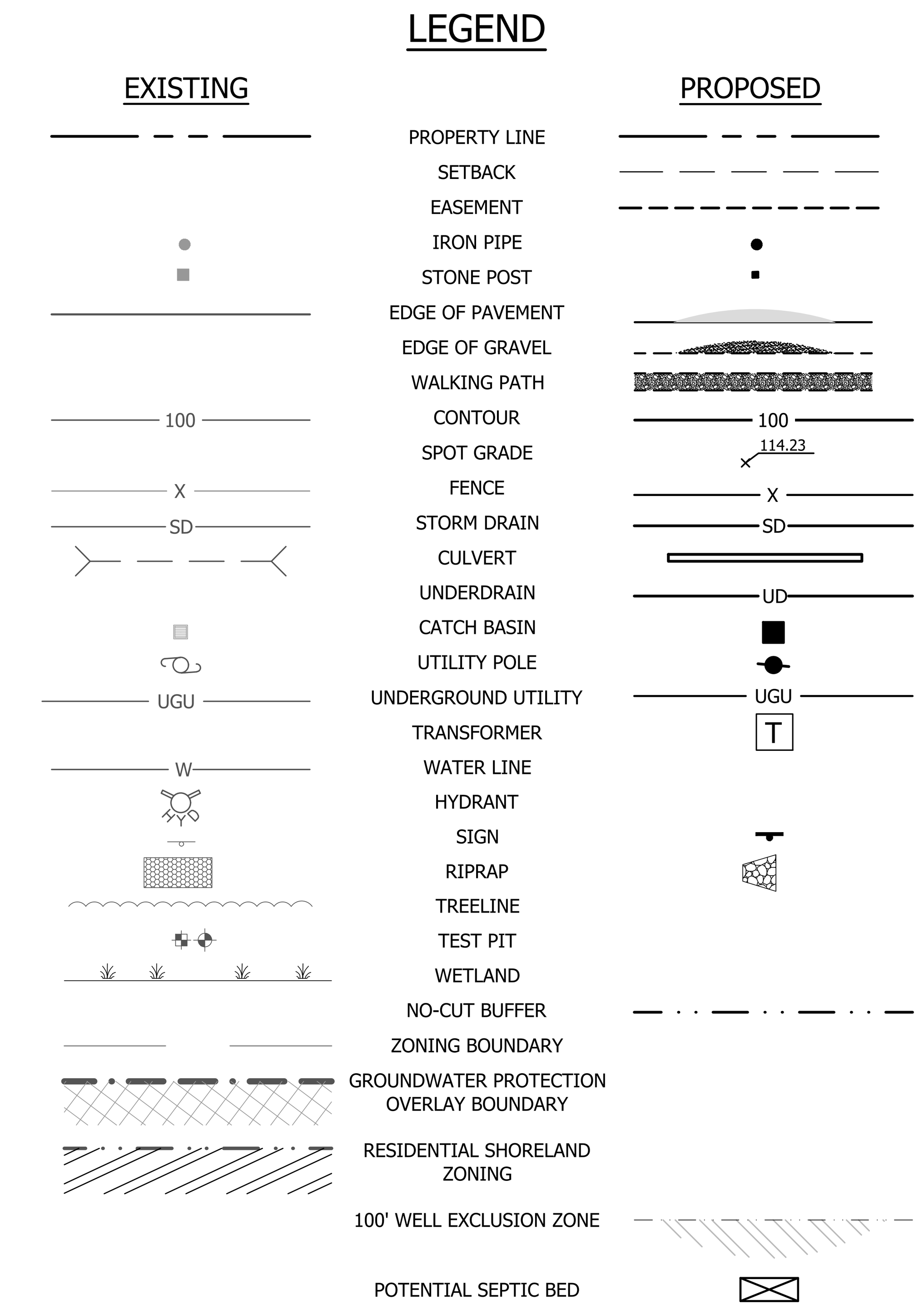
1. THE ACCURACY AND COMPLETENESS OF SUBSURFACE INFORMATION IS NOT GUARANTEED. VERIFY SITE CONDITIONS INCLUDING TEST PITS FOR LOCATIONS AND INVERTS OF UTILITIES AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING WITH THAT PORTION OF THE WORK.
2. COORDINATE WORK ON UTILITY LINES OR WITHIN ROAD RIGHT-OF-WAY WITH THE UTILITY COMPANIES AND TOWN ROAD DEPARTMENT AND MEDOT.
3. ALL PIPING AND DRAINAGE STRUCTURES SHALL BE INSTALLED IN ACCORDANCE WITH THE TOWN OF NORTH YARMOUTH MUNICIPAL STANDARDS.

DIG SAFE NOTES:

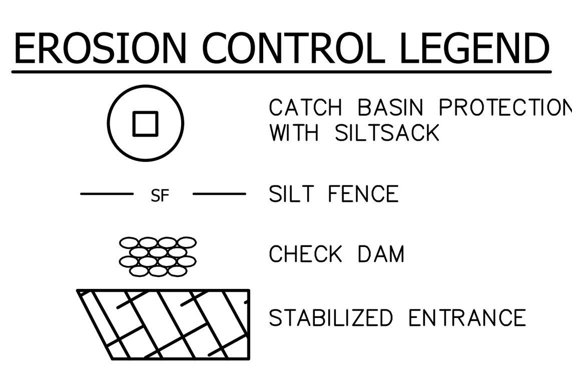
PRIOR TO EXCAVATION, VERIFY THE UNDERGROUND UTILITIES, PIPES, STRUCTURES AND FACILITIES. PROVIDE THE FOLLOWING MINIMUM MEASURES:

1. PRE-MARK THE BOUNDARIES OF PLANNED EXCAVATION WITH WHITE PAINT, FLAGS OR STAKES, SO UTILITY CREWS KNOW WHERE TO MARK THEIR LINES.
2. CALL DIG SAFE, AT 811, AT LEAST THREE BUSINESS DAYS - BUT NO MORE THAN 30 CALENDAR DAYS - BEFORE STARTING WORK. DO NOT ASSUME SOMEONE ELSE WILL MAKE THE CALL.
3. IF BLASTING, NOTIFY DIG SAFE AT LEAST ONE BUSINESS DAY IN ADVANCE.
4. WAIT THREE BUSINESS DAYS FOR LINES TO BE LOCATED AND MARKED WITH COLOR-CODED PAINT, FLAGS OR STAKES. NOTE THE COLOR OF THE MARKS AND THE TYPE OF UTILITIES THEY INDICATE. TRANSFER THESE MARKS TO THE AS-BUILT DRAWINGS.
5. CONTACT THE LANDOWNER AND OTHER "NON-MEMBER" UTILITIES (WATER, SEWER, GAS, ETC.). FOR THEM TO MARK THE LOCATIONS OF THEIR UNDERGROUND FACILITIES. TRANSFER THESE MARKS TO THE AS-BUILT DRAWINGS.
6. RE-NOTIFY DIG SAFE AND THE NON-MEMBER UTILITIES IF THE DIGGING, DRILLING OR BLASTING DOES NOT OCCUR WITHIN 30 CALENDAR DAYS, OR IF THE MARKS ARE LOST DUE TO WEATHER CONDITIONS, SITE WORK ACTIVITY OR ANY OTHER REASON.
7. HAND DIG WITHIN 18 INCHES IN ANY DIRECTION OF ANY UNDERGROUND LINE UNTIL THE LINE IS EXPOSED. MECHANICAL METHODS MAY BE USED FOR INITIAL SITE PENETRATION, SUCH AS REMOVAL OF PAVEMENT OR ROCK.
8. DIG SAFE REQUIREMENTS ARE IN ADDITION TO TOWN, CITY, AND/OR STATE DOT STREET OPENING PERMIT REQUIREMENTS.
9. FOR COMPLETE DIG SAFE REQUIREMENTS, CALL THE PUC OR VISIT THEIR WEBSITE.
10. IF YOU DAMAGE, DISLOCATE OR DISTURB ANY UNDERGROUND UTILITY LINE, IMMEDIATELY NOTIFY THE AFFECTED UTILITY. IF DAMAGE CREATES SAFETY CONCERNS, CALL THE FIRE DEPARTMENT AND TAKE IMMEDIATE STEPS TO SAFEGUARD HEALTH AND PROPERTY.
11. ANY TIME AN UNDERGROUND LINE IS DAMAGED OR DISTURBED OR IF LINES ARE IMPROPERLY MARKED, YOU MUST FILE AN INCIDENT REPORT WITH THE P.U.C. FOR AN INCIDENT REPORT FORM VISIT WWW.STATE.ME.US/MPUC OR CALL THE PUC AT 1-800-452-4699.

LEGEND



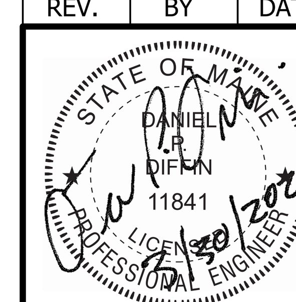
EROSION CONTROL LEGEND



TYPICAL ABBREVIATIONS:

ACCMP	ASPHALT COATED CMP
ACP	ASBESTOS CEMENT PIPE
AC	ACRE
AGG	AGGREGATE
ALUM	ALUMINUM
APPD	APPROVED
APPROX	APPROXIMATE
ARMH	AIR RELEASE MANHOLE
ASB	ASBESTOS
ASP	ASPHALT
AUTO	AUTOMATIC
AUX	AUXILIARY
AVE	AVENUE
AZ	AZIMUTH
BCCMP	BITUMINOUS COATED CMP
BM	BENCH MARK
BIT	BITUMINOUS
BLDG	BUILDING
BOT	BOTTOM
BRG	BEARING
BV	BALL VALVE
CB	CATCH BASIN
CEN	CENTER
CEM LIN	CEMENT LINED
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT
CF	CUBIC FEET
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CL	CLASS
CONC	CONCRETE
CONST	CONSTRUCTION
CONTR	CONTRACTOR
CS	CURB STOP
CTR	CENTER
CU	COPPER
CY	CUBIC YARD
D	DEGREE OF CURVE
DBL	DOUBLE
DEG OR °	DEGREE
DEPT	DEPARTMENT
DI	DUCTILE IRON
DIA OR	DIAMETER
DIM	DIMENSION
DIST	DISTANCE
DN	DOWN
DR	DRAIN
DWG	DRAWING
EA	EACH
EG	EXISTING GROUND OR GRADE
ELEC	ELECTRIC
EL	ELEVATION
ELB	ELBOW
EOP	EDGE OF PAVEMENT
EQUIP	EQUIPMENT
EST	ESTIMATED
EXC	EXCAVATE
EXIST	EXISTING
FI	FIELD INLET
FG	FINISH GRADE
FBRGL	FIBERGLASS
FDN	FOUNDATION
FLEX	FLEXIBLE
FLG	FLANGE
FLR	FLOOR
FPS	FEET PER SECOND
FT OR '	FEET
FTG	FOOTING
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GPD	GALLONS PER DAY
GPM	GALLONS PER MINUTE
HDPE	HIGH DENSITY POLYETHYLENE
HORIZ	HORIZONTAL
HP	HORSEPOWER
HYD	HYDRANT
ID	INSIDE DIAMETER
IN OR "	INCHES
INV	INVERT
INV EL	INVERT ELEVATION
LB	POUND
LC	LEACHATE COLLECTION
LD	LEAK DETECTION
LF	LINEAR FEET
LOC	LOCATION
LT	LEACHATE TRANSPORT
MH	MANHOLE
MJ	MECHANICAL JOINT
MATL	MATERIAL
MAX	MAXIMUM
MFR	MANUFACTURE
MIN	MINIMUM
MISC	MISCELLANEOUS
MON	MONUMENT
NITC	NOT IN THIS CONTRACT
NTS	NOT TO SCALE
N/F	NOW OR FORMERLY
NO OR #	NUMBER
OC	ON CENTER
OD	OUTSIDE DIAMETER
PC	POINT OF CURVE
PD	PERIMETER DRAIN
PI	POINT OF INTERSECTION
PIV	POST INDICATOR VALVE
PT	POINT OF TANGENT
PERF	PERFORATED
PP	POWER POLE
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
QTY	QUANTITY
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT OF WAY
RAD	RADIUS
REQD	REQUIRED
RT	RIGHT
RTE	ROUTE
S	SLOPE
SCH	SCHEDULE
SF	SQUARE FEET
SHT	SHEET
SMH	SANITARY MANHOLE
ST	STREET
STA	STATION
SY	SQUARE YARD
TAN	TANGENT
TDH	TOTAL DYNAMIC HEAD
TEMP	TEMPORARY
TYP	TYPICAL
UD	UNDERDRAIN
V	VOLTS
VA TEE	VALVE ANCHORING TEE
VERT	VERTICAL
WG	WATER GATE
W/	WITH
W/O	WITHOUT
YD	YARD

REV.	BY	DATE	STATUS
	DPD	3/2021	ISSUED FOR TOWN APPROVAL
	DPD	2/2021	REVISED PER TOWN AND MEDEP COMMENTS
	DPD	12/2020	REVISED PER STAFF COMMENTS
	DPD	10/2020	ISSUED FOR TOWN AND MEDEP PERMIT REVIEW



CONSTRUCTION AGGREGATE INC.
VILLAGE CENTER ESTATES, PHASE 2
NORTH YARMOUTH, MAINE

GENERAL NOTES, LEGEND, AND ABBREVIATIONS

SME
SEVEE & MAHER ENGINEERS
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
4 Blanchard Road, PO Box 85A, Cumberland, Maine 04021
Phone 207.829.5016 • Fax 207.829.5692 • smemaine.com

DESIGN BY: JTR
DRAWN BY: SJM
DATE: 1/2020
CHECKED BY: BDP
LMN: NONE
CTB: SME-STD

JOB NO. 18295.00 DWG FILE GEN-NOTES

C-100

\\nserver\CFS\Ben Grover\Village Center Estates Phase 2\Acad\Plans\GEN-NOTES.dwg, 3/29/2021 12:27:56 PM, jrl

N/F
WALNUT HILL INVESTMENTS, LLC
(32,548/43)

N/F
STEPHANIE L. DEXTER
(17,012/49)

DEXTER LANE

N/F
LINDA GORDON
(4667/233)

N 69°54'36" E 791.50'

N 69°21'42" E 299.77'

N 70°18'28" E 582.35'

Stone Post
3"x5"x36"tall

Bolt @
Stone Wall End

N 68°23'00" E
305.00'

S 12°08'26" E 230.44'

N/F
JAMES P. NOONAN
(29,691/110)

1 1/2" Iron Pipe
36" tall, Loose

N 68°59'44" E 591.52'

S 19°42'22" E 135.17'

N 71°49'22" E
222.03'

2" Iron Pipe
44" tall, Leaning

N/F
ESTHER MITCHELL
(32,126/27)

S 19°24'22" E 247.98'

N/F
YARMOUTH WATER DISTRICT
(9433/56)

N/F
SANDRA J. BOYNTON
(4642/300)

3" Iron Pipe
72" tall, Leaning

N 71°49'22" E
222.03'

2" Iron Pipe
48" tall, Leaning

EXTENTS OF PHASE 1 (TYP)

S 19°24'22" E
224.30'

N/F
BRUCE A. SULLIVAN
(31,470/95)

3/4" Iron Pipe
6" tall

N 69°53'14" E 597.71'

1 1/2" Iron Pipe
24" tall, Leaning

N/F
JOSEPH A. LUCEY
MAUREEN P. LUCEY
(15,558/220)

2" Iron Pipe
12" tall, Leaning

S 20°31'35" E
144.25'

N 74°21'52" E 295.69'

Stone Post
5"x10" 60" tall

Stone Posts

AREA TO BE RETAINED
BY OWNER (PHASE 1)
101,874 SF
2.3 ACRES

S 21°51'46" E
239.24'

TP-1
Stone Posts

EXISTING UTILITY POLE (TYP)

N 72°03'26" E
203.00'

N/F
BRUNS, CHERNER
& SMITH
(19,721/167)

N 20°13'04" W
159.75'

3/4" Iron Pipe
Flush

R=375.00'
L=93.99'

N 72°03'26" E
39.36'

15" DIA HDPE CULVERT
INV IN 211.5
INV OUT 209.7
CB-4
RIM EL 213.23
15" DIA INV IN 209.7
6" DIA INV IN 209.7
15" DIA INV OUT 209.6
15" DIA HDPE CULVERT
INV IN 209.60
INV OUT 209.35
CATCH BASIN
RIM EL 208.66
CATCH BASIN
RIM EL 208.34

S 20°56'48" E
202.34'

S 55°36'48" E
3.36'

WALNUT HILL ROAD (RT 115)

MEMORIAL HIGHWAY (RT 9)

N 78°00'06" E
137.02'

N 72°15'32" E
141.00'

N 07°43'58" W
131.88'

N 76°58'56" E
34.70'

N 17°44'46" W
173.75'

N/F
N.L. SMITH, LLC
(32,805/339, 13,669/202)

N/F
HOLLY J. DAY
(23.990/70)

N/F
MATTHEW J. WASIELEWSKI
(33,645/120, 14,681/289)

N 0°49'22" W 381.80'

N/F
DAVID J. MESSINGER
(34,931/229)

STONE POST LN

N/F
COLE
(33,864/333)

NOTE:

SEE DWG C-100 FOR INFORMATION ON ORIGINS OF TOPOGRAPHY, SITE FEATURES, AND WETLANDS.

60 0 120 240 FEET

N/F
TOWN OF NORTH YARMOUTH
(32,680/207)

N/F
TOWN OF
NORTH YARMOUTH

S 51°12'11" E 296.23'

N 52°48'18" E 238.65'

5/8" Capped Rebar
5" tall, #2445

239.06'

5/8" Capped Rebar
10" tall, #1093

N/F
CENTRAL MAINE POWER COMPANY
(2267/286, 3175/788)

N 14°10'10" W 587.90'

N 14°10'10" W 579.35'

173.65'

N 51°08'17" E

246.17'

N 50°57'57" E

242.53'

S 21°07'52" E 551.59'

50' ACCESS EASEMENT

GROUND WATER PROTECTION
OVERLAY BOUNDARY

N/F
RICHARD M. BASTON
(2238/117)

Section #352

S 23°33'24" E 96.96'

N/F
JOEL C. FULLER
MARCIA S. FULLER
(3553/342)

N 69°39'09" E 1811.73'

N/F
CHRISTOPHER C. CABOT
KATHERINE W. BICKNELL
(31,083/189)

PHASE 1

PHASE 2

EXTENTS OF PHASE 2 (TYP)

FARM FOREST ZONE
VILLAGE CENTER ZONE

VILLAGE VIEW LANE

EXISTING CULVERT

EXISTING UNDERGROUND UTILITY (TYP)

EXISTING 36" DIA
CONCRETE CULVERT

TOP OF CULVERT
EL 213.36

TOP OF CULVERT
EL 209.74

CATCH BASIN
RIM EL 209.51

WETLAND DELINEATED BY
SWEET ASSOCIATES
SEE SURVEYOR'S NOTE 5

WETLAND DELINEATED BY
MARK HAMPTON ASSOCIATES
SEE SURVEYOR'S NOTE 5

75' MEDEP STREAM SETBACK (TYP)
NO DEVELOPMENT WITHIN THIS
SETBACK INCLUDING LAWNS, ETC.
WITHOUT MEDEP PERMIT

PHASE II DEVELOPMENT AREA
(RETAINED BY OWNER IN PHASE 1)
1,850,956 SF
42.5 ACRES

1
283,323 SF
6.5 ACRES

2
105,554 SF
2.4 ACRES

3
149,561 SF
3.4 ACRES

4
156,474 SF
3.6 ACRES

5
126,154 SF
2.9 ACRES

6
267,025 SF
6.1 ACRES

7
144,325 SF
3.3 ACRES

8
189,462 SF
4.3 ACRES

9
187,560 SF
4.3 ACRES

10
164,578 SF
3.8 ACRES

11
155,787 SF
3.6 ACRES

12
207,583 SF
4.8 ACRES

13
128,102 SF
2.9 ACRES

14
135,205 SF
3.3 ACRES

REV.	BY	DATE	STATUS
	DPD	3/2021	ISSUED FOR TOWN APPROVAL
	DPD	2/2021	REVISED PER TOWN AND MEDEP COMMENTS
	DPD	12/2020	REVISED PER STAFF COMMENTS
	DPD	10/2020	ISSUED FOR TOWN AND MEDEP PERMIT REVIEW

STATE OF MAINE
DANIEL P. DIFLAN
11841
LICENSED PROFESSIONAL ENGINEER

CONSTRUCTION AGGREGATE INC.
VILLAGE CENTER ESTATES, PHASE 2
NORTH YARMOUTH, MAINE

EXISTING CONDITIONS PLAN

SME
SEVEE & MAHER ENGINEERS
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4 Blanchard Road, PO Box 85A, Cumberland, Maine 04021
Phone 207.829.5016 • Fax 207.829.5692 • smemaine.com

DESIGN BY:	JTR
DRAWN BY:	SJM
DATE:	1/2020
CHECKED BY:	BDP
LMN:	EXCON
CTB:	SME-STD

JOB NO. 18295.01 DWG FILE BASE

C-101

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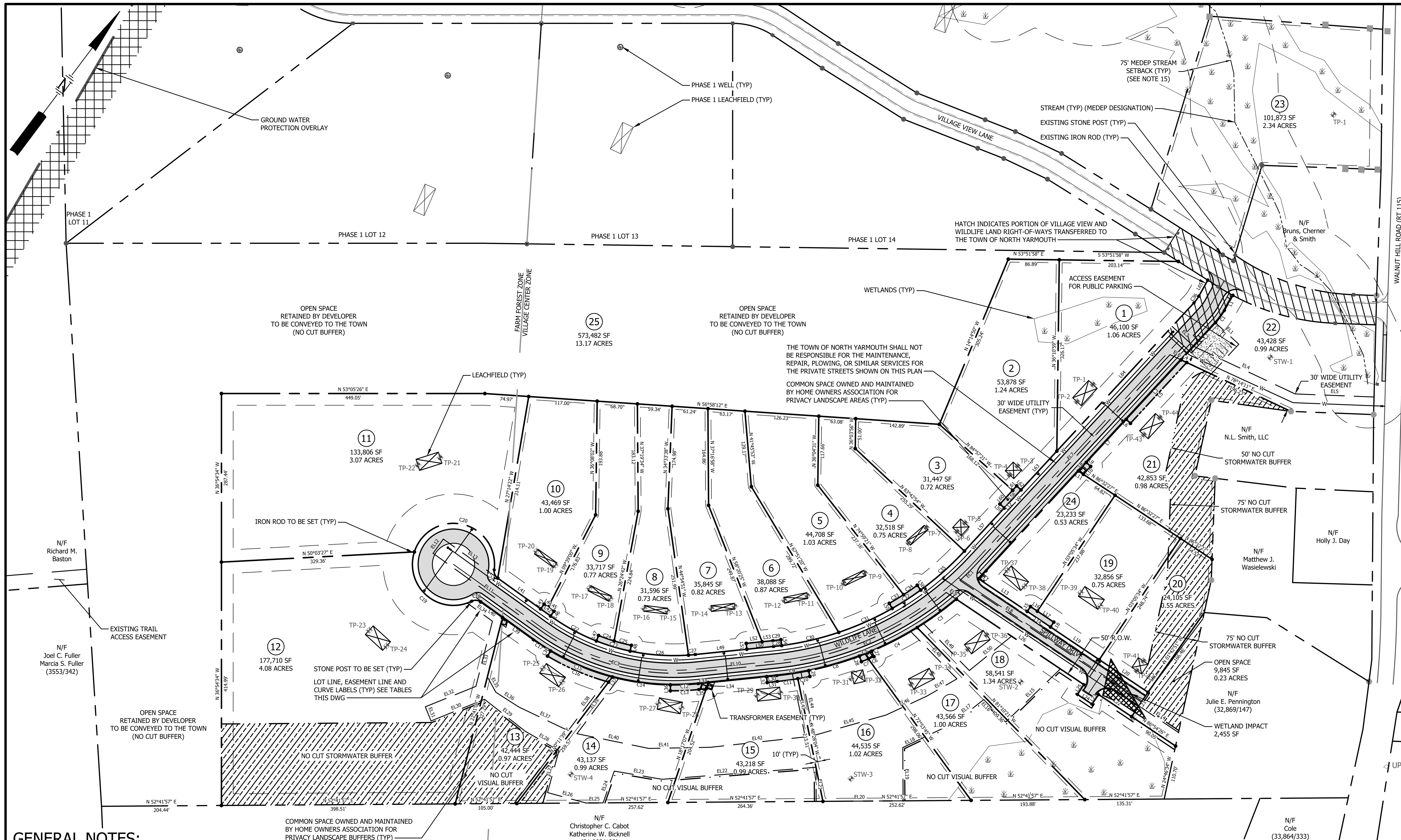

LOT CURVE TABLE

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	25.85'	110.00'	13°28'00"	N 00°53'21" W	25.79'
C2	18.41'	565.00'	1°52'02"	N 06°46'40" E	18.41'
C3	82.53'	565.00'	8°22'09"	N 17°06'37" E	82.46'
C4	87.60'	565.00'	8°53'00"	N 25°44'12" E	87.51'
C5	22.56'	565.00'	2°17'16"	N 31°19'20" E	22.56'
C6	10.23'	575.00'	1°01'10"	N 30°41'17" E	10.23'
C7	12.73'	575.00'	1°16'06"	N 31°49'55" E	12.73'
C8	90.00'	565.00'	9°07'36"	N 37°01'47" E	89.90'
C9	55.50'	565.00'	5°37'40"	N 44°24'25" E	55.47'
C10	20.82'	575.00'	2°04'28"	N 42°37'49" E	20.82'
C11	35.66'	575.00'	3°33'12"	N 45°26'39" E	35.65'
C12	47.65'	410.00'	6°39'30"	N 50°33'00" E	47.62'
C13	48.81'	420.00'	6°39'30"	N 50°33'00" E	48.78'
C14	100.00'	410.00'	13°58'28"	N 60°51'59" E	99.75'
C15	114.79'	410.00'	16°02'30"	N 75°52'28" E	114.42'
C16	113.49'	420.00'	15°28'55"	N 76°09'15" E	113.14'
C17	34.82'	410.00'	4°51'57"	N 86°19'41" E	34.81'
C18	16.21'	15.00'	61°55'39"	N 57°47'51" E	15.43'
C19	163.65'	70.00'	133°57'06"	N 86°11'26" W	128.85'
C20	207.58'	70.00'	169°54'12"	N 65°44'13" E	139.46'
C21	16.21'	15.00'	61°55'39"	N 60°16'30" W	15.43'
C22	89.16'	360.00'	14°11'24"	N 81°39'58" E	88.93'
C23	60.17'	360.00'	9°34'33"	N 69°47'00" E	60.10'
C24	28.15'	350.00'	4°36'32"	N 72°16'00" E	28.15'
C25	30.34'	350.00'	4°58'01"	N 67°28'44" E	30.33'
C26	100.00'	360.00'	15°54'56"	N 57°02'16" E	99.68'
C27	11.68'	360.00'	1°51'33"	N 48°09'01" E	11.68'
C28	13.96'	515.00'	1°33'10"	N 46°26'39" E	13.96'
C29	13.69'	505.00'	1°33'10"	N 46°26'39" E	13.69'
C30	100.00'	515.00'	11°07'31"	N 40°06'19" E	99.84'
C31	100.00'	515.00'	11°07'31"	N 28°58'47" E	99.84'
C32	57.95'	515.00'	6°26'51"	N 20°11'36" E	57.92'
C33	28.57'	505.00'	3°14'28"	N 21°47'48" E	28.56'
C34	28.26'	505.00'	3°12'24"	N 18°34'22" E	28.26'
C35	100.00'	515.00'	11°07'31"	N 11°24'25" E	99.84'
C36	14.10'	60.00'	13°28'00"	N 00°53'21" W	14.07'

LOT LINE TABLE

LINE	BEARING	DISTANCE
L1	N 07°37'21" W	29.49'
L2	N 05°50'39" E	86.32'
L3	N 05°50'39" E	138.12'
L4	N 78°14'11" E	10.49'
L5	N 05°50'39" E	141.29'
L6	N 84°09'21" W	10.00'
L7	N 05°50'39" E	100.00'
L8	N 05°50'39" E	20.00'
L9	N 84°09'21" W	10.00'
L10	N 05°50'39" E	18.36'
L11	N 86°32'27" E	10.13'
L12	N 05°50'39" E	232.08'
L13	N 86°54'26" E	100.00'
L14	N 86°54'26" E	47.84'
L15	N 03°05'34" W	10.00'
L16	N 86°54'26" E	14.16'
L17	N 86°54'26" E	33.68'
L18	N 03°05'34" W	10.00'
L19	N 86°54'26" E	100.00'
L20	N 86°54'26" E	100.00'
L21	N 03°05'34" W	50.00'
L22	N 86°54'26" E	67.97'
L23	N 03°05'34" W	20.00'
L24	N 86°54'26" E	30.03'
L25	N 03°05'34" W	20.00'
L26	N 86°54'26" E	261.76'
L27	N 59°49'17" W	10.00'
L28	N 57°32'02" W	10.00'
L29	N 48°24'25" W	10.00'
L30	N 47°13'14" E	17.01'
L31	N 47°13'14" E	17.01'
L32	N 42°46'46" W	10.00'
L33	N 47°13'14" E	17.02'
L34	N 18°17'07" W	10.99'
L35	N 47°13'14" E	12.46'
L36	N 36°07'15" W	10.00'
L37	N 00°11'39" E	10.79'
L38	N 06°06'17" W	10.00'
L39	N 88°45'40" E	65.18'
L40	N 88°45'40" E	45.67'
L41	N 88°45'40" E	90.01'
L42	N 88°45'40" E	20.84'
L43	N 01°14'20" W	10.00'
L44	N 88°45'40" E	8.52'
L45	N 88°45'40" E	12.32'
L46	N 01°14'20" W	10.00'
L47	N 15°25'44" W	10.00'
L48	N 25°00'16" W	10.00'
L49	N 47°13'14" E	88.32'
L50	N 47°13'14" E	45.71'
L51	N 42°46'46" W	10.00'
L52	N 47°13'14" E	27.23'
L53	N 47°13'14" E	18.48'
L54	N 44°19'56" W	10.00'
L55	N 66°34'58" W	10.00'
L56	N 73°01'50" W	10.00'
L57	N 05°50'39" E	100.00'
L58	N 05°50'39" E	42.08'
L59	N 84°09'21" W	10.00'
L60	N 05°50'39" E	31.94'
L61	N 05°50'39" E	10.14'
L62	N 84°09'21" W	10.00'
L63	N 05°50'39" E	90.01'
L64	N 05°50'39" E	344.43'
L65	N 07°37'21" W	31.23'

EASEMENT CURVE TABLE

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
EC1	42.05'	545.00'	4°25'14"	N 08°03'16" E	42.04'
EC2	320.46'	545.00'	33°41'25"	N 30°22'32" E	315.87'
EC3	282.76'	390.00'	41°32'26"	N 67°59'27" E	276.60'

EASEMENT LINE TABLE

LINE	BEARING	DISTANCE
EL1	N 84°09'21" W	54.00'
EL2	N 05°50'39" E	69.18'
EL3	N 84°09'21" W	50.00'
EL4	N 78°14'11" E	191.07'
EL5	N 55°18'39" E	134.64'
EL6	N 78°14'11" E	20.98'
EL7	N 05°50'39" E	483.85'
EL8	N 86°54'26" E	372.56'
EL9	N 86°54'26" E	20.84'
EL10	N 47°13'14" E	134.03'
EL11	N 88°45'40" E	225.09'
EL12	N 01°14'20" W	30.00'
EL13	N 88°45'40" E	114.23'
EL14	N 86°54'26" E	81.16'
EL14	N 86°54'26" E	20.84'
EL15	N 08°49'39" E	129.98'
EL16	N 81°10'21" W	53.62'
EL17	N 14°58'00" E	65.19'
EL18	N 27°33'09" E	96.27'
EL19	N 37°18'03" W	90.92'
EL20	N 52°41'57" E	148.20'
EL21	N 37°18'03" W	58.17'
EL22	N 48°37'57" E	263.10'
EL23	N 62°49'12" E	82.79'
EL24	N 17°35'58" W	57.42'
EL25	N 52°41'57" E	29.44'
EL26	N 68°17'09" E	67.69'
EL27	N 21°42'51" W	74.14'
EL28	N 82°59'10" E	65.74'
EL29	N 88°48'35" W	88.66'
EL30	N 31°05'54" E	98.49'
EL31	N 58°54'06" W	26.00'
EL32	N 31°05'54" E	93.04'
EL33	N 22°41'08" W	114.67'
EL34	N 88°45'40" E	53.00'
EL35	N 65°54'27" W	29.86'
EL36	N 85°49'13" E	46.38'
EL37	N 78°40'44" E	93.47'
EL38	N 00°11'39" E	116.40'
EL39	N 00°11'39" E	117.88'
EL40	N 64°40'33" E	125.30'
EL41	N 52°01'11" E	104.78'
EL42	N 46°50'33" E	162.76'
EL43	N 48°28'04" W	110.12'
EL44	N 48°28'04" W	110.03'
EL45	N 37°16'44" E	127.87'
EL46	N 28°16'16" E	75.60'
EL47	N 23°19'30" E	60.07'
EL48	N 81°10'21" W	112.71'
EL49	N 81°10'21" W	111.77'
EL50	N 13°54'24" E	92.84'

GENERAL NOTES:

1. BASE MAP DERIVED FROM SURVEY PERFORMED BY WAYNE T WOOD. & CO. ENTITLED "PLAN OF LAND OF SMITH ON VILLAGE VIEW LANE IN NORTH YARMOUTH, MAINE FOR FREDERICK CHERNER, 4 PINEWOOD DR. ~CUMBERLAND CTR, ME 04021", DATED JANUARY, 2018.
2. EXISTING ZONING LINE AND GROUNDWATER PROTECTION OVERLAY ZONE DIGITIZED FROM TOWN OF NORTH YARMOUTH ZONING MAP.
3. ALL SITE AND CONSTRUCTION ACTIVITIES SHALL BE IN COMPLIANCE WITH MEDEP BEST MANAGEMENT PRACTICES AND EXISTING FEDERAL, STATE, AND LOCAL PERMITS AND PERMITTING REQUIREMENTS FOR THE SITE.
4. SOILS INFORMATION FROM HIGH INTENSITY SOIL SURVEY COMPLETED BY MARK HAMPTON ASSOCIATES ON DECEMBER 3, 2019.
5. THIS PLAN AMENDS THE ORIGINAL SUBDIVISION PLAN RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS ON 11/21/2018, PLAN BOOK 218, PAGE 503.

SURVEYOR'S NOTES

1. OWNERS OF RECORD ARE GAIL S. BRUNS, CINDY A. CHERNER AND J. WHITMAN SMITH BY DEED OF DISTRIBUTION OF SIDNEY D. SMITH RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 12,863 ON PAGE 144.
2. ALL BEARINGS ARE REFERENCED TO MAGNETIC NORTH OF THE YEAR 1983 PER THE PLAN IN SURVEYOR'S PLAN REFERENCE NOTES #9 AND ARE CALCULATED FROM ANGLES OF AN ACTUAL ON THE GROUND SURVEY.
3. THE SUBJECT PARCEL IS SHOWN ON THE TOWN OF NORTH YARMOUTH, MAINE TAX MAP 7 AS LOT 34.
4. THE EXISTING CONTOURS SHOWN ARE TAKEN FROM LIDAR AS AVAILABLE FROM MAINE GIS WEBSITE.
5. WETLANDS SHOWN ARE AS DELINEATED BY SWEET ASSOCIATES ON A PLAN DATED JUNE 10, 2016. ADDITIONAL WETLANDS SHOWN ARE AS DELINEATED BY MARK HAMPTON ASSOCIATES ON JULY 1, 2018.
6. THE RICHARD BASTON PROPERTY MAY HAVE AN EASEMENT OR RIGHT OF WAY ACROSS THIS PROPERTY.

SURVEYOR'S PLAN REFERENCE NOTES

1. "PLAN OF LAND ON MEMORIAL HIGHWAY IN NORTH YARMOUTH, MAINE FOR FREDERICK CHERNER" DATED SEPTEMBER 2017 BY WAYNE T. WOOD & CO.
2. "GUIDI FLASH HOLDINGS ~ STONE POST SUBDIVISION ~ ROUTE 115 ~ NORTH YARMOUTH, MAINE" DATED MARCH 2016 BY SEVEE & MAHER ENGINEERING RECORDED IN PLAN BOOK 216 PAGE 384.
3. "CONDOMINIUM PLAT WALNUT HILL CONDOMINIUM 2 WALNUT HILL ROAD, NORTH YARMOUTH, MAINE MADE FOR PIPER, LLC" DATED APRIL 15, 2015 BY OWEN HASKELL, INC. RECORDED IN PLAN BOOK 215 PAGE 138.
4. "PLAN OF LAND FOR THOMAS AND SARE CURTIS" DATED OCTOBER 2013 BY COLONIAL SURVEYING COMPANY, LLC RECORDED IN PLAN BOOK 215 PAGE 31.
5. "UPDATE TO A STANDARD BOUNDARY SURVEY SHOWING LAND OF REBECCA L. SWIGGETT FOR 5. THE TRUST FOR PUBLIC LAND GREELY ROAD EXTENSION & PLEASANT VALLEY ROAD, CUMBERLAND & NORTH YARMOUTH, MAINE" DATED AUGUST 26, 2013 REVISED 6/3/2014.
6. "RIGHT OF WAY MAP STATE AID HIGHWAY NOS. 2 & 3 (ROUTES 9 & 115) NORTH YARMOUTH, CUMBERLAND COUNTY" DATED JUNE 2004.
7. "STANDARD BOUNDARY SURVEY FOR RICHARD & HELEN KNIGHT, GREELY ROAD EXTENSION, CUMBERLAND / NORTH YARMOUTH, MAINE" DATED FEB 1, 1996 REVISED THRU 7/15/96 RECORDED IN PLAN BOOK 196 PAGE 395.
8. "STANDARD BOUNDARY SURVEY ON ROUTE 115 IN NORTH YARMOUTH, MAINE FOR NELLIE LEIGHTON & PAUL & BETTY KAY TURINA" DATED 1/26/1989 BY DANIEL T.C. LAPOINT.
9. "STANDARD BOUNDARY SURVEY PLAN OF LAND ON ROUTE 115 IN NORTH YARMOUTH, MAINE FOR NORMAN L. SMITH, SIDNEY D. SMITH" DATED 4/17/1987 BY DANIEL T. C. LAPOINT.
10. "PLAN OF LAND FOR PAUL CLARK, ROUTE 115, NORTH YARMOUTH, ME" DATED 7/10/1978 BY C. R. STORER, INC. RECORDED IN PLAN BOOK 120 PAGE 30.

ZONING NOTES:

1. PROPERTY OWNER:
   CONSTRUCTION AGGREGATE INC.
2. APPLICANT:
   CONSTRUCTION AGGREGATE INC.
   82 DOUGHTY ROAD
   NORTH YARMOUTH, MAINE 04097
3. PROPOSED USE:
   MAJOR SUBDIVISION - PROPOSED 39 LOT SUBDIVISION (14 FROM PHASE I AND 25 FROM PHASE II)
4. PROPOSED SEPTIC SYSTEM SHALL BE CONSTRUCTED FOR EACH LOT FOR LOTS 1 - 21 AND 24.
5. LOT INFORMATION: TAX MAP 7, LOT 34
6. ZONING DISTRICT: FARM FOREST ZONE AND VILLAGE CENTER ZONE
7. ZONING REQUIREMENTS: DIMENSIONAL STANDARDS TO BE IN ACCORDANCE WITH THE APPROVED ZONE AS SHOWN BELOW:

	FARM FOREST ZONE		VILLAGE CENTER	
	REQUIRED	PROVIDED	REQUIRED	PROVIDED
MINIMUM LOT SIZE	3 ACRE	>3 ACRE	20,000 SF*	20,000 MIN
MAXIMUM RESIDENTIAL DENSITY	1 LOT/ 3 ACRE	1 LOT/ 3 ACRE	N/A	N/A
MINIMUM STREET FRONTAGE	200 FEET	200 FEET	20-100 FEET	>20 FEET
MINIMUM FRONT YARD SETBACK	50 FEET	50 FEET	0-20 FEET MAX	0-20 FEET
MINIMUM SIDE SETBACK	20 FEET	20 FEET	25 FEET MAX	0-25 FEET
MINIMUM REAR SETBACK	20 FEET	20 FEET	5 FEET MIN	>5 FEET
MAXIMUM BUILDING HEIGHT	35 FEET	<35 FEET	50 FEET	<50 FEET
MAXIMUM LOT COVERAGE	20%	<20%	70%	<70%

*THE MINIMUM LOT SIZE CAN BE REDUCED TO 20,000 SF IN THE VILLAGE CENTER DISTRICT WHEN THE LOT IS SERVED BY AN ADVANCED WASTEWATER TREATMENT SYSTEM.

7. ALL LOTS IN THE PHASE 2 SUBDIVISION WILL BE SERVED BY AN ADVANCED WASTEWATER TREATMENT SYSTEM WITH PRETREATMENT THAT PROVIDES A MINIMUM OF 50 PERCENT REDUCTION IN NITRATES AND HAS DEMONSTRATED THAT WATER QUALITY WILL NOT BE DEGRADED.
8. WETLANDS DELINEATED BY SWEET ASSOCIATES, DATED JUNE 2016, AND MARK HAMPTON ASSOCIATES, DATED JULY 1, 2018.
9. SITE UTILITIES WILL BE PROVIDED AS FOLLOWS:
   ELECTRIC/COMMUNICATIONS: UNDERGROUND FROM EXISTING SERVICE
   WATER SUPPLY: PUBLIC WATER
   SEWER SERVICE: SEPTIC SYSTEMS (SEE ZONING NOTE 4)
10. SINGLE FAMILY HOMES SHALL HAVE A MAXIMUM OF 4 BEDROOMS.
11. GRADING PLANS FOR INDIVIDUAL LOTS WILL BE SUBMITTED TO THE TOWN FOR REVIEW PRIOR TO CONSTRUCTION AS PART OF THE BUILDING PERMIT APPLICATION PROCESS.

ZONING NOTES (CONTINUED):

12. THE PROPERTY IS NOT WITHIN A FLOODPLAIN OR SHORELAND ZONE AS REFERENCED ON FEMA COMMUNITY PANEL 230202 0010 B.
13. THE PROPOSED ROADWAY WILL BE PRIVATE.
14. TOTAL WETLAND IMPACTS - PHASE 1: 3,470 SF PHASE 2: 11,455 SF TOTAL: 14,925 SF.
15. NO DEVELOPMENT WILL BE ALLOWED WITHIN THE MEDEP 75' STREAM SETBACK WITHOUT A MEDEP PERMIT.
16. FOR PERMITTING PURPOSES, AN ALLOWANCE OF 2,500 SF OF IMPERVIOUS AREA IS ANTICIPATED FOR EACH RESIDENTIAL LOT (1-21, 24).
17. LOT 23 MAY BE DEVELOPED AS A COMMERCIAL PROPERTY. FOR PERMITTING PURPOSES, AN ALLOWANCE OF 12,500 SF OF IMPERVIOUS AREA AND 4,850 SF OF WETLAND IMPACT ARE ANTICIPATED. STORMWATER MANAGEMENT AND SEPTIC DESIGN WILL BE REQUIRED FOR PROPOSED DEVELOPMENT ON THIS PARCEL. PRIOR TO DEVELOPMENT, SITE PLANS WILL BE FORWARDED TO MEDEP FOR REVIEW. DEVELOPMENT IN EXCESS OF THE ANTICIPATED IMPERVIOUS AREA AND WETLAND IMPACT MAY REQUIRE ADDITIONAL MEDEP PERMITTING.
18. NET RESIDENTIAL CALCULATIONS - PHASE 2:

		FARM FOREST	VILLAGE CENTER
	TOTAL PARCEL PER ZONE:	693,581 SF	1,156,903 SF
A.	AREAS CUT-OFF FROM PARCEL ISOLATED OR UNAVAILABLE	0 SF	0 SF
B.	AREAS BELOW NORMAL HIGH WATER MARK OF WATER BODIES (STREAM)	0 SF	0 SF
C.	AREAS WITHIN 100-YEAR FLOOD PLAIN	0 SF	0 SF
D.	AREAS WITHIN 250-FEET OF ROYAL RIVER, CHANDLER BROOK AND EAST BRANCH	0 SF	0 SF
E.	AREAS CLASSIFIED AS WETLAND	0 SF	59,400 SF
F.	AREAS CREATED BY FILLING/DRAINAGE POND OR WETLAND	0 SF	0 SF
G.	UN-RECLAIMED GRAVEL PITS	0 SF	0 SF
H.	SLOPES IN EXCESS OF 20%	23,467 SF	106,243 SF
I.	AREAS WITH VERY POORLY DRAINED SOILS	0 SF	0 SF
J.	AREAS SUBJECT TO EXISTING RIGHT-OF-WAY OR EASEMENTS	0 SF	0 SF
	TOTAL:	670,114 SF	991,260 SF
	SUBTRACT 15% OF NET DEDUCTIONS:	100,517 SF	148,689 SF
	NET RESIDENTIAL ACREAGE:	569,596 SF	842,571 SF

NET RESIDENTIAL ACREAGE PER LOT:
FARM FOREST ZONE 569,596 SF / 130,680 SF PER LOT = 4 LOTS (2 LOTS PROPOSED)
VILLAGE CENTER ZONE 842,571 SF / 20,000 SF PER LOT = 42 LOTS (21 LOTS PROPOSED)

19. MAINTENANCE OF TRAILHEAD PARKING WILL BE BY THE TOWN OF NORTH YARMOUTH. ANY ADDITIONAL PARKING OR TRAILHEAD IMPROVEMENTS WILL BE SUBJECT TO REVIEW AND APPROVAL BY THE VILLAGE CENTER ESTATES HOME OWNERS ASSOCIATION (PHASE 1 AND 2).
20. TOWN PUBLIC WORKS STAFF MAY ACCESS STORMWATER FACILITY AREAS BY ESTABLISHED EASEMENTS IN EMERGENCY SITUATIONS.

STATE OF MAINE, CUMBERLAND COUNTY REGISTRY OF DEEDS
RECEIVED ____________ , ______
at ______ h ______ m ____ M
AND RECORDED IN
PLAN BOOK ______ PAGE _____
____
REGISTER

SUBDIVISION PLAN, APPROVED BY THE TOWN OF NORTH YARMOUTH PLANNING BOARD
____
DATE

REV.	BY	DATE	STATUS
	DPD	3/2021	ISSUED FOR TOWN APPROVAL
	DPD	2/2021	REVISED PER TOWN AND MEDEP COMMENTS
	DPD	12/2020	REVISED PER STAFF COMMENTS
	DPD	10/2020	ISSUED FOR TOWN AND MEDEP PERMIT REVIEW

STATE OF MAINE DANIEL P. DIFFIN 11841 LICENSED PROFESSIONAL ENGINEER 3/30/2021

CONSTRUCTION AGGREGATE INC.
VILLAGE CENTER ESTATES, PHASE 2
NORTH YARMOUTH, MAINE

SUBDIVISION PLAN

SME SEVEE & MAHER ENGINEERS
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
4 Blanchard Road, PO Box 85A, Cumberland, Maine 04021
Phone 207.829.5016 • Fax 207.829.5692 • smemaine.com

DESIGN BY: JTR
DRAWN BY: SJM
DATE: 1/2020
CHECKED BY: BDP
LMN: SUBD
CTB: SME-STD

JOB NO. 18295.01 DWG FILE BASE

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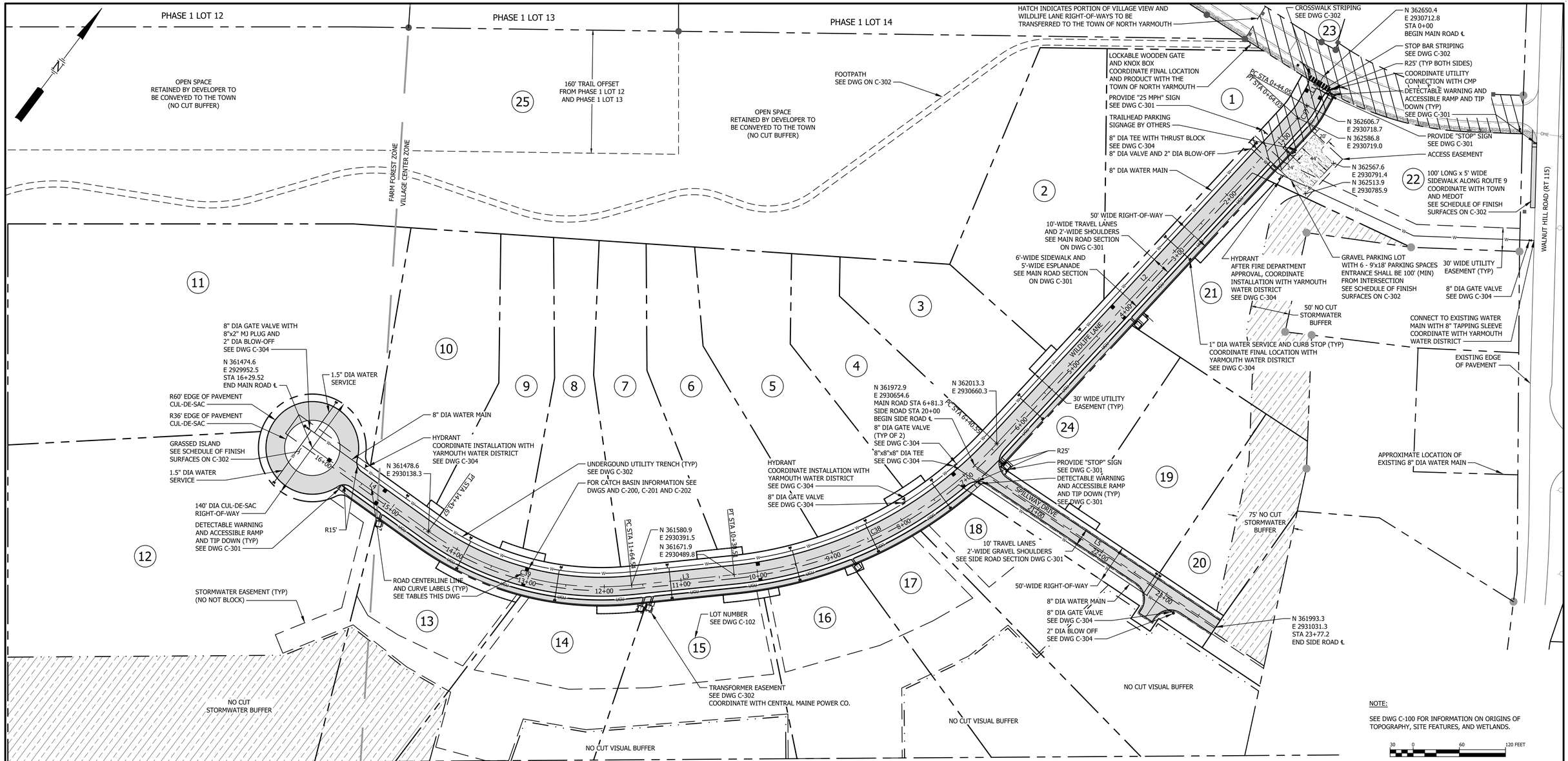

NOTE:

SEE DWG C-100 FOR INFORMATION ON ORIGINS OF TOPOGRAPHY, SITE FEATURES, AND WETLANDS.

30 0 60 120 FEET

CENTERLINE CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C37	85.00'	19.98'	19.93'	S 00°53'21" E	13°28'00"
C38	540.00'	389.96'	381.55'	N 26°31'57" E	41°22'35"
C39	385.00'	279.13'	273.06'	S 67°59'27" W	41°32'26"

CENTERLINE LINE TABLE

LINE	BEARING	DISTANCE
L1	S 07°37'21" E	44.05'
L2	N 05°50'39" E	576.51'
L3	S 47°13'14" W	134.03'
L4	S 88°45'40" W	185.85'
L5	S 86°54'26" W	377.23'

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	DPD	10/2020	ISSUED FOR TOWN AND MEDEP PERMIT REVIEW

STATE OF MAINE — DANIEL P. DIFLIN — 11841 — LICENSED PROFESSIONAL ENGINEER — 3/30/2021

CONSTRUCTION AGGREGATE INC.
VILLAGE CENTER ESTATES, PHASE 2
NORTH YARMOUTH, MAINE

SITE LAYOUT AND UTILITIES PLAN

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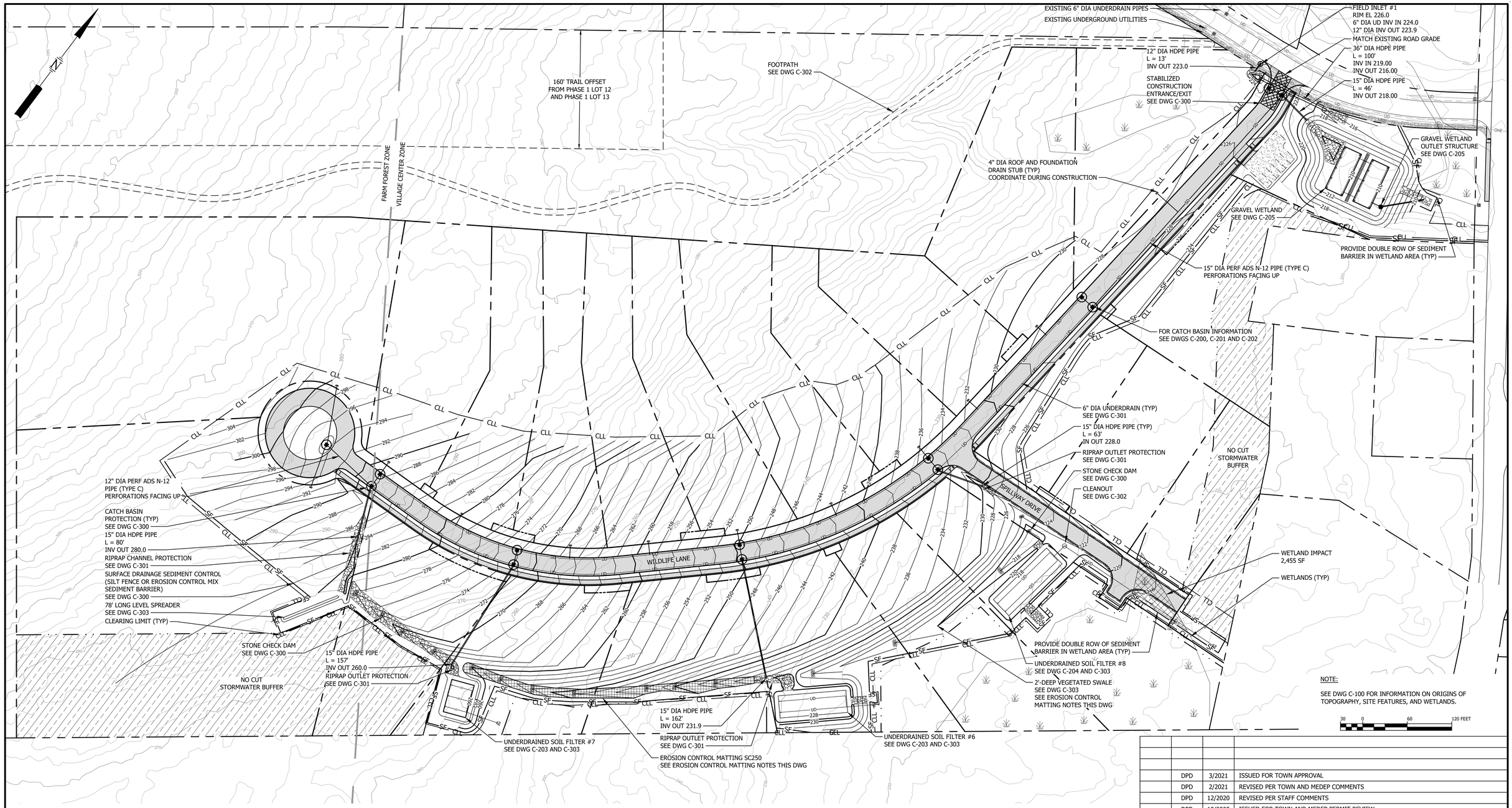

EROSION CONTROL MATTING

SC250

EROSION CONTROL MATTING NOTES:

1. ALL MATTING TO BE NORTH AMERICAN GREEN (NAG) OR ENGINEERED APPROVED EQUAL.
2. ALL DITCHES WILL BE LINED WITH NAG S75 UNLESS NOTED OTHERWISE.

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STATE OF MAINE
DANIEL J. P. DIFFIN
11841
LICENSED
PROFESSIONAL ENGINEER
3/30/2021

CONSTRUCTION AGGREGATE INC.
VILLAGE CENTER ESTATES, PHASE 2
NORTH YARMOUTH, MAINE

GRADING AND EROSION CONTROL PLAN

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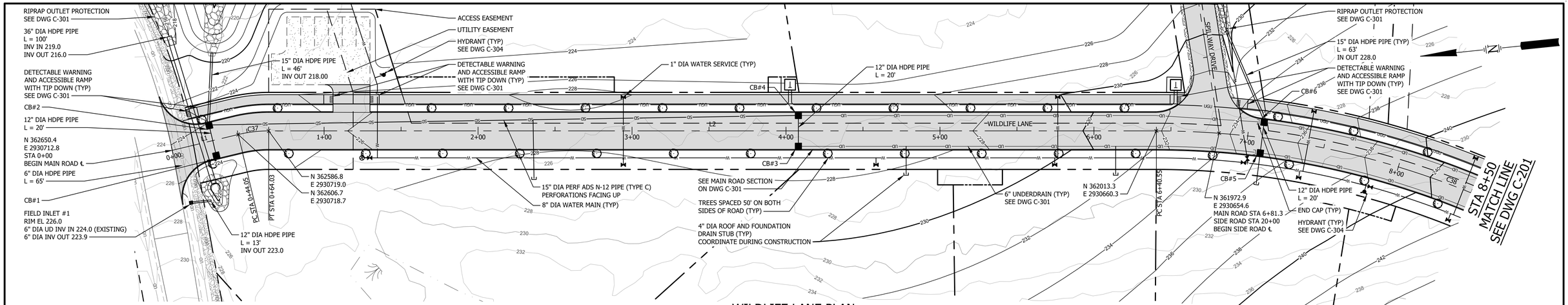
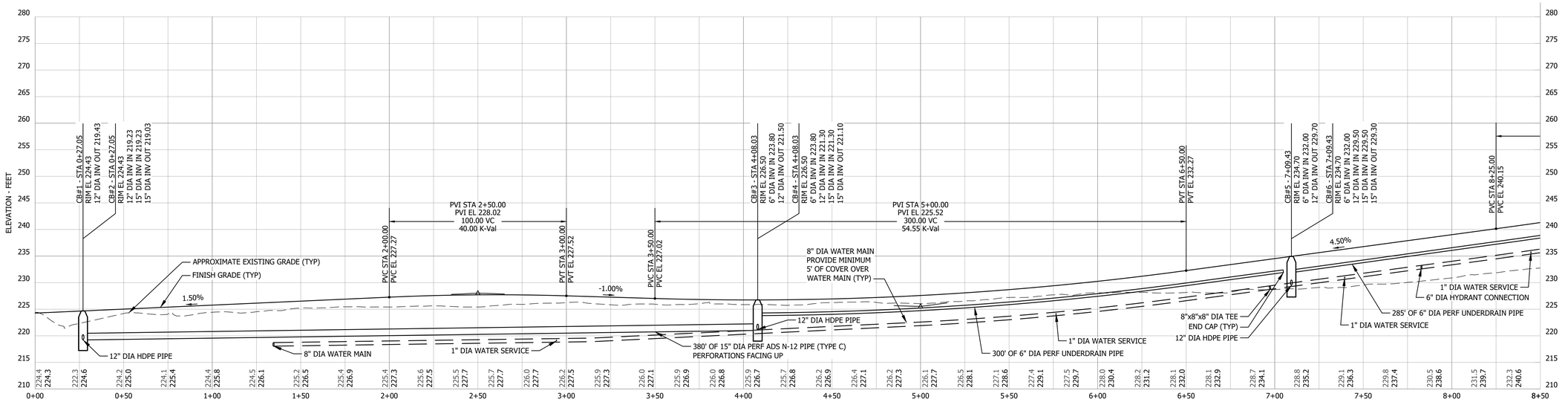


WILDLIFE LANE PLAN
STA 0+00 TO 8+50

15 0 30 60 FEET

NOTE:
1. FOR CENTERLINE LINE AND CURVE TABLE INFORMATION SEE DWG C-103.
2. TIPDOWNS REQUIRED AT ALL DRIVEWAY ENTRANCES. SEE DWG C-301



WILDLIFE LANE PROFILE

15 0 30 60 FEET (HORZ)
5 0 10 20 FEET (VERT)

NOTE:

SEE DWG C-100 FOR INFORMATION ON ORIGINS OF TOPOGRAPHY, SITE FEATURES, AND WETLANDS.

REV.	BY	DATE	STATUS
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	DPD	12/2020	REVISED PER STAFF COMMENTS
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STATE OF MAINE
DANIEL P. DIFFIN
11841
LICENSED PROFESSIONAL ENGINEER
2/26/2021

CONSTRUCTION AGGREGATE INC.
VILLAGE CENTER ESTATES, PHASE 2
NORTH YARMOUTH, MAINE

WILDLIFE LANE PLAN AND PROFILE
STA 0+00 TO STA 8+50

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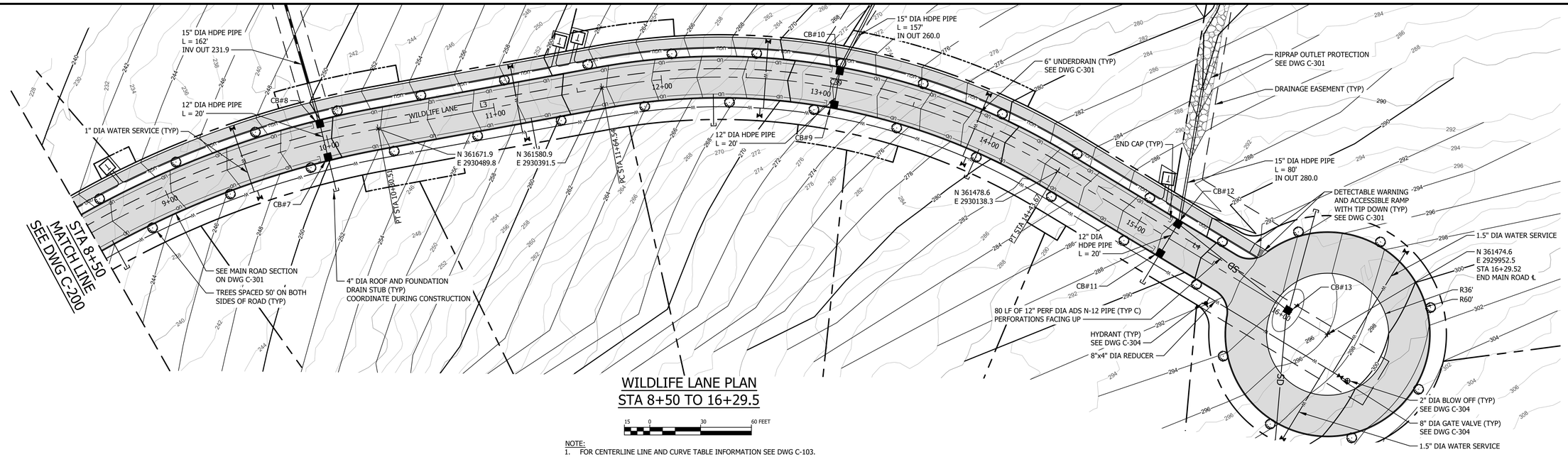
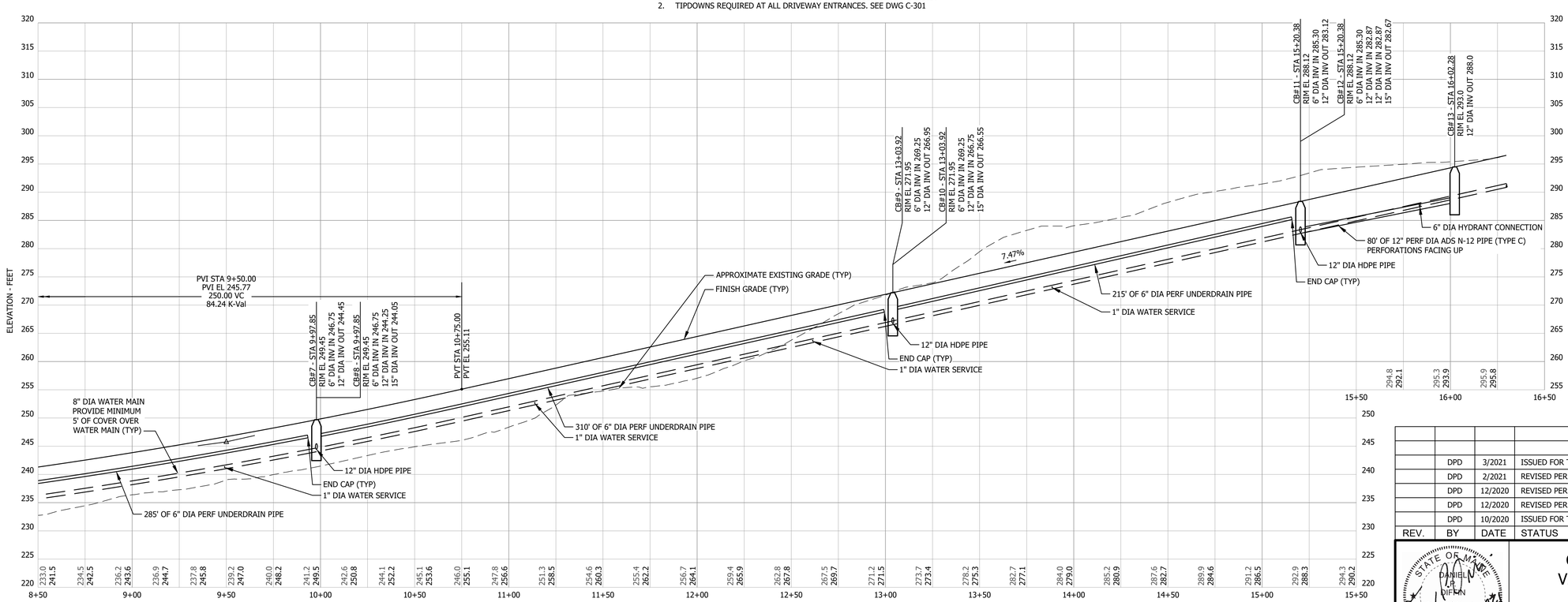


WILDLIFE LANE PLAN
STA 8+50 TO 16+29.5

15 0 30 60 FEET

NOTE:
1. FOR CENTERLINE LINE AND CURVE TABLE INFORMATION SEE DWG C-103.
2. TIPDOWNS REQUIRED AT ALL DRIVEWAY ENTRANCES. SEE DWG C-301



WILDLIFE LANE PROFILE

15 0 30 60 FEET (HORZ)
5 0 10 20 FEET (VERT)

NOTE:

SEE DWG C-100 FOR INFORMATION ON ORIGINS OF TOPOGRAPHY, SITE FEATURES, AND WETLANDS.

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	DPD	10/2020	ISSUED FOR TOWN AND MEDEP PERMIT REVIEW

STATE OF MAINE
DANIEL P. DIFLIN
11841
REGISTERED PROFESSIONAL ENGINEER
12/15/2020

CONSTRUCTION AGGREGATE INC.
VILLAGE CENTER ESTATES, PHASE 2
NORTH YARMOUTH, MAINE

WILDLIFE LANE PLAN AND PROFILE
STA 8+50 TO STA 16+29.52

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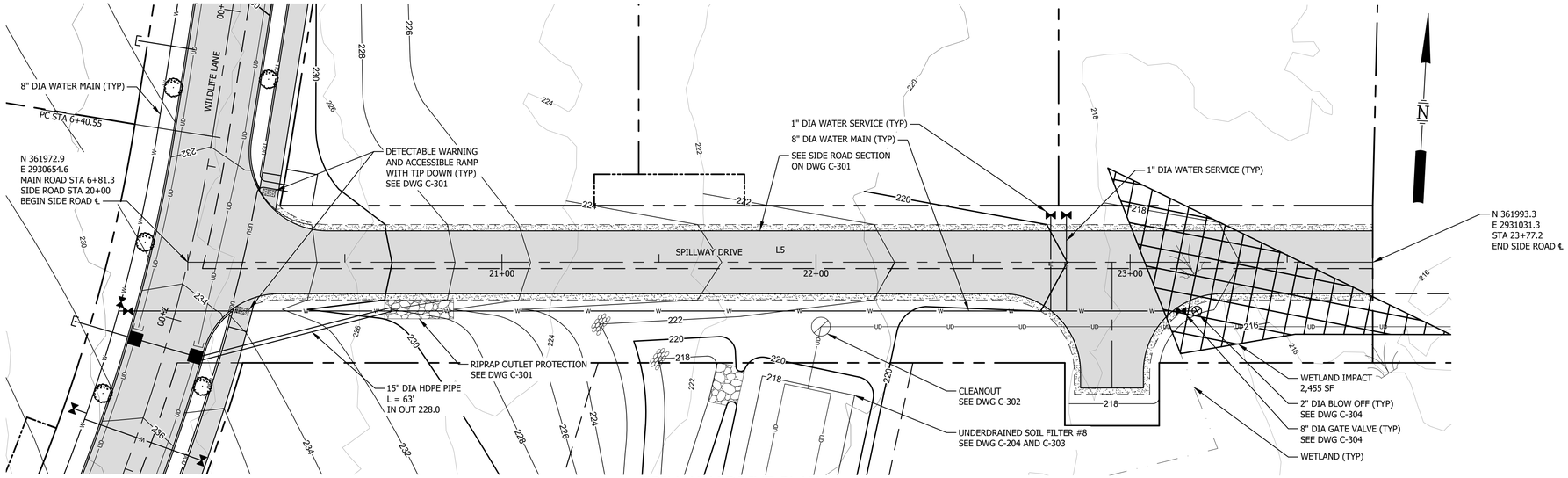
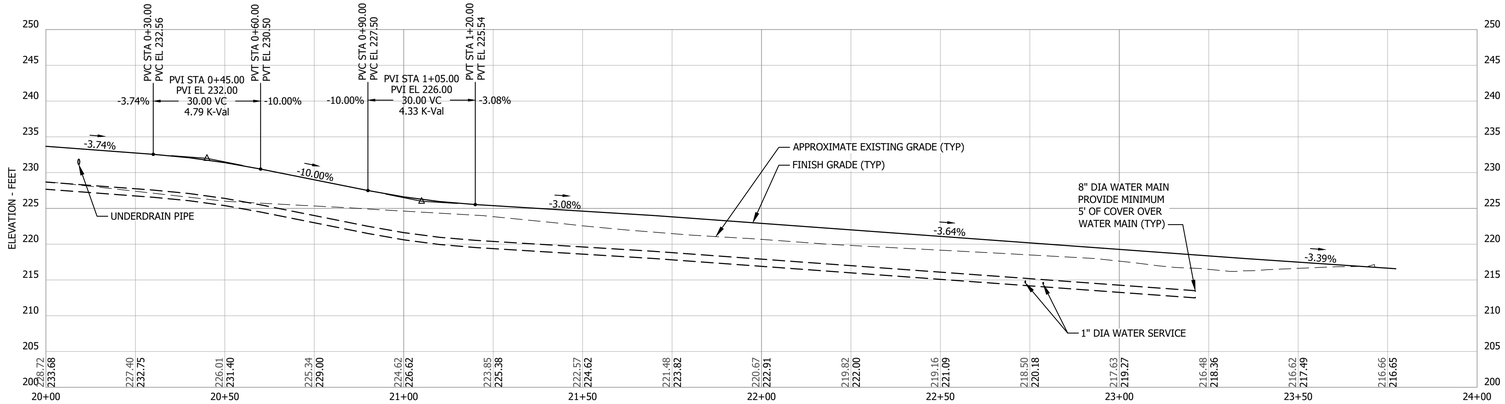


SPILLWAY DRIVE PLAN

10 0 20 40 FEET

NOTE:
1. FOR CENTERLINE LINE AND CURVE TABLE INFORMATION SEE DWG C-103.
2. TIPDOWNS REQUIRED AT ALL DRIVEWAY ENTRANCES. SEE DWG C-301



SPILLWAY DRIVE PROFILE

10 0 20 40 FEET (HORZ)
5 0 10 20 FEET (VERT)

NOTE:

SEE DWG C-100 FOR INFORMATION ON ORIGINS OF TOPOGRAPHY, SITE FEATURES, AND WETLANDS.

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STATE OF MAINE
DANIEL P. DIFFIN
11841
LICENSED
PROFESSIONAL ENGINEER
3/30/2021

CONSTRUCTION AGGREGATE INC.
VILLAGE CENTER ESTATES, PHASE 2
NORTH YARMOUTH, MAINE

SPILLWAY DRIVE PLAN AND PROFILE

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CTB: SME-STD

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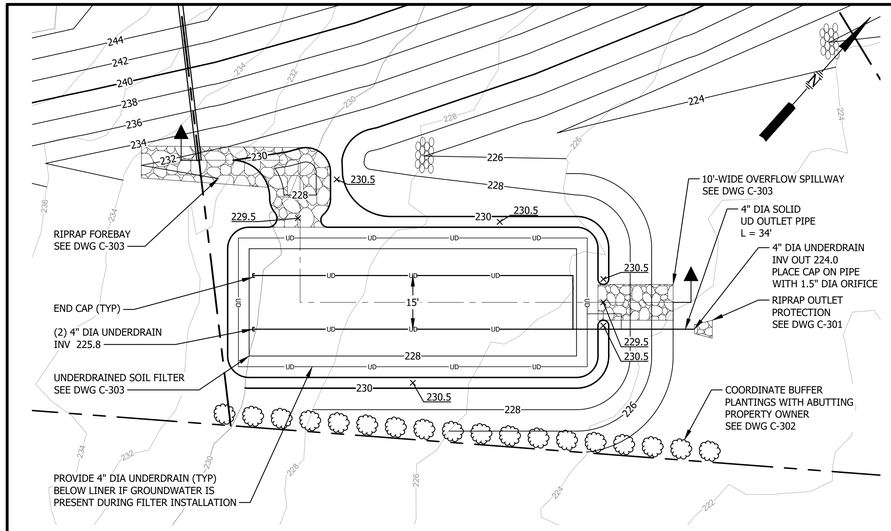
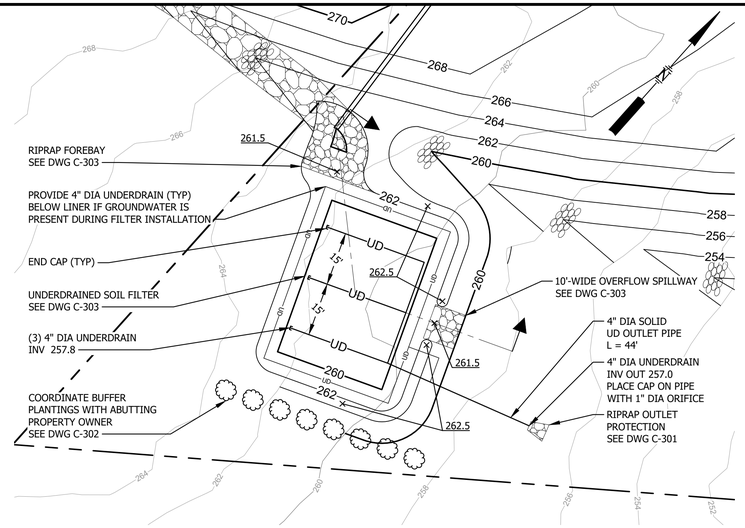


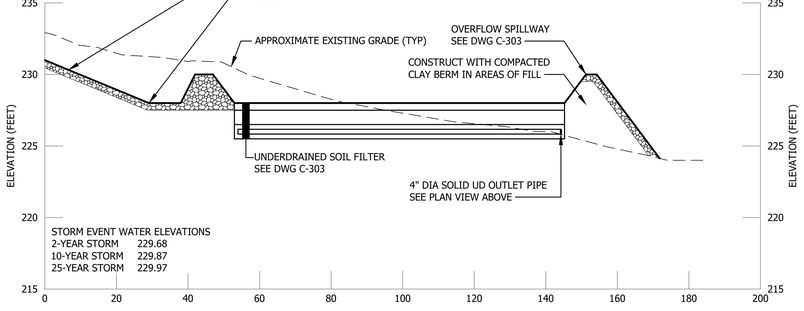
UNDERDRAINED SOIL FILTER #6 PLAN

10 0 20 40 FEET



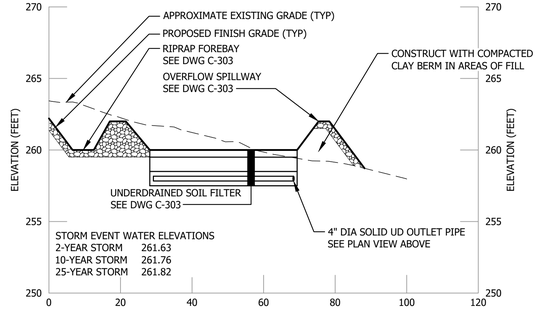
UNDERDRAINED SOIL FILTER #7 PLAN

10 0 20 40 FEET



UNDERDRAINED SOIL FILTER #6 SECTION

10 0 20 40 FEET (HORZ)
2.5 0 5 10 FEET (VERT)



UNDERDRAINED SOIL FILTER #7 SECTION

10 0 20 40 FEET (HORZ)
2.5 0 5 10 FEET (VERT)

REV.	BY	DATE	STATUS
	DPD	3/2021	ISSUED FOR TOWN APPROVAL
	DPD	2/2021	REVISED PER TOWN AND MEDEP COMMENTS
	DPD	12/2020	REVISED PER STAFF COMMENTS
	DPD	10/2020	ISSUED FOR TOWN AND MEDEP PERMIT REVIEW

STATE OF MAINE · DANIEL P. DIFLON · 11841 · LICENSED PROFESSIONAL ENGINEER · 3/30/2021

CONSTRUCTION AGGREGATE INC.
VILLAGE CENTER ESTATES, PHASE 2
NORTH YARMOUTH, MAINE

UNDERDRAINED SOIL FILTER PLANS AND SECTIONS

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SEVEE & MAHER ENGINEERS
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
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DESIGN BY:	JTR
DRAWN BY:	JRL
DATE:	10/2020
CHECKED BY:	BDP
LMN:	PLAN-PROF
CTB:	SME-STD

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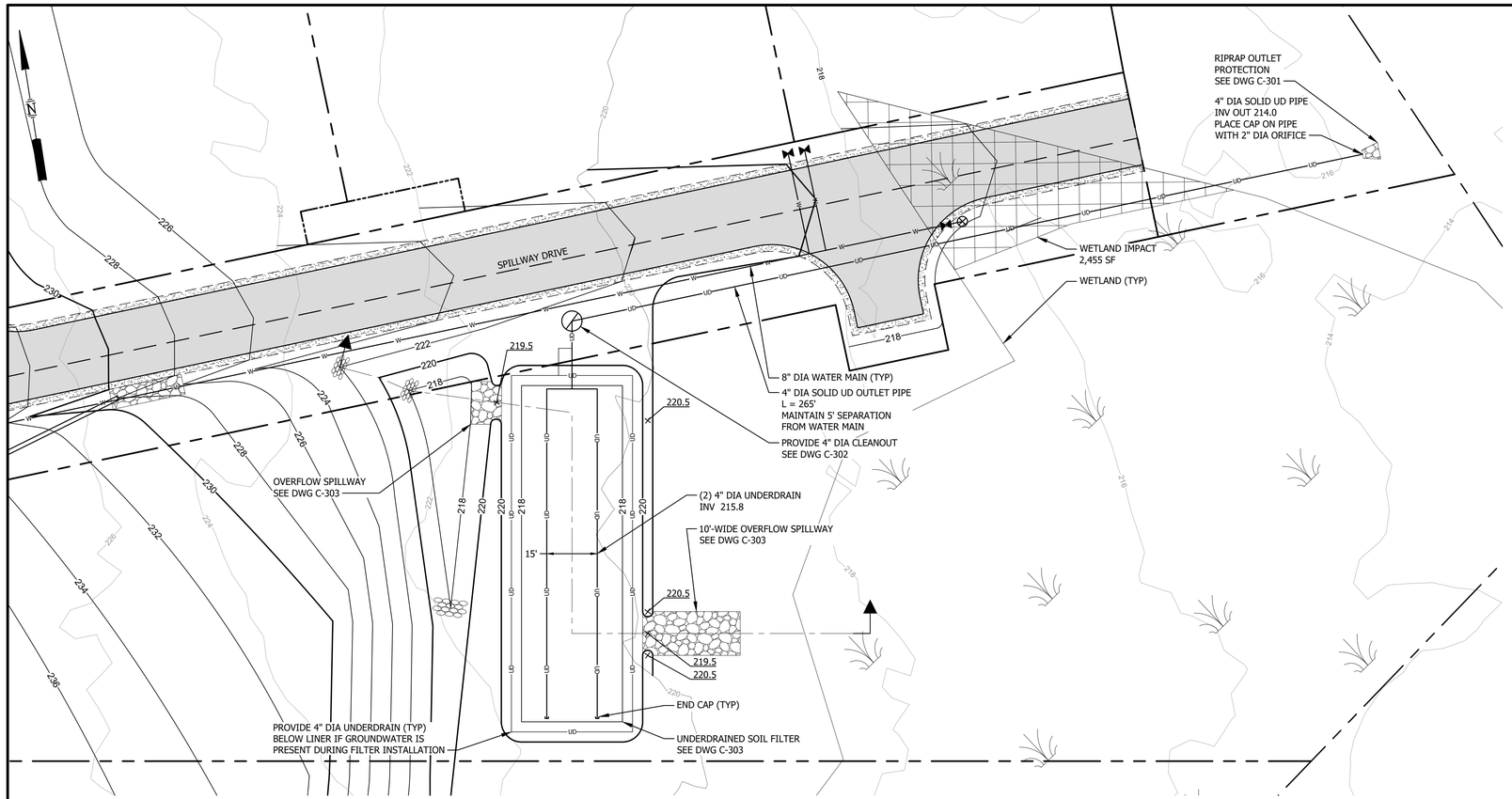
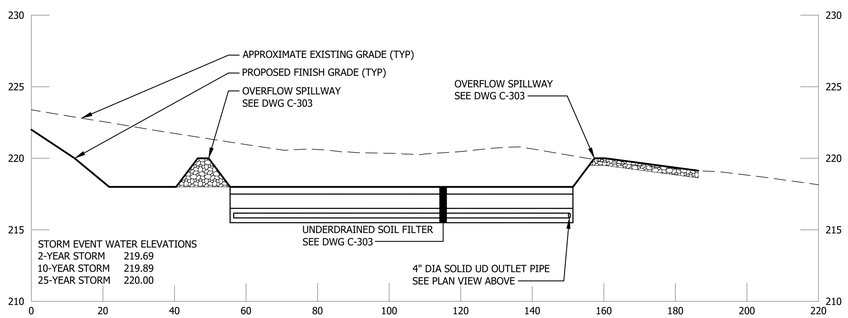


UNDERDRAINED SOIL FILTER #8 PLAN

10 0 20 40 FEET



UNDERDRAINED SOIL FILTER #8 SECTION

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2.5 0 5 10 FEET (VERT)

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STATE OF MAINE
DANIEL P. DIFFIN
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3/30/2021

CONSTRUCTION AGGREGATE INC.
VILLAGE CENTER ESTATES, PHASE 2
NORTH YARMOUTH, MAINE

UNDERDRAINED SOIL FILTER PLANS AND SECTIONS

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DESIGN BY: JTR
DRAWN BY: JRL
DATE: 10/2020
CHECKED BY: BDP
LMN: PLAN-PROF
CTB: SME-STD

JOB NO. 18295.01 DWG FILE BASE

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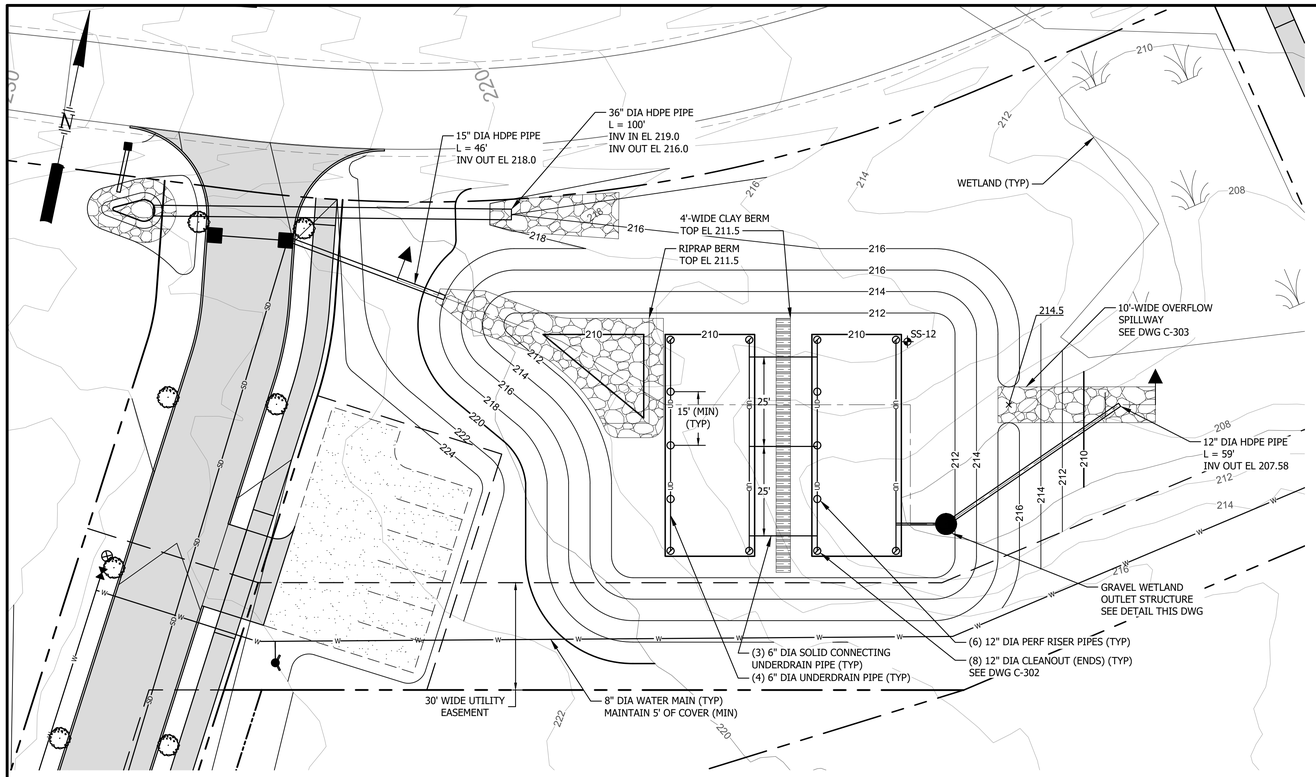
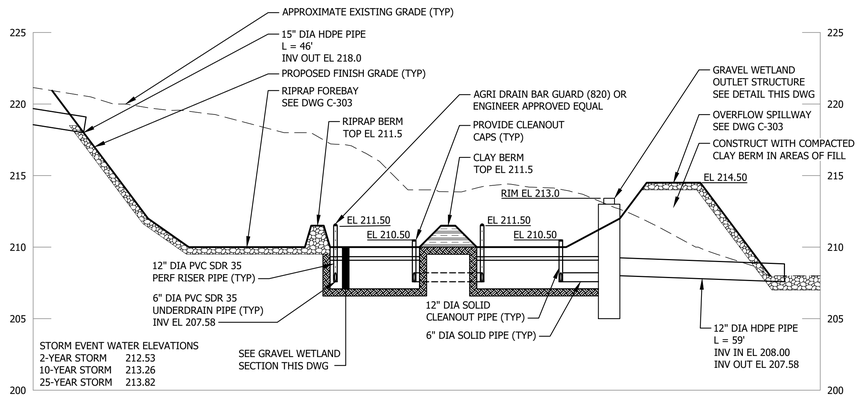


GRAVEL WETLAND PLAN

10 0 20 40 FEET



GRAVEL WETLAND SECTION

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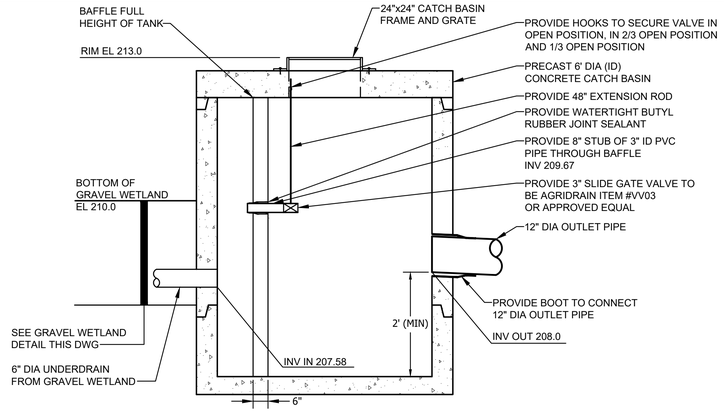


OUTLET CONTROL STRUCTURE NOTES:

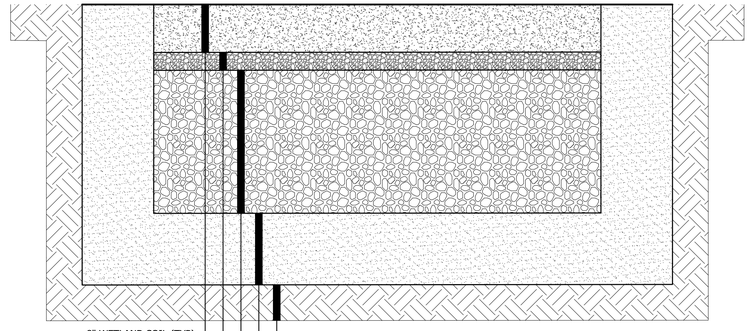
THE CONTRACTOR SHALL PROVIDE SUBMITTALS TO THE ENGINEER FOR APPROVAL. SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO THE FOLLOWING:

PRODUCT DATA: SUBMIT PRODUCT DATA FOR ALL MATERIALS USED ON THE JOB FOR REVIEW FOR LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH INFORMATION GIVEN AND DESIGN CONCEPT EXPRESSED IN CONTRACT DOCUMENTS.

SHOP DRAWINGS: SUBMIT FOR REVIEW SHOP DRAWINGS OF ALL PRECAST UNITS. MANUFACTURER'S INFORMATION SHALL BE SUBMITTED FOR JOINT SEALANTS AND WATERPROOFING. MANUFACTURE SHALL PROVIDE ANTI-FLOTATION DESIGN SHOP DRAWINGS AND CALCULATIONS, INCLUDING ANY EXTENDED BASE SLABS AS NECESSARY, FOR PROPOSED MANHOLES. MANUFACTURER SHALL ASSUME GROUNDWATER LEVELS EQUAL TOP OF GROUND ELEVATIONS AND PROVIDE FOR A 1.2 FACTOR OF SAFETY AGAINST FLOTATION.

GRAVEL WETLAND OUTLET CONTROL STRUCTURE

NTS



NOTES:

1. WETLAND SOIL TO BE MANUFACTURED USING COMPOST, SAND AND SOME FINE SOIL. SOIL SHALL CONTAIN GREATER THAN 15% ORGANIC MATTER. CLAY CONTENT OF THE SOIL SHALL BE LESS THAN 15%. SUBMIT TESTS OF MATERIALS MEETING THE ABOVE.
2. PEA GRAVEL TO MEET MDOT SPECIFICATION 703.27 UNDERDRAIN TYPE C AND SHALL MEET THE COARSE GRAVEL SPEC ON C-201.
3. SEED GRAVEL WETLAND WITH "NEW ENGLAND WET MIX" FROM NEW ENGLAND WETLAND PLANTS. APPLICATION RATE 1LB/2500 SQ FT (18LBS/ACRE).
4. LOW PERMEABILITY (TYPE D) SOIL TO BE COMPACTED TO HIGH DENSITY AS NECESSARY TO CONTAIN THE SYSTEM AND PREVENT INFILTRATION OR LOSS OF MOISTURE, PRESERVE HORIZONTAL FLOW WITHIN THE TREATMENT LAYER AND SUSTAIN THE WETLAND PLANTS. INSTALL PER MEDEP REQUIREMENTS FOR GRAVEL WETLANDS.

GRAVEL WETLAND SECTION

NTS

REV.	BY	DATE	STATUS
	DPD	3/2021	ISSUED FOR TOWN APPROVAL
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STATE OF MAINE
DANIEL P. DIFLAN
11841
REGISTERED PROFESSIONAL ENGINEER
3/30/2021

CONSTRUCTION AGGREGATE INC.
VILLAGE CENTER ESTATES, PHASE 2
NORTH YARMOUTH, MAINE

STORMWATER MANAGEMENT AREA
GRAVEL WETLAND

SME
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EROSION CONTROL NOTES:

A. GENERAL

1. All soil erosion and sediment control will be done in accordance with: (1) the Maine Erosion and Sediment Control Handbook: Best Management Practices, Maine Department of Environmental Protection (MEDEP), October 2016.

2. The site Contractor (to be determined) will be responsible for the inspection and repair/replacement/maintenance of all erosion control measures, disturbed areas, material storage areas, and vehicle access points until all disturbed areas are stabilized.

3. Disturbed areas will be permanently stabilized within 7 days of final grading. Disturbed areas not to be worked upon within 14 days of disturbance will be temporarily stabilized within 7 days of the disturbance.

4. In all areas, removal of trees, bushes and other vegetation, as well as disturbance of topsoil will be kept to a minimum while allowing proper site operations.

5. Any suitable topsoil will be stripped and stockpiled for reuse as directed by the Owner. Topsoil will be stockpiled in a manner such that natural drainage is not obstructed and no off-site sediment damage will result. In any event, stockpiles will not be located within 100 feet of wetlands and will be at least 50 feet upgradient of the stockpile's perimeter silt fence. The sideslopes of the topsoil stockpile will not exceed 2:1. Silt fence will be installed around the perimeter of all topsoil stockpiles. Topsoil stockpiles will be surrounded with siltation fencing and will be temporarily seeded with Aroostook rye, annual or perennial ryegrass within 7 days of formation, or temporarily mulched.

6. Winter excavation and earthwork will be completed so as to minimize exposed areas while satisfactorily completing the project. Limit exposed areas to those areas in which work is to occur during the following 15 days and that can be mulched in one day. All areas will be considered denuded until the subbase gravel is installed in roadway areas or the areas of future loam and seed have been loamed, seeded, and mulched.

   Install any added measures necessary to control erosion/sedimentation. The particular measure used will be dependent upon site conditions, the size of the area to be protected, and weather conditions.

   To minimize areas without erosion control protection, continuation of earthwork operations on additional areas will not begin until the exposed soil surface on the area being worked has been stabilized.

B. TEMPORARY MEASURES

1. STABILIZED CONSTRUCTION ENTRANCE/EXIT

   A crushed stone stabilized construction entrance/exit will be placed at any point of vehicular access to the site, in accordance with the detail shown on this sheet.

2. SILT FENCE

   a. Silt fence will be installed prior to all construction activity, where soil disturbance may result in erosion. Silt fence will be erected at locations shown on the plans and/or downgradient of all construction activity.

   b. Silt fences will be removed when they have served their useful purpose, but not before the upgradient areas have been permanently stabilized.

   c. Silt fences will be inspected immediately after each rainfall and at least daily during prolonged rainfall. They will be inspected if there are any signs of erosion or sedimentation below them. Any required repairs will be made immediately. If there are signs of undercutting at the center or the edges, or impounding of large volumes of water behind them, they will be replaced with a temporary crushed stone check dam.

   d. Sediment deposits will be removed after each storm event if significant build-up has occurred or if deposits exceed half the height of the barrier.

3. STONE CHECK DAMS

   Stone check dams will be installed in grass-lined swales and ditches during construction. Remove stone check dams when they have served their useful purpose, but not before upgradient areas have been permanently stabilized.

4. EROSION CONTROL MIX SEDIMENT BARRIER

   a. Where approved, erosion control mix sediment barriers may be used as a substitute for silt fence. See the details in this drawing set for specifications.

   b. Rock Filter Berms: To provide more filtering capacity or to act as a velocity check dam, a berm's center can be composed of clean crushed rock ranging in size from the french drain stone to riprap.

5. TEMPORARY SEEDING

   Stabilize disturbed areas that will not be brought to final grade and reduce problems associated with mud and dust production from exposed soil surface during construction with temporary vegetation.

6. TEMPORARY MULCHING

   Use temporary mulch in the following locations and/or circumstances:

   - In sensitive areas (within 100 feet of streams, wetlands and in lake watersheds) temporary mulch will be applied within 7 days of exposing spill or prior to any storm event.
   - Apply temporary mulch within 14 days of disturbance or prior to any storm event in all other areas.
   - Areas which have been temporarily or permanently seeded will be mulched immediately following seeding.
   - Areas which cannot be seeded within the growing season will be mulched for over-winter protection and the area will be seeded at the beginning of the growing season.
   - Mulch can be used in conjunction with tree, shrub, vine, and ground cover plantings.
   - Mulch anchoring will be used on slopes greater than 5 percent in late fall (past October 15), and over-winter (October 15 - April 15).

   The following materials may be used for temporary mulch:

   a. Hay or Straw material shall be air-dried, free of seeds and coarse material. Apply 2 bales/1,000 sf or 1.5 to 2 tons/acre to cover 90% of ground surface.

   b. Erosion Control Mix: It can be used as a stand-alone reinforcement:
      - on slopes 2 horizontal to 1 vertical or less;
      - on frozen ground or forested areas; and
      - at the edge of gravel parking areas and areas under construction.

   c. Erosion control mix alone is not suitable:
      - on slopes with groundwater seepage;
      - at low points with concentrated flows and in gullies;
      - at the bottom of steep perimeter slopes exceeding 100 feet in INMTh;
      - below culvert outlet aprons; and around catch basins and closed storm systems.

   d. Chemical Mulches and Soil Binders: Wide ranges of synthetic spray-on materials are marketed to protect the soil surface. These are emulsions that are mixed with water and applied to the soil. They may be used alone, but most often are used to hold wood fiber, hydro-mulches or straw to the soil surface.

   e. Erosion Control Blankets and Mats: Mats are manufactured combinations of mulch and netting designed to retain soil moisture and modify soil temperature. During the growing season (April 15 to October 15) use mats indicated on drawings or North American Green (NAG) S75 (or mulch and netting) on:
      - the base of grassed waterways;
      - steep slopes (15 percent or greater); and
      - any disturbed soil within 100 feet of lakes, streams, or wetlands.

   During the late fall and winter (October 15 to April 15) use heavy grade mats indicated on drawings for NAG SC250 on all areas noted above plus use lighter grade mats NAG S75 (or mulch and netting) on:
      - sideslopes of grassed waterways; and moderate slopes (between 8 and 15 percent).

C. TEMPORARY DUST CONTROL

To prevent the blowing and movement of dust from exposed soil surfaces, and reduce the presence of dust, use water or calcium chloride to control dusting by preserving the moisture level in the road surface materials.

D. CONSTRUCTION DE-WATERING

1. Water from construction de-watering operations shall be cleaned of sediment before reaching wetlands, water bodies, streams or site boundaries. Utilize temporary sediment basins, erosion control soil filter berms backed by staked hay bales, A Dirt Bag 55" sediment filter bag by ACF Environmental, or other approved Best Management Practices (BMP's).

2. In sensitive areas near streams or ponds, discharge the water from the de-watering operation into a temporary sediment basin created by a surrounding filter berm of uncompacted erosion control mix immediately backed by staked hay bales (see the site details). Locate the temporary sediment basin at lease 100 feet from the nearest water body, such that the filtered water will flow through undisturbed vegetated soil areas prior to reaching the water body or property line.

E. PERMANENT MEASURES

1. Riprapped Aprons: All storm drain pipe outlets and the inlet and outlet of culverts will have riprap aprons to protect against scour and deterioration.

2. Topsoil, Seed, and Mulch: All areas disturbed during construction, but not subject to other restoration (paving, riprap, etc.) will be loamed, limed, fertilized, seeded, and mulched.

   Seeded Preparation: Use stockpiled materials spread to the depths shown on the plans, if available. Approved topsoil substitutes may be used. Grade the site as needed.

   a. Seeding will be completed by August 15 of each year. Late season seeding may be done between August 15 and October 15. Areas not seeded or which do not obtain satisfactory growth by October 15, will be seeded with Aroostook Rye or mulched. After November 1, or the first killing frost, disturbed areas will be seeded at double the specified application rates, mulched, and anchored.

   PERMANENT SEEDING SPECIFICATIONS

Mixture:	Roadside (lbs/acre)	Lawn (lbs/acre)
Kentucky Bluegrass	20	55
White Clover	5	0
Creeping Red Fescue	20	55
Perennial Ryegrass	5	15

   b. Mulch in accordance with specifications for temporary mulching.

   c. If permanent vegetated stabilization cannot be established due to the season of the year, all exposed and disturbed areas not to undergo further disturbance are to have dormant seeding applied and be temporarily mulched to protect the site.

3. Ditches and Channels: All ditches on-site will be lined with North American Green S75 erosion control mesh (or an approved equal) upon installation of loam and seed.

F. WINTER CONSTRUCTION AND STABILIZATION

1. Natural Resource Protection: During winter construction, a double-row of sediment barriers (i.e., silt fence backed with hay bales or erosion control mix) will be placed between any natural resource and the disturbed area. Projects crossing the natural resource will be protected a minimum distance of 100 feet on either side from the resource.

2. Sediment Barriers: During frozen conditions, sediment barriers may consist of erosion control mix berms or any other recognized sediment barriers as frozen soil prevents the proper installation of hay bales or silt fences.

3. Mulching:

   - All areas will be considered to be denuded until seeded and mulched. Hay and straw mulch will be applied at a rate of twice the normal accepted rate.
   - Mulch will not be spread on top of snow.
   - After each day of final grading, the area will be properly stabilized with anchored hay or straw or erosion control matting.
   - Between the dates of November 1 and April 15, all mulch will be anchored by either mulch netting, emulsion chemical, tracking or wood cellulose fiber.

5. Soil Stockpiling: Stockpiles of soil or subsoil will be mulched for over-winter protection with hay or straw at twice the normal rate or with a 4-inch layer of erosion control mix. This will be done within 24 hours of stocking and re-established prior to any rainfall or snowfall. Any soil stockpiles shall not be placed (even covered with mulch) within 100 feet from any natural resources.

6. Seeding: Dormant seeding may be placed prior to the placement of mulch or erosion control blankets. If dormant seeding is used for the site, all disturbed areas will receive 4 inches of loam and seed at an application rate of three times the rate for permanent seeding. All areas seeded during the winter will be inspected in the spring for adequate catch. All areas insufficiently vegetated (less than 75 percent catch) will be revegetated by replacing loam, seed, and mulch.

   If dormant seeding is not used for the site, all disturbed areas will be revegetated in the spring.

7. Maintenance: Maintenance measures will be applied as needed during the entire construction season. After each rainfall, snow storm, or period of thawing and runoff, and at least once a week, the site Contractor will perform a visual inspection of all installed erosion control measures and perform repairs as needed to ensure their continuous function.

8. Identified repairs will be started no later than the end of the net work day and be completed within seven (7) calendar days.

   Following the temporary and/or final seeding and mulching, the Contractor will, in the spring, inspect and repair any damages and/or bare spots. An established vegetative cover means a minimum of 85 to 90 percent of areas vegetated with vigorous growth.

G. OVER-WINTER CONSTRUCTION EROSION CONTROL MEASURES

1. Stabilization of Disturbed Soil: By October 15, all disturbed soils on areas having a slope less than 15 percent will be seeded and mulched. If the Contractor fails to stabilize these soils by this date, then the Contractor shall stabilize the soil for late fall and winter, by using either temporary seeding or mulching.

2. Stabilization of Disturbed Slopes: All slopes to be vegetated will be completed by October 15. The Owner will consider any area having a grade greater than 15 percent (6.5H:1V) to be a slope. Slopes not vegetated by October 15 will receive one of the following actions to stabilize the slope for late fall and winter:

   a. Stabilize the soil with temporary vegetation and erosion control mesh.
   b. Stabilize the slope with erosion control mix.
   c. Stabilize the slope with stone riprap.

3. Stabilization of Ditches and Channels: All stone-lined ditches and channels to be used to convey runoff through the winter will be constructed and stabilized by November 15. Grass-lined ditches and channels will be complete by September 15. Grass-lined ditches not stabilized by September 15 shall be lined with either sod or riprap.

H. MAINTENANCE PLAN

1. Routine Maintenance: Inspection will be performed as outlined in the project's Erosion Control Plan. Inspection will be by a qualified person during wet weather to ensure that the facility performs as intended. Inspection priorities will include checking erosion controls for accumulation of sediments.

I. Housekeeping

1. Spill prevention. Controls must be used to prevent pollutants from being discharged from materials on site, including storage practices to minimize exposure of the materials to stormwater, and appropriate spill prevention, containment, and response planning and implementation.

2. Groundwater protection. During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials.

3. Fugitive sediment and dust. Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control. If off-site tracking occurs roadways should be swept immediately and no loss once a week and prior to significant storm events.

4. Debris and other materials. Litter, construction debris, and chemicals exposed to stormwater must be prevented from becoming a pollutant source.

5. Trench or foundation de-watering. Trench de-watering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water must be removed from the ponded area, either through gravity or pumping, and must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved by the department.

6. Authorized Non-stormwater discharges. Identify and prevent contamination by non-stormwater discharges. Where allowed non-stormwater discharges exist, they must be identified and steps should be taken to ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Authorized non-stormwater discharges are:

   (a) Discharges from firefighting activity;

   (b) Fire hydrant flushings;

   (c) Vehicle washwater if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarriage and transmission washing is prohibited);

   (d) Dust control runoff in accordance with permit conditions and Appendix (C)(3);

   (e) Routine external building washdown, not including surface paint removal, that does not involve detergents;

   (f) Pavement washwater (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material had been removed) if detergents are not used;

   (g) Uncontaminated air conditioning or compressor condensate;

   (h) Uncontaminated groundwater or spring water;

   (i) Foundation or footer drain-water where flows are not contaminated;

   (j) Uncontaminated excavation dewatering (see requirements in Appendix C(5));

   (k) Potable water sources including waterline flushings; and

   (l) Landscape irrigation.

7. Unauthorized non-stormwater discharges. The Department's approval under this Chapter does not authorize a discharge that is mixed with a source of non-stormwater, other than those discharges in compliance with Appendix C (6). Specifically, the Department's approval does not authorize discharges of the following:

   (a) Wastewater from the washout or cleanout of concrete, stucco, paint, form release oils, curing compounds or other construction materials;

   (b) Fuels, oils or other pollutants used in vehicle and equipment operation and maintenance;

   (c) Soaps, solvents, or detergents used in vehicle and equipment washing; and

   (d) Toxic or hazardous substances from a spill or other release.

8. Additional requirements. Additional requirements may be applied on a site-specific basis.

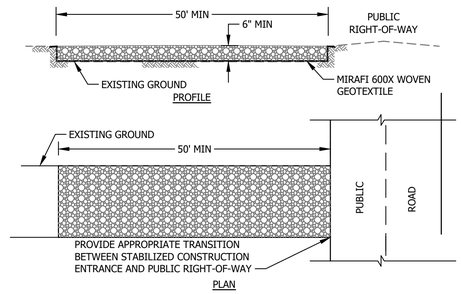
J. CONSTRUCTION SEQUENCE

In general, the expected sequence of construction for each phase is provided below. Construction is proposed to start in and end in 2019.

- Mobilization
- Install temporary erosion control measures
- Clearing and grubbing
- Site Grading
- Install site utilities
- Install road base, pavement, curbs and sidewalks
- Construct gravel wetland, level spreader, and underdrained soil filters
- Site stabilization, pavement, loam and seed, and landscaping

CONSTRUCTION SPECIFICATIONS

NOTES:
1. STONE SIZE - 2" TO 3" STONE OR RECLAIMED OR RECYCLED CONCRETE, OR EQUIVALENT.
2. LENGTH - AS EFFECTIVE, BUT NOT LESS THAN 50 FEET.
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - 10 FEET MINIMUM, OR NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
5. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC REPAIR AND TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.



STABILIZED CONSTRUCTION ENTRANCE/EXIT

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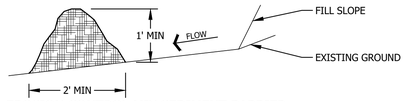
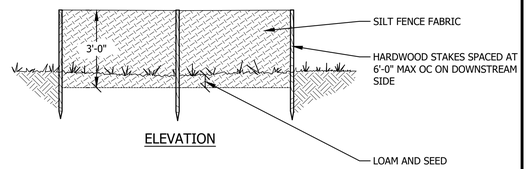
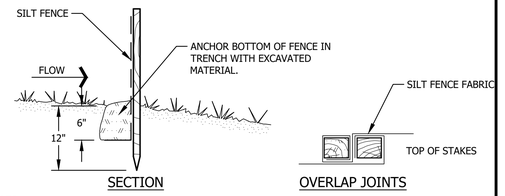


EROSION CONTROL MIX SEDIMENT BARRIER

NOTES:

1. EROSION CONTROL MIX CAN BE MANUFACTURED ON OR OFF THE SITE. IT MUST CONSIST PRIMARILY OF ORGANIC MATERIAL SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR FLUME GRIT AND FRAGMENTED WOOD GENERATED FROM WATER-FLUME LOG HANDLING SYSTEMS.
   WOOD CHIPS, GROUND CONSTRUCTION DEBRIS, REPROCESSED WOOD PRODUCTS OR BARK CHIPS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.
   EROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER.
   EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH.
   THE MIX COMPOSITION SHALL MEET THE FOLLOWING STANDARDS:
   A. ORGANIC MATERIAL: BETWEEN 20% - 100% (DRY WEIGHT BASIS)
   B. PARTICLE SIZE: BY WEIGHT, 100% PASSING 6" SCREEN, 70-85% PASSING 0.75" SCREEN
   C. THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
   D. LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX.
   E. SOLUBLE SALTS CONTENT SHALL BE LESS THAN 4.0 MMHOS/CM.
   F. PH: 5.0 - 8.0
2. ON SLOPES LESS THAN 5% OR AT THE BOTTOM OF SLOPES 2:1 OR LESS UP TO 20 FEET LONG, THE BARRIER MUST CONFORM TO THE ABOVE DIMENSIONS. ON THE LONGER OR STEEPER SLOPES, THE BARRIER SHOULD BE WIDER TO ACCOMMODATE THE ADDITIONAL FLOW.
3. THE BARRIER MUST BE PLACED ALONG A RELATIVELY LEVEL ELEVATION. IT MAY BE NECESSARY TO CUT TALL GRASSES OR WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES THAT WOULD ENABLE FINES TO WASH UNDER THE BARRIER THROUGH THE GRASS BLADES OR PLANT STEMS.
4. LOCATIONS WHERE OTHER BMP'S SHOULD BE USED:
   A. AT LOW POINTS OF CONCENTRATED FLOW
   B. BELOW CULVERT OUTLET APRONS
   C. WHERE A PREVIOUS STAND-ALONE EROSION CONTROL MIX APPLICATION HAS FAILED
   D. AT THE BOTTOM OF STEEP PERIMETER SLOPES THAT ARE MORE THAN 50 FEET FROM TOP TO BOTTOM (LARGE UPGRADIENT WATERSHED)
   E. AROUND CATCH BASINS AND CLOSED STORM DRAIN SYSTEMS.
5. THE EROSION CONTROL MIX BARRIERS SHOULD BE INSPECTED REGULARLY AND AFTER EACH LARGE RAINFALL. REPAIR ALL DAMAGED SECTIONS OF BERM IMMEDIATELY BY REPLACING OR ADDING ADDITIONAL MATERIAL PLACED ON THE BERM TO THE DESIRED HEIGHT AND WIDTH.
6. IT MAY BE NECESSARY TO REINFORCE THE BARRIER WITH SILT FENCE OR STONE CHECK DAMS IF THERE ARE SIGNS OF UNDERCUTTING OR THE IMPOUNDMENT OF LARGE VOLUMES OF WATER.
7. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
8. REPLACE SECTIONS OF BERM THAT DECOMPOSE, BECOME CLOGGED WITH SEDIMENT OR OTHERWISE BECOME INEFFECTIVE. THE BARRIER SHOULD BE RESHAPED AS NEEDED.
9. EROSION CONTROL MIX BARRIERS CAN BE LEFT IN PLACE AFTER CONSTRUCTION. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER BARRIER IS NO LONGER REQUIRED SHOULD BE SPREAD TO CONFORM TO THE EXISTING GRADE AND BE SEEDED AND MULCHED. WOODY VEGETATION CAN BE PLANTED INTO THE BARRIERS, OR THEY CAN BE OVER-SEEDED WITH LEGUMES. IF THE BARRIER NEEDS TO BE REMOVED, IT CAN BE SPREAD OUT INTO THE LANDSCAPE.



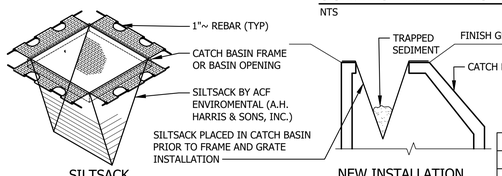


NOTE:
CONTRACTORS OPTION TO USE SEDIMENT BARRIER OR SILT FENCE FOR SLOPE PROTECTION.

SILT FENCE

SURFACE DRAINAGE SEDIMENT CONTROL

NTS



CATCH BASIN PROTECTION

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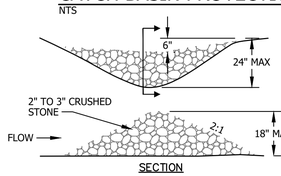
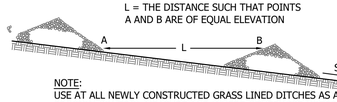


SPACING BETWEEN CHECK DAMS	
S_O (FT/FT)	L (FT)
0.020	75
0.030	50
0.040	40
0.050	30
0.080	20
0.100	10

L = THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION



NOTE:
USE AT ALL NEWLY CONSTRUCTED GRASS LINED DITCHES AS AN EROSION CONTROL MEASURE AND WHERE OTHERWISE NOTED ON PLANS.

STONE CHECK DAM

NTS

REV.	BY	DATE	STATUS
	DPD	3/2021	ISSUED FOR TOWN APPROVAL
	DPD	2/2021	REVISED PER TOWN AND MEDEP COMMENTS
	DPD	12/2020	REVISED PER STAFF COMMENTS
	DPD	10/2020	ISSUED FOR TOWN AND MEDEP REVIEW

STATE OF MAINE — DANIEL P. DIFLAN — 11841 — REGISTERED PROFESSIONAL ENGINEER — 10 20

CONSTRUCTION AGGREGATE INC.
VILLAGE CENTER ESTATES, PHASE 2
NORTH YARMOUTH, MAINE

EROSION CONTROL NOTES AND DETAILS

SME
SEVEE & MAHER ENGINEERS
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
4 Blanchard Road, PO Box 85A, Cumberland, Maine 04021
Phone 207.829.5016 • Fax 207.829.5692 • smemaine.com

DESIGN BY:	JTR
DRAWN BY:	SJM
DATE:	1/2020
CHECKED BY:	BDP
LMN:	NONE
CTB:	SME-STD

JOB NO. 18295.00 DWG FILE DETAILS

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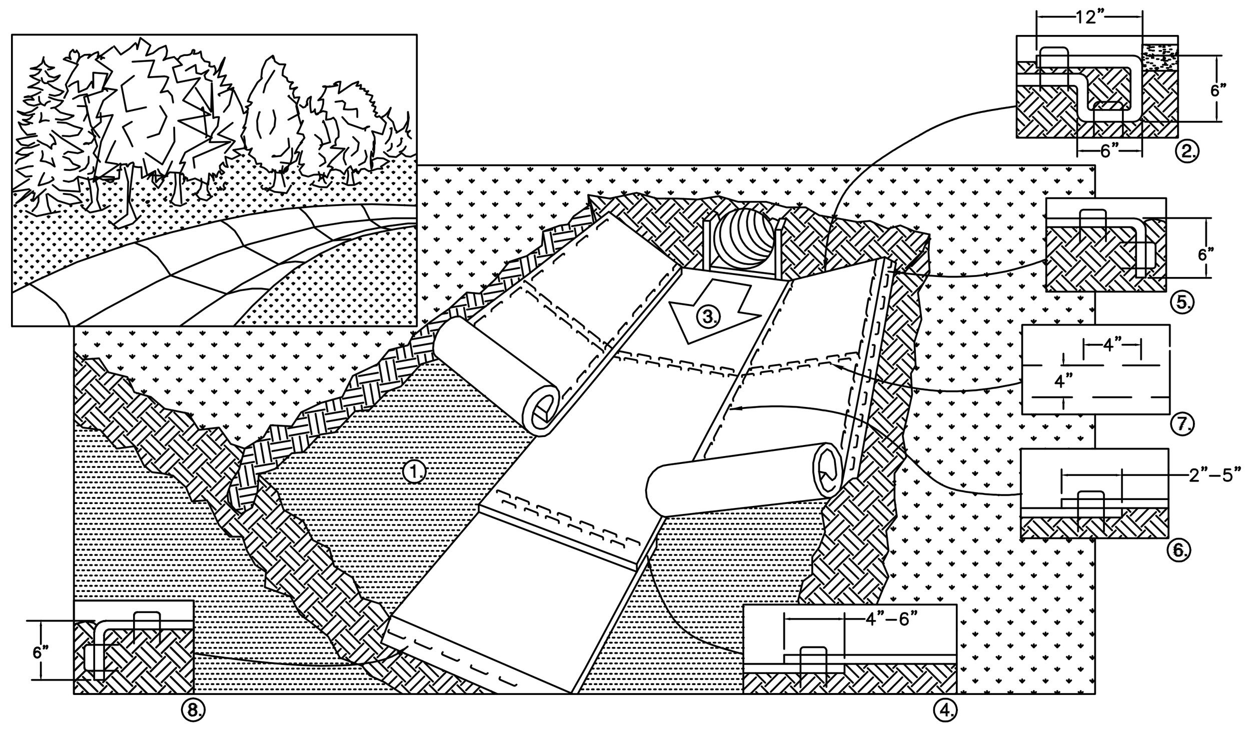
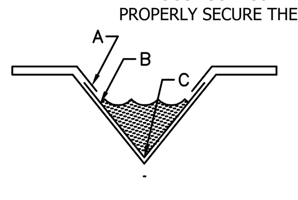
\\reserve\CFS\Ben Gower\Village Center Estates Phase 2\Acad\Plans\DETAILS.dwg, 3/9/2021 12:30:30 PM, jtl



1. PREPARE BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S). INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP'S IN A 6"DEEPx6"WIDE TRENCH WITH APPROXIMATELY 12" OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECP'S.
3. ROLL CENTER RECP'S IN THE DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM™, STAPLES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. PLACE CONSECUTIVE RECP'S END OVER END (SHINGLE STYLE) WITH A 4" TO 6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE RECP'S.
5. FULL LENGTH EDGE OF RECP'S AT OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT RECP'S MUST BE OVERLAPPED APPROXIMATELY 2" TO 5" (DEPENDING ON RECP'S TYPE) AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE RECP'S MUST BE ANCHORED WITH A ROW OF STAPLES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.

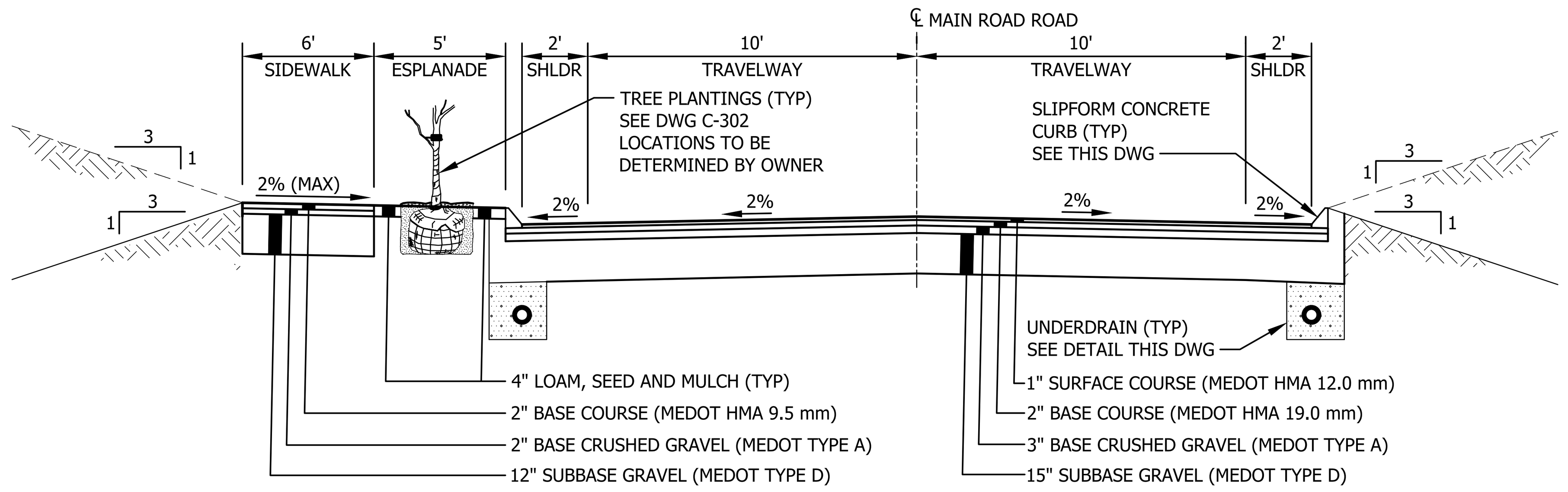


CRITICAL POINTS

A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

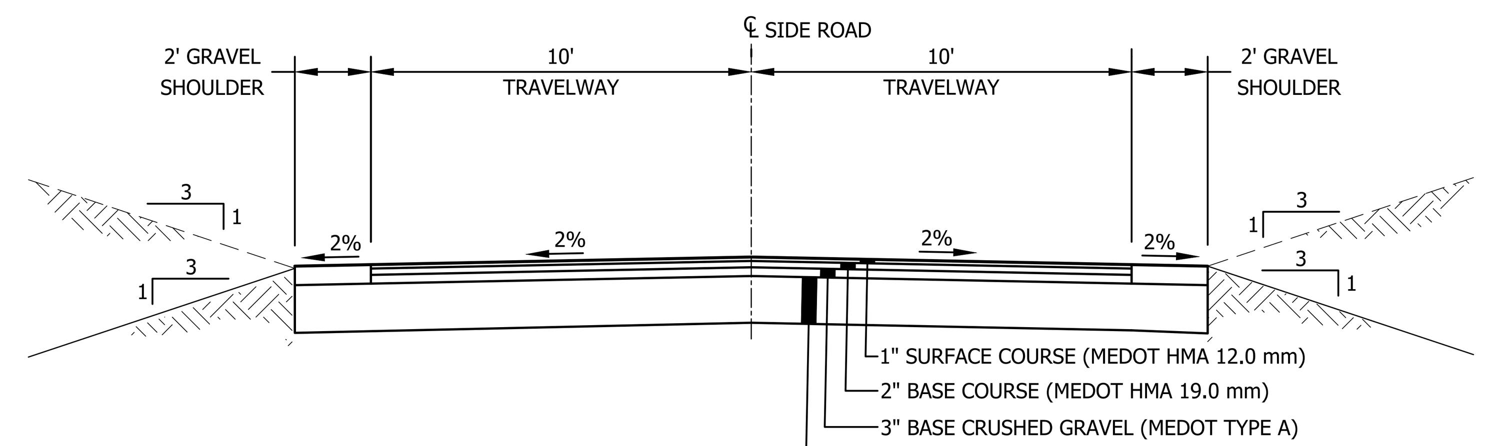
NOTE:
* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

CHANNEL INSTALLATION
NTS



NOTES:
1. HMA = HOT MIX ASPHALT.
2. LOAM ALL SIDE SLOPES WITH 4" OF LOAM. SEED AS SOON AS POSSIBLE. PROTECT SIDE SLOPES FROM EROSION AS NEEDED OR AS DIRECTED BY ENGINEER.
3. BACKSLOPES TO BE 3:1 TO MATCH EXISTING GRADES IN BOTH CUTS AND FILLS UNLESS OTHERWISE INDICATED.
4. BACKSLOPE TO BE 2:1 IN ROCK EXCAVATION PROVIDED ADEQUATE SIGHT DISTANCE IS MAINTAINED.

MAIN ROAD - TYPICAL ROAD SECTION
NTS



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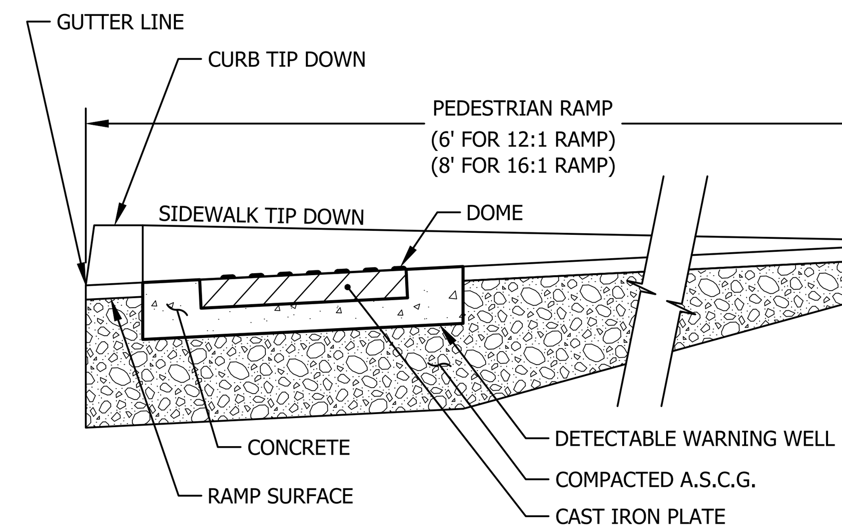
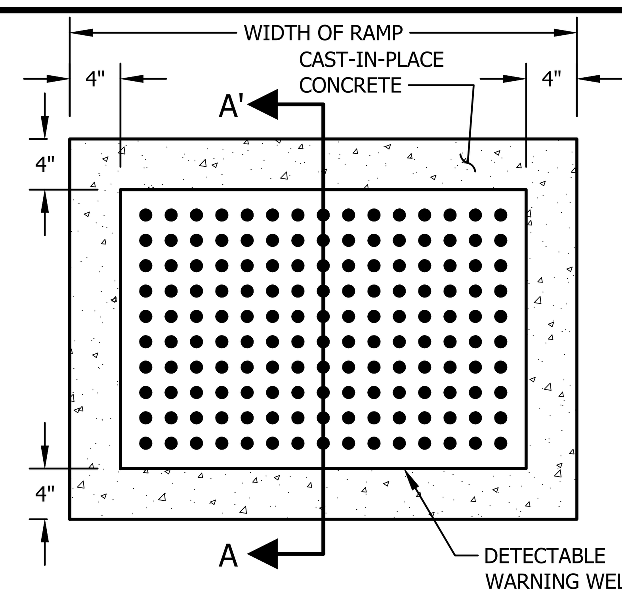
4. BACKSLOPE TO BE 2:1 IN ROCK EXCAVATION PROVIDED ADEQUATE SIGHT DISTANCE IS MAINTAINED.

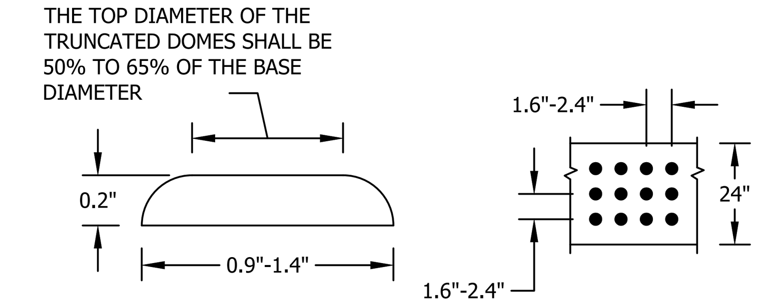
SIDE ROAD - TYPICAL ROAD SECTION
NTS



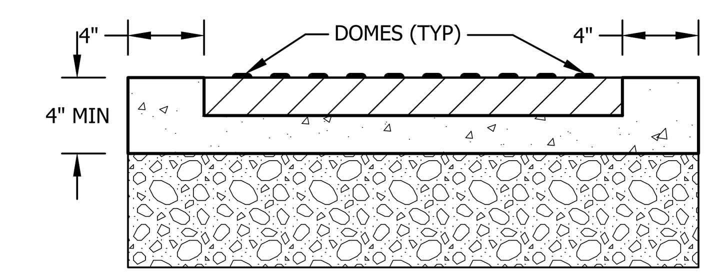
SIDE SECTION VIEW OF DETECTABLE WARNING, WELL, CURB AND GUTTER



PLAN VIEW OF DETECTABLE WARNING AND WELL

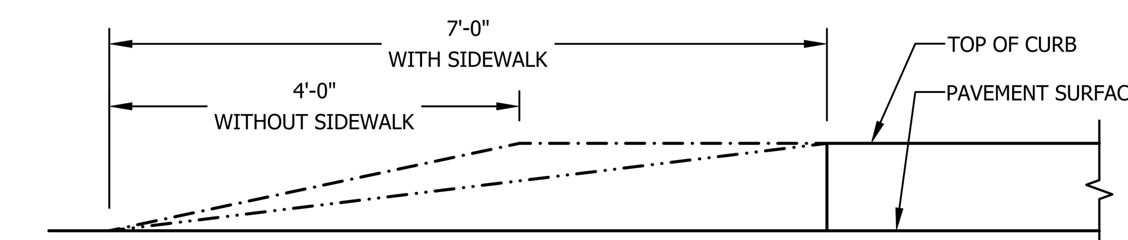


DOME AND DETECTABLE WARNING DETAILS

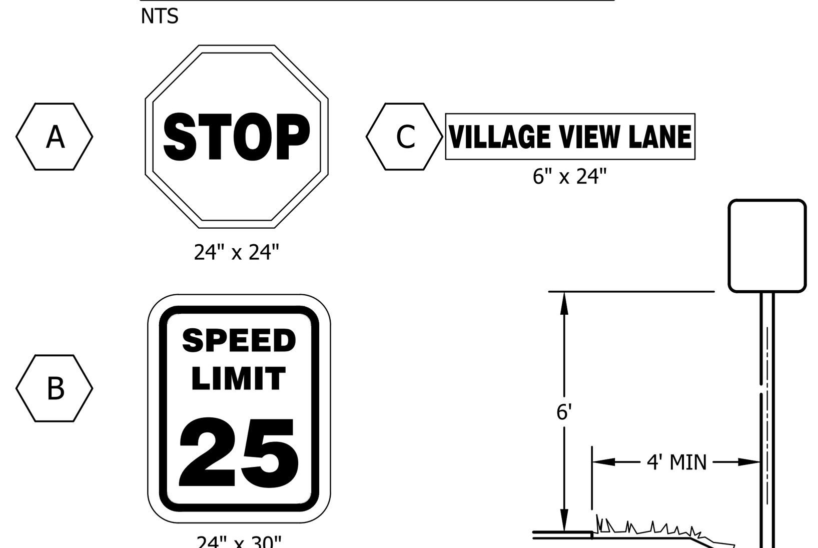


SECTION A-A'

DETECTABLE WARNING SECTIONS
NTS

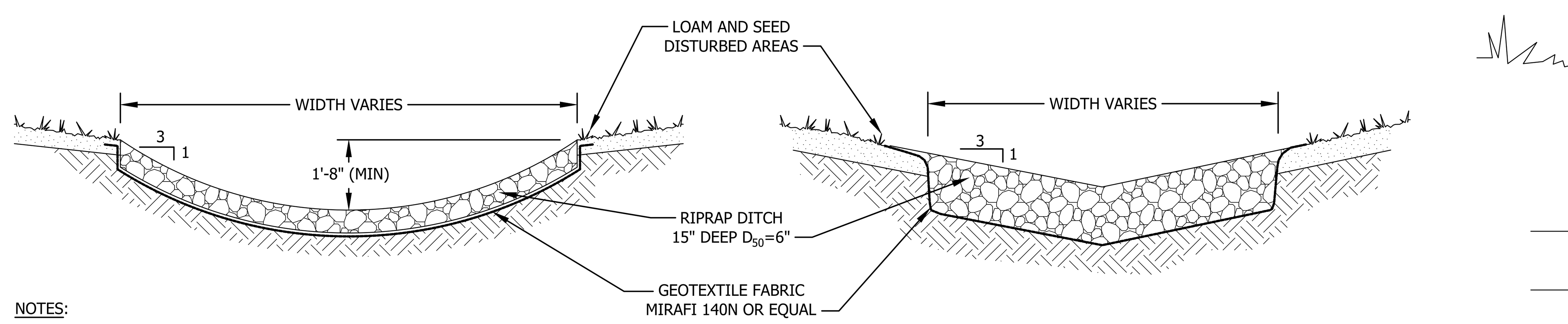


CURB TERMINAL END (TIP DOWN)
NTS



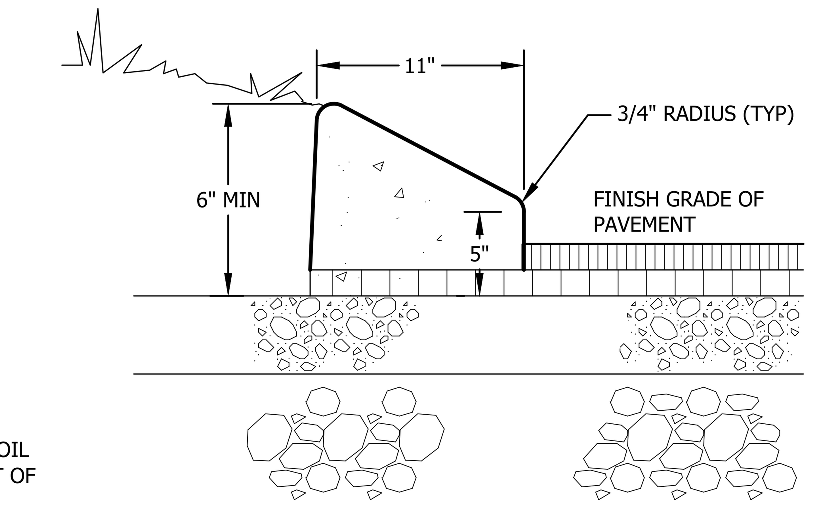
NOTES:
1. SIGNS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, HIGHWAYS AND BRIDGES REVISION OF DECEMBER 2002, SECTION 645.
2. ALL PERMANENT SIGNS ON THIS PROJECT ARE CLASSIFIED UNDER SECTION 645.03(b) TYPE 1 REGULATORY WARNING AND ROUTE MARKER ASSEMBLY SIGNS.
3. SIGN MATERIAL SHALL BE AS SPECIFIED IN SECTION 719 OF THE MDOT STANDARD SPECIFICATIONS.
4. POSTS SHALL BE METAL CHANNELS AS SPECIFIED IN SECTION 720.08. ALTERNATE POSTS MAY BE 4"x6" WOOD AS SPECIFIED IN SECTION 720.12, AS APPROVED BY ENGINEER.
5. POSTS IN THE PUBLIC RIGHT-OF-WAY TO BE ON BREAKAWAY POSTS AS SPECIFIED IN SECTION 720 OF THE MDOT STANDARD SPECIFICATIONS.

ROAD SIGN LEGEND
NTS



NOTES:
1. SUBGRADE PREPARATION: SHAPE THE SUBGRADE TO THE LINES AND GRADES AS SHOWN ON THE DRAWINGS AND AS SHOWN ON THE DETAILS. REMOVE ALL ORGANIC MATTER, DEBRIS AND SOIL THAT IS TOO WET TO SUPPORT RIPRAP. IF FILL IS REQUIRED PROVIDE SUITABLE SOIL FROM ON SITE OR COMMON BORROW (MDOT 703.18) COMPACTED TO A DENSITY APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED SOIL BUT NOT LESS THAN 92% (ASTM D1557).
2. GEOTEXTILE FABRIC: PLACE AND ANCHOR GEOTEXTILE (FILTER FABRIC) IMMEDIATELY AFTER SUBGRADE PREPARATION IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. STONE PLACEMENT: PLACE RIPRAP IMMEDIATELY AFTER PLACING GEOTEXTILE FABRIC. PLACE RIPRAP SO THAT IT PRODUCES A DENSE, WELL-GRADED MASS OF STONE WITH A MINIMUM OF VOIDS
4. MAINTENANCE: INSPECT RIPRAP FOLLOWING SIGNIFICANT RAINFALL EVENTS (3 INCHES OR MORE IN 24 HOURS) AND AFTER THE SPRING THAW. REPAIR DAMAGED AREAS IMMEDIATELY.
5. RIPRAP: SOUND DURABLE ROCK WHICH WILL NOT DISINTEGRATE BY EXPOSURE TO WATER OR WEATHER. EITHER FIELD STONE OR ROUGH, UNEVEN QUARRY STONE MAY BE USED. STONES SHALL BE ANGULAR AND AS NEARLY RECTANGULAR IN CROSS-SECTION AS PRACTICABLE. DO NOT USE ROUNDED BOULDERS OR COBBLES. USE A WELL GRADED MIXTURE OF STONE SIZES WITH 50 PERCENT OF THE MIXTURE BY WEIGHT BEING LARGER THAN THE D SIZE SPECIFIED AND 50 PERCENT SMALLER.

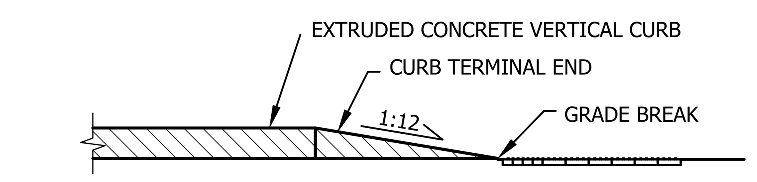
RIPRAP CHANNEL PROTECTION
NTS



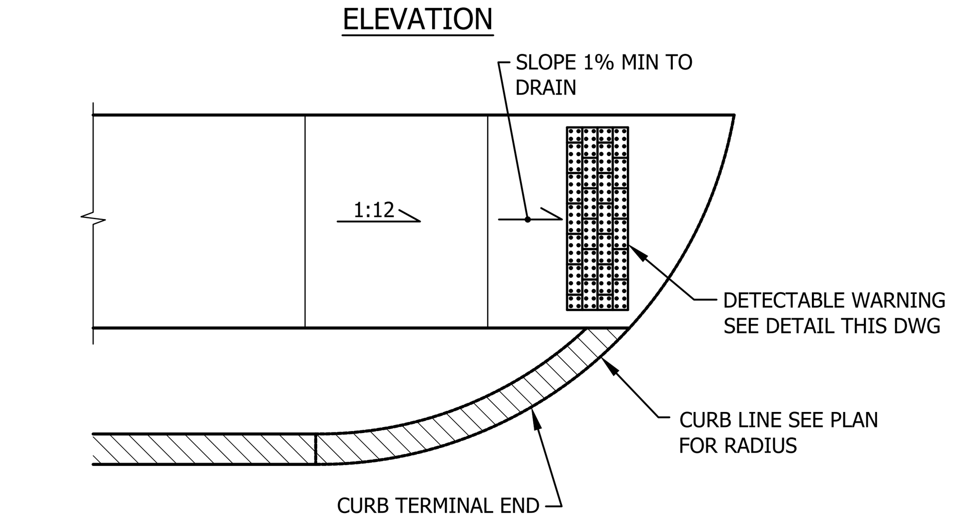
CONCRETE NOTES:

1. MINIMUM 28 DAY COMPRESSIVE STRENGTH: 4,000 PSI
2. AIR ENTRAINMENT: 4% TO 6%
3. REINFORCING: FIBERMESH OR EQUIVALENT GRACE PRODUCT
4. STRAND LENGTH 1-1/2", 1" TO 1-1/2 LB/CUBIC YARD
5. SLUMP: 1" TO 1-1/2"
6. FINISH:
   a. VERTICAL AND TOP FACES: SMOOTH SLIPFORM
   b. SLOPED FACES: BROOM
7. JOINTS: SAWCUT 10' OC 3" DEEP THE DAY AFTER PLACING
8. SEALER: SALTGUARD OR EQUAL WATER BASED SEALER

SLIPFORM CONCRETE CURB
NTS

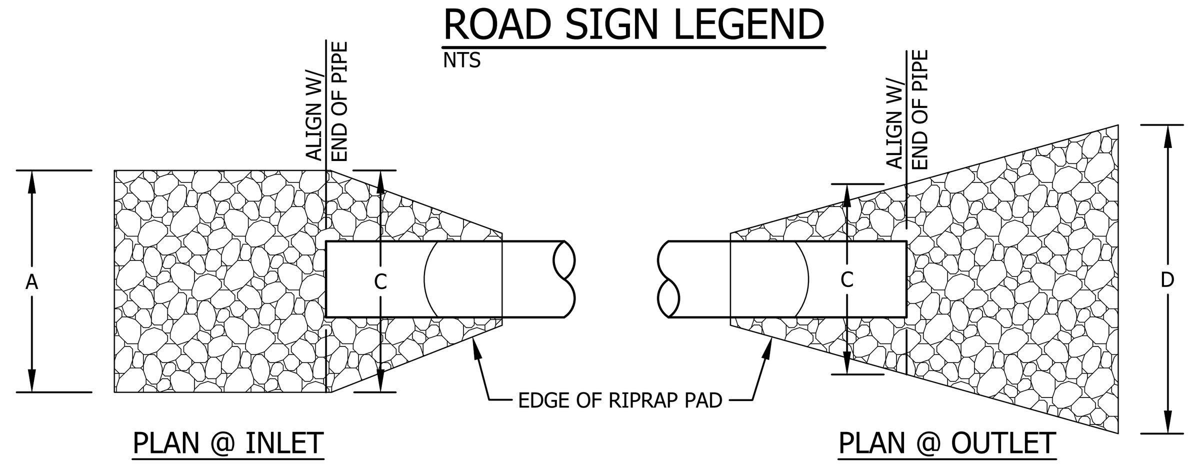


ELEVATION



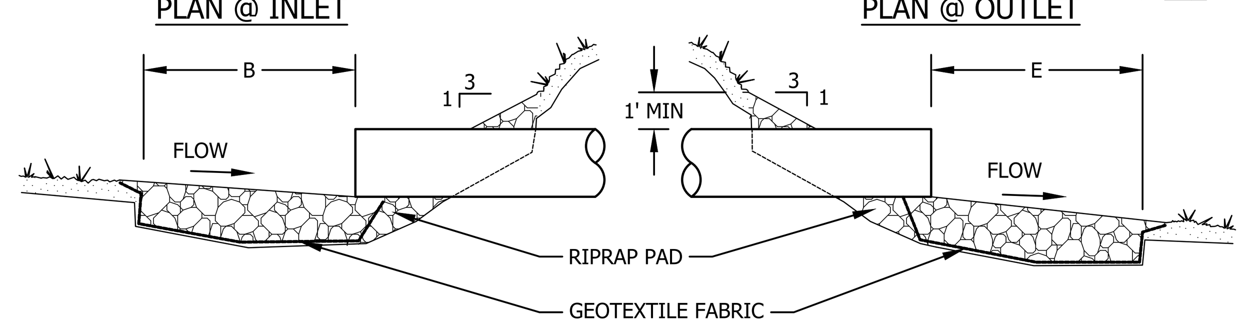
PLAN

ADA RAMP WITH DETECTABLE WARNING
NTS



PLAN @ INLET

PLAN @ OUTLET

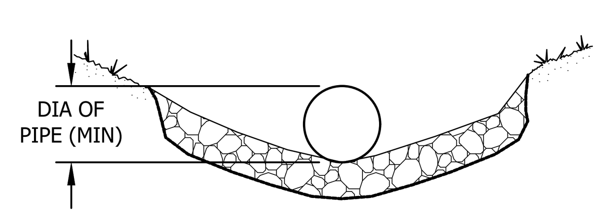


SECTION @ INLET

SECTION @ OUTLET

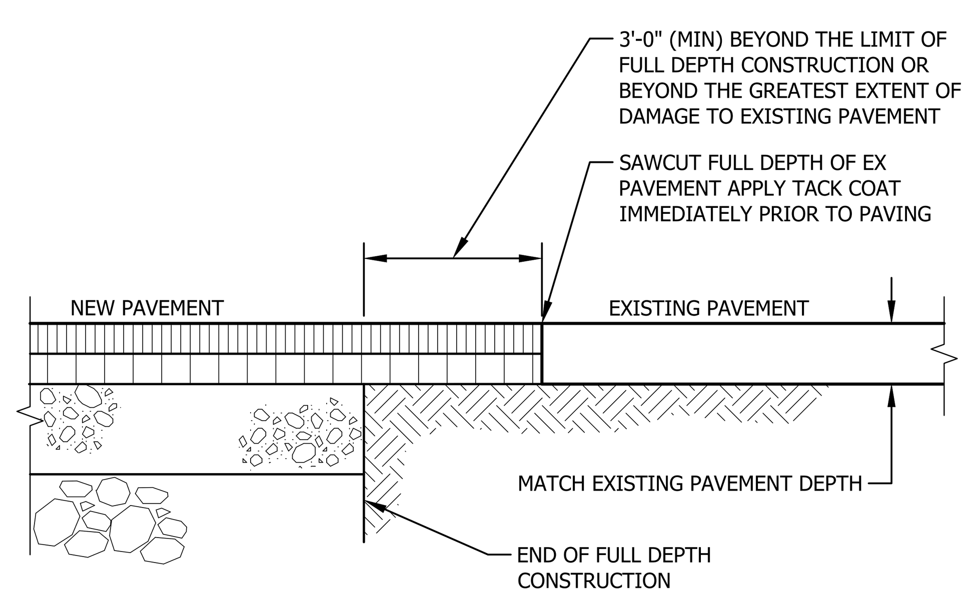
RIPRAP PAD MUST BE INSTALLED WITHIN 48 HOURS OF INSTALLING NEW PIPE OR CULVERT.

PIPE	A	B	C	D	E	RIPRAP THICKNESS	D_{50}
12"~	3 FT.	2 FT.	3 FT.	9 FT.	8 FT.	12"	5"
15"~	3.75 FT.	2.5 FT.	3.75 FT.	11.5 FT.	10 FT.	18"	8"
18"~	4.5 FT.	3 FT.	4.5 FT.	11.5 FT.	10 FT.	18"	8"
36"~	9 FT.	6 FT.	9 FT.	12 FT.	30 FT.	28"	14"



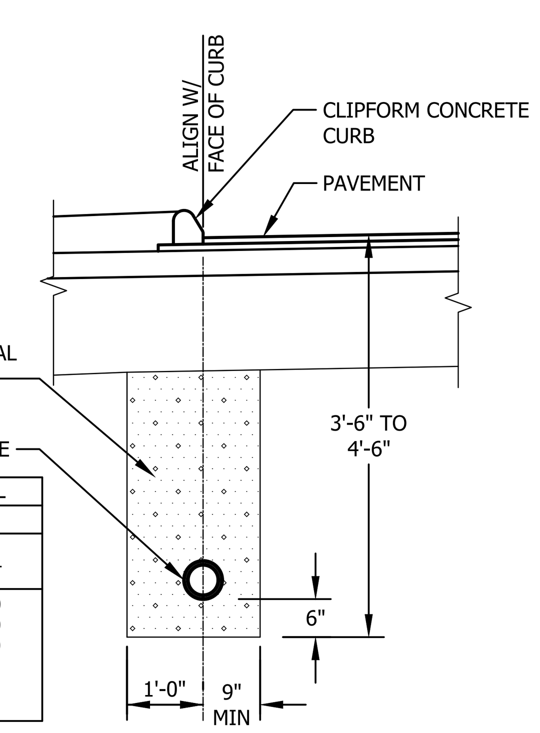
CROSS SECTION

RIPRAP INLET/OUTLET PROTECTION



PAVEMENT CUTTING AND MATCHING
NTS

GRANULAR MATERIAL MDOT 703.22	
SIEVE DESIGNATION	% BY WEIGHT
1"	95-100
1/2"	75-100
NO. 4	50-100
NO. 20	15-80
NO. 50	0-15
NO. 200	0-5.0



UNDERDRAIN TRENCH
NTS

REV.	BY	DATE	STATUS
	DPD	3/2021	ISSUED FOR TOWN APPROVAL
	DPD	2/2021	REVISED PER TOWN AND MEDEP COMMENTS
	DPD	12/2020	REVISED PER STAFF COMMENTS
	DPD	10/2020	ISSUED FOR TOWN AND MEDEP REVIEW

STATE OF MAINE
DANIEL P. DIFFIN
11841
LICENSED
PROFESSIONAL ENGINEER
3/30/2021

CONSTRUCTION AGGREGATE INC.
VILLAGE CENTER ESTATES, PHASE 2
NORTH YARMOUTH, MAINE

SECTIONS AND DETAILS

SME
SEVEE & MAHER ENGINEERS
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
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DESIGN BY:	JTR
DRAWN BY:	SJM
DATE:	1/2020
CHECKED BY:	BDP
LMN:	NONE
CTB:	SME-STD

JOB NO. 18295.00 DWG FILE DETAILS

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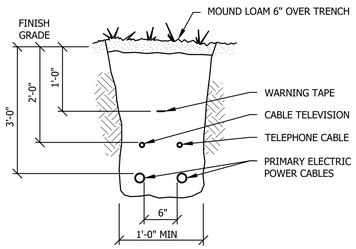
CONSTRUCTION	USE
1 1/4" HMA MDOT 9.5mm 2 1/4" HMA MDOT 19.0mm 3" COMPACTED AGGREGATE BASE, MDOT 703.06(a) TYPE A 15" COMPACTED AGGREGATE SUBBASE, MDOT 703.06(b) TYPE D COMPACTED SUBGRADE	BITUMINOUS ROADS
1 - 2" LAYER OF HMA MDOT 9.5mm 12" COMPACTED AGGREGATE BASE, MDOT 703.06(a) TYPE A COMPACTED SUBGRADE	BITUMINOUS SIDEWALKS
4" LOAM, SEED, FERTILIZER AND MULCH GRANULAR MATERIAL IN FILL AREAS COMPACTED SUBGRADE	GRASS GRASSED ISLAND ALL DISTURBED AREAS
4" COMPACTED AGGREGATE BASE, MDOT 703.06(a) TYPE A 15" COMPACTED AGGREGATE SUBBASE, MDOT 703.06(b) TYPE D COMPACTED SUBGRADE	GRAVEL PARKING AREA

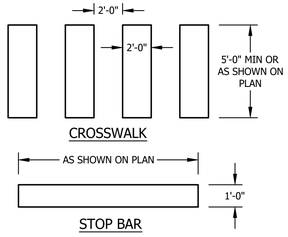
NOTES:
1. HMA = HOT MIX ASPHALT.
   MDOT = MAINE DEPARTMENT OF TRANSPORTATION.
2. ALL COURSE THICKNESSES AFTER FINAL COMPACTION.

SCHEDULE OF SURFACE FINISHES
NTS

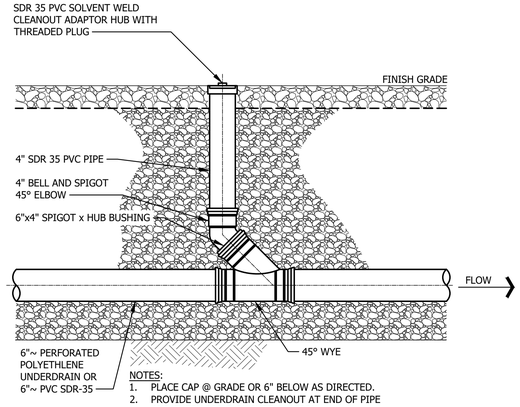


NOTES:
1. SEE CMP CO. STANDARD TRENCH FOR BACKFILL MATERIAL REQUIREMENTS.
2. DIRECT BURY CABLES EXCEPT UNDER PAVED AREAS. PROVIDE SCH. 40 PVC CONDUIT UNDER PAVED AREAS, EXTEND CONDUIT 5' BEYOND EDGE OF PAVEMENT.

UNDERGROUND UTILITY TRENCH SECTION
NTS

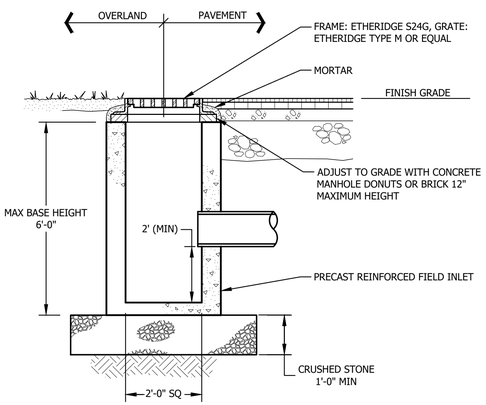


PAVEMENT STRIPING
NTS

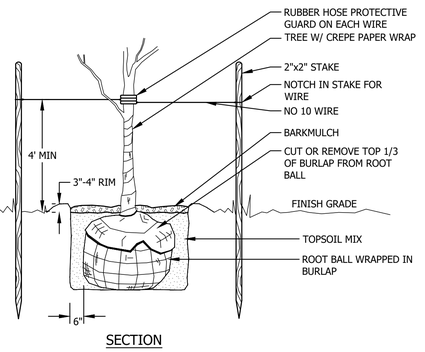


NOTES:
1. PLACE CAP @ GRADE OR 6" BELOW AS DIRECTED.
2. PROVIDE UNDERDRAIN CLEANOUT AT END OF PIPE AND EVERY 300LF ON INSTALLATION.

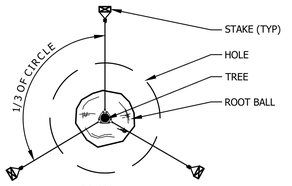
TYPICAL CLEANOUT
NTS



FIELD INLET DETAIL
NTS



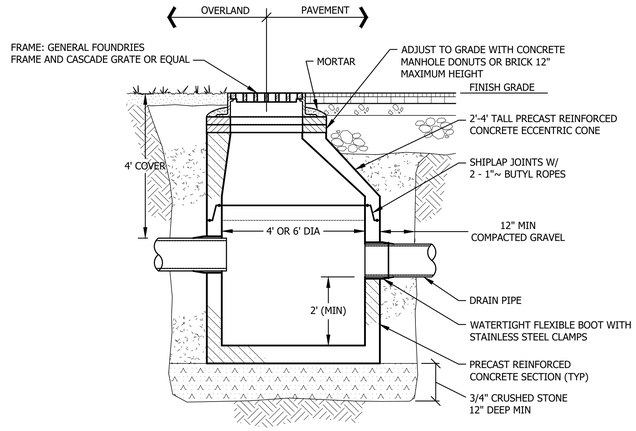
SECTION



PLAN

NOTE:
TREES UNDER 8' DO NOT REQUIRE STAKING.

TREE PLANTING
NTS



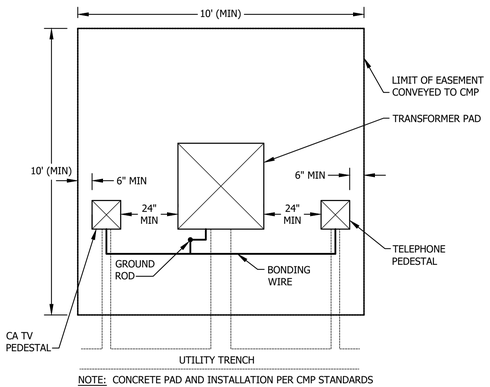
CATCH BASIN
NTS

CATCH BASIN AND FIELD INLET NOTES:

THE CONTRACTOR SHALL PROVIDE SUBMITTALS TO THE ENGINEER FOR APPROVAL. SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO THE FOLLOWING:

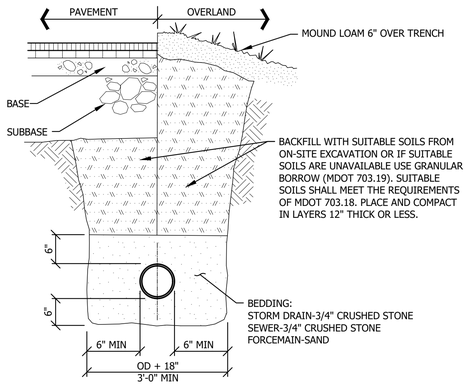
PRODUCT DATA: SUBMIT PRODUCT DATA FOR ALL MATERIALS USED ON THE JOB FOR REVIEW FOR LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH INFORMATION GIVEN AND DESIGN CONCEPT EXPRESSED IN CONTRACT DOCUMENTS.

SHOP DRAWINGS: SUBMIT FOR REVIEW SHOP DRAWINGS OF ALL PRECAST UNITS. MANUFACTURER'S INFORMATION SHALL BE SUBMITTED FOR JOINT SEALANTS AND WATERPROOFING. MANUFACTURE SHALL PROVIDE ANTI-FLOTATION DESIGN SHOP DRAWINGS AND CALCULATIONS, INCLUDING ANY EXTENDED BASE SLABS AS NECESSARY, FOR PROPOSED MANHOLES. MANUFACTURER SHALL ASSUME GROUNDWATER LEVELS EQUAL TOP OF GROUND ELEVATIONS AND PROVIDE FOR A 1.2 FACTOR OF SAFETY AGAINST FLOTATION.

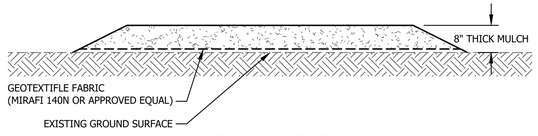


NOTE: CONCRETE PAD AND INSTALLATION PER CMP STANDARDS

TYPICAL TRANSFORMER EASEMENT LAYOUT
NTS



TYPICAL TRENCH SECTION
NTS



FOOTPATH SECTION
NTS

REV.	BY	DATE	STATUS
	DPD	3/2021	ISSUED FOR TOWN APPROVAL
	DPD	2/2021	REVISED PER TOWN AND MEDEP COMMENTS
	DPD	12/2020	REVISED PER STAFF COMMENTS
	DPD	10/2020	ISSUED FOR TOWN AND MEDEP REVIEW

STATE OF MAINE
DANIEL J. DIFLIN
11841
LICENSED PROFESSIONAL ENGINEER
30 DEC 2021

CONSTRUCTION AGGREGATE INC.
VILLAGE CENTER ESTATES, PHASE 2
NORTH YARMOUTH, MAINE

SECTIONS AND DETAILS

SME
SEVEE & MAHER ENGINEERS
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
4 Blanchard Road, PO Box 85A, Cumberland, Maine 04021
Phone 207.829.5016 • Fax 207.829.5692 • smemaine.com

DESIGN BY:	JTR
DRAWN BY:	SJM
DATE:	1/2020
CHECKED BY:	BDP
LMN:	NONE
CTB:	SME-STD

JOB NO. 18295.00 DWG FILE DETAILS

C-302

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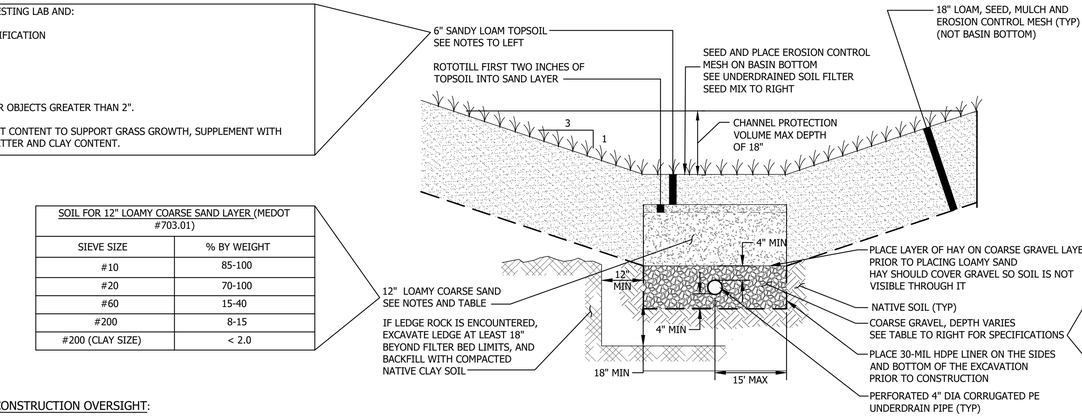
THE SANDY LOAM TOPSOIL SHALL BE TESTED AT A SOIL TESTING LAB AND:

- MATCH THE USDA SANDY LOAM TOPSOIL CLASSIFICATION
- HAVE 5-8% HUMIFIED ORGANIC MATTER
- HAVE A CLAY CONTENT OF LESS THAN 2%
- BE FREE OF STONES, STUMPS, ROOTS OR OTHER OBJECTS GREATER THAN 2".

IF THE TOPSOIL DOES NOT CONTAIN SUFFICIENT NUTRIENT CONTENT TO SUPPORT GRASS GROWTH, SUPPLEMENT WITH SUPERHUMUS ORGANIC MATTER AND RETEST ORGANIC MATTER AND CLAY CONTENT.



UNDERDRAINED SOIL FILTER SEED MIX	
Name	LBS/ACRE
Creeping Red Fescue	20
Tall Fescue	20
Birdsfoot trefoil	8
Total	48

SOIL FOR 12" LOAMY COARSE SAND LAYER (MEDOT #703.01)	
SIEVE SIZE	% BY WEIGHT
#10	85-100
#20	70-100
#60	15-40
#200	8-15
#200 (CLAY SIZE)	< 2.0

COARSE GRAVEL MEDOT SPECIFICATIONS FOR UNDERDRAINS (MEDOT #703.22)	
SIEVE SIZE	% PASSING BY WEIGHT
UNDERDRAIN TYPE B	
1"	95-100
1/2"	75-100
#4	50-100
#20	15-80
#50	0-15
#200	0-5

CONSTRUCTION OVERSIGHT:

CONSTRUCTION SEQUENCE: THE SOIL FILTER MEDIA AND VEGETATION MUST NOT BE INSTALLED UNTIL THE AREA THAT DRAINS TO THE FILTER HAS BEEN PERMANENTLY STABILIZED WITH PAVEMENT OR OTHER STRUCTURE, 90% VEGETATION COVER, OR OTHER PERMANENT STABILIZATION UNLESS THE RUNOFF FROM THE CONTRIBUTING DRAINAGE AREA IS DIVERTED AROUND THE FILTER UNTIL STABILIZATION IS COMPLETE.

COMPACTION OF SOIL FILTER: FILTER SOIL MEDIA AND UNDERDRAIN BEDDING MATERIAL MUST BE COMPACTED TO BETWEEN 90% AND 92% STANDARD PROCTOR.

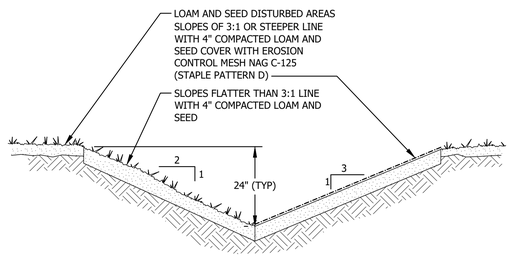
CONSTRUCTION OVERSIGHT: INSPECTION BY A PROFESSIONAL ENGINEER FAMILIAR WITH CONSTRUCTION REQUIREMENTS OF OF UNDERDRAINED SOIL FILTERS WILL OCCUR AT A MINIMUM:

- AFTER THE PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED,
- AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE FILTER MEDIA,
- AFTER THE FILTER MEDIA HAS BEEN INSTALLED AND SEEDED.
- AFTER ONE YEAR TO INSPECT HEALTH OF THE VEGETATION AND MAKE CORRECTIONS, AND
- ALL THE MATERIAL USED FOR THE CONSTRUCTION OF THE FILTER BASIN MUST BE CONFIRMED AS SUITABLE BY THE DESIGN ENGINEER. TESTING MUST BE DONE BY A CERTIFIED LABORATORY TO SHOW THAT THEY ARE PASSING DEP SPECIFICATIONS.
- WITHIN 30 DAYS OF COMPLETION OF THE UNDERDRAINED FILTER BASIN, THE APPLICANT MUST SUBMIT A LOG OF INSPECTION REPORTS DETAILING THE ITEMS INSPECTED, PHOTOS TAKEN, AND THE DATES OF EACH INSPECTION TO THE BUREAU OF LAND RESOURCES FOR REVIEW.

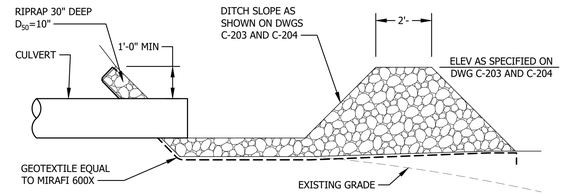
TESTING AND SUBMITTALS: THE CONTRACTOR SHALL IDENTIFY THE LOCATION OF THE SOURCE OF EACH COMPONENT OF THE FILTER MEDIA. ALL RESULTS OF FIELD AND LABORATORY TESTING SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR CONFIRMATION. THE CONTRACTOR SHALL:

- SELECT SAMPLES OF EACH TYPE OF MATERIAL TO BE BLENDED FOR THE MIXED FILTER MEDIA AND SAMPLES OF THE UNDERDRAIN BEDDING MATERIAL. SAMPLES MUST BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE OR PIT FACE. SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY.
- PERFORM A SIEVE ANALYSIS CONFORMING TO ASTM C136 (STANDARD TEST METHOD FOR SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES 1996A) ON EACH TYPE OF THE SAMPLE MATERIAL.

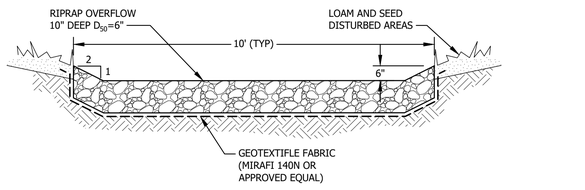
TYPICAL UNDERDRAINED SOIL FILTER

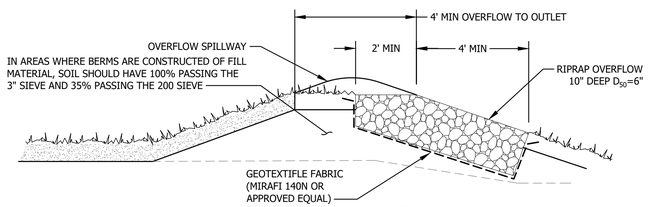


VEGETATED SWALE
NTS

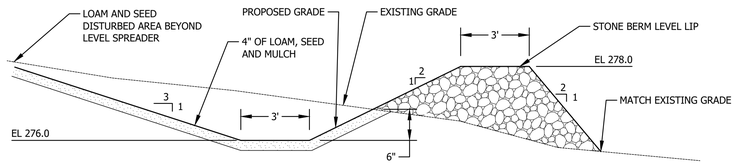


RIPRAP FOREBAY
NTS





OVERFLOW SPILLWAY SECTIONS
NTS



BERM STONE SIZE	
SIEVE	% BY WEIGHT PASSING SIEVE
12 in	100
6 in	84-100
3 in	68-83
1 in	42-55
No. 4	8-12

NOTES:
1. CONSTRUCT LEVEL LIP AND SPREADER ON ZERO PERCENT GRADE.
2. DO NOT CONSTRUCT LEVEL SPREADER ON FILL.
3. STORM RUNOFF CONVERTED TO SHEET FLOW SHALL OUTLET ONTO STABILIZED AREA. WATER SHALL NOT BE CHANNELIZED IMMEDIATELY BELOW POINT OF DISCHARGE.

LEVEL SPREADER
NTS

REV.	BY	DATE	STATUS
	DPD	3/2021	ISSUED FOR TOWN APPROVAL
	DPD	2/2021	REVISED PER TOWN AND MEDEP COMMENTS
	DPD	12/2020	REVISED PER STAFF COMMENTS
	DPD	10/2020	ISSUED FOR TOWN AND MEDEP REVIEW

STATE OF MAINE — DANIEL P. DIPRIMA — 11841 — REGISTERED PROFESSIONAL ENGINEER — 3/30/2021

CONSTRUCTION AGGREGATE INC.
VILLAGE CENTER ESTATES, PHASE 2
NORTH YARMOUTH, MAINE

SECTIONS AND DETAILS

SME SEVEE & MAHER ENGINEERS
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
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Phone 207.829.5016 • Fax 207.829.5692 • smemaine.com

DESIGN BY:	JTR
DRAWN BY:	SJM
DATE:	1/2020
CHECKED BY:	BDP
LMN:	NONE
CTB:	SME-STD

JOB NO. 18295.00 DWG FILE DETAILS

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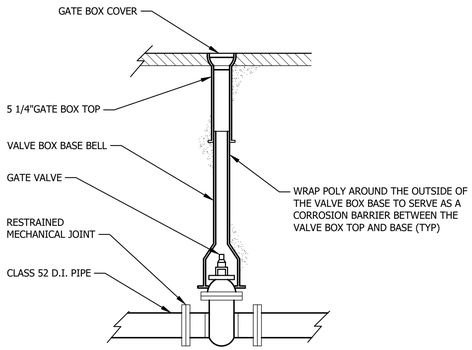
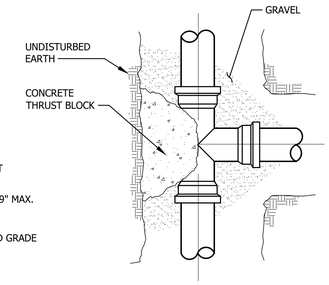


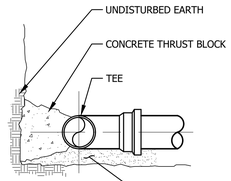
GATE VALVE
NTS

CONCRETE THRUST BLOCK SIZE REQUIREMENTS				
		SQ. FT. OF BEARING ON UNDISTURBED SOIL		
FITTINGS		90°BENDS	45°BENDS	TEES AND PLUGS
PIPE SIZE	6"	4.0	2.0	3.0
	8"	8.0	4.0	6.0
	12"	15	9	12
	16"	26	14	19
	20"	40	22	28

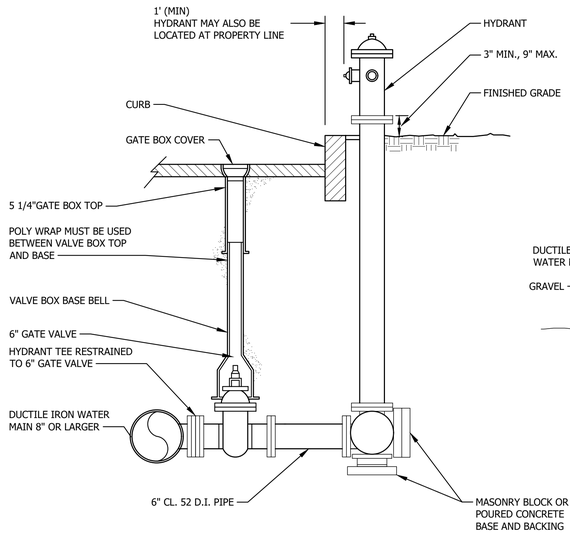
BASED ON SOIL BEARING PRESSURE OF 2000PSF AND 100PSI LINE PRESSURE. COMPACT COURSE TO FINE SANDS AND CLAYS REQUIRE ENGINEERED BLOCKS. ENGINEERED BLOCKS WILL TYPICALLY REQUIRE REINFORCING STEEL OF #5 AT 12".



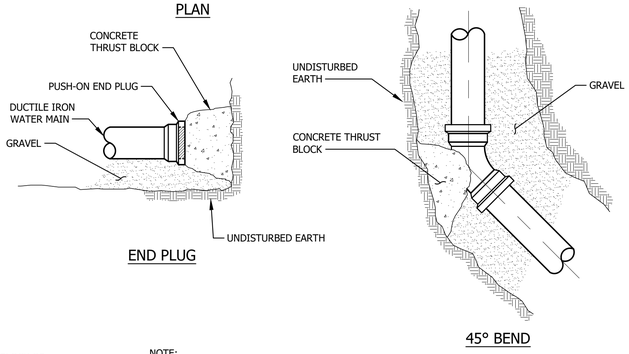
PLAN



SECTION



FIRE HYDRANT
NTS

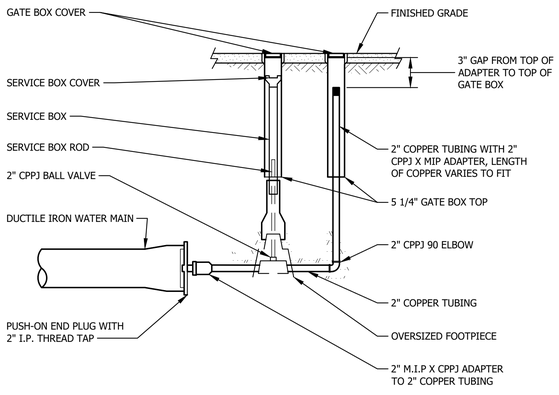


END PLUG

45° BEND

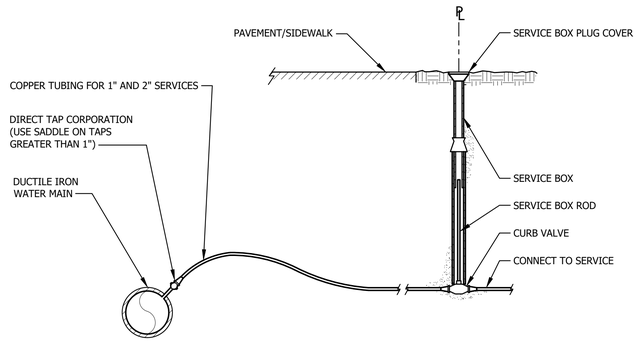
NOTE:
PLACE 6 MIL (MIN) POLYETHENE SHEETING BETWEEN PIPE AND CONCRETE.

THRUST BLOCK DETAIL
NTS



NOTE:
PLUGS REQUIRE THREADED ROD RESTRAINED TO BELL AND SLOTTED DUCTILE IRON PIPE TO FIT AROUND BRASS AS BASE TO APPROVED THRUST BLOCK.

BLOW-OFF ASSEMBLY
NTS



SERVICE DETAIL
NTS

REV.	BY	DATE	STATUS
	DPD	3/2021	ISSUED FOR TOWN APPROVAL
	DPD	2/2021	REVISED PER TOWN AND MEDEP COMMENTS
	DPD	12/2020	REVISED PER STAFF COMMENTS

STATE OF MAINE · DANIEL N. DIFRIN · 11841 · LICENSED PROFESSIONAL ENGINEER · 3/29/2021

CONSTRUCTION AGGREGATE INC.
VILLAGE CENTER ESTATES, PHASE 2
NORTH YARMOUTH, MAINE

SECTIONS AND DETAILS

SME
SEVEE & MAHER ENGINEERS
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
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DESIGN BY:	JTR
DRAWN BY:	JRL
DATE:	12/2020
CHECKED BY:	BDP
LMN:	NONE
CTB:	SME-STD

JOB NO. 18295.00 DWG FILE DETAILS

C-304

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SOIL TYPE LEGEND

SOIL ID	NAME	HYDROLOGIC GROUP
Ad	Adams	A
Cr	Croghan	B
Em	Elmwood	C
Na	Naumburg	C
Sc	Scantic	D

STORMWATER MANAGEMENT LEGEND

- 1 — SUBCATCHMENT DESIGNATION
- SUBCATCHMENT BOUNDARY
- A — B — C — TIME OF CONCENTRATION SEGMENT DESIGNATION / TIME OF CONCENTRATION PATH
- SOIL TYPE BOUNDARY
- B — SOIL TYPE DESIGNATION
- Sht L=50' S=0.005 — TIME OF CONCENTRATION TYPE, LENGTH, AND SLOPE
- Sht — SHEET FLOW
- ShC — SHALLOW CONCENTRATED FLOW
- Cf — CHANNEL FLOW
- DRAINAGE REACH
- R4 — REACH DESIGNATION (HYDROCAD)
- P9 — POND/STRUCTURE DESIGNATION (HYDROCAD)
- tc 1 — TIME OF CONCENTRATION WITH SUBCATCHMENT DESIGNATION

NOTE:

SEE DWG C-100 FOR INFORMATION ON ORIGINS OF TOPOGRAPHY, SITE FEATURES, AND WETLANDS.

100 0 200 400 FEET

REV.	BY	DATE	STATUS
	DPD	3/2021	ISSUED FOR TOWN APPROVAL
	DPD	2/2021	REVISED PER TOWN AND MEDEP COMMENTS
	DPD	12/2020	REVISED PER STAFF COMMENTS
	DPD	10/2020	ISSUED FOR TOWN AND MEDEP PERMIT REVIEW

STATE OF MAINE — DANIEL P. DIFFIN — 11841 — LICENSED PROFESSIONAL ENGINEER — 3/29/2021

CONSTRUCTION AGGREGATE INC.
VILLAGE CENTER ESTATES, PHASE 2
NORTH YARMOUTH, MAINE

STORMWATER MANAGEMENT PLAN
PRE-DEVELOPMENT CONDITIONS

SME SEVEE & MAHER ENGINEERS
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
4 Blanchard Road, PO Box 85A, Cumberland, Maine 04021
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DESIGN BY:	JTR
DRAWN BY:	SJM
DATE:	1/2020
CHECKED BY:	BDP
LMN:	SMP-E
CTB:	SME-STD
JOB NO. 18295.01	DWG FILE BASE
	D-100

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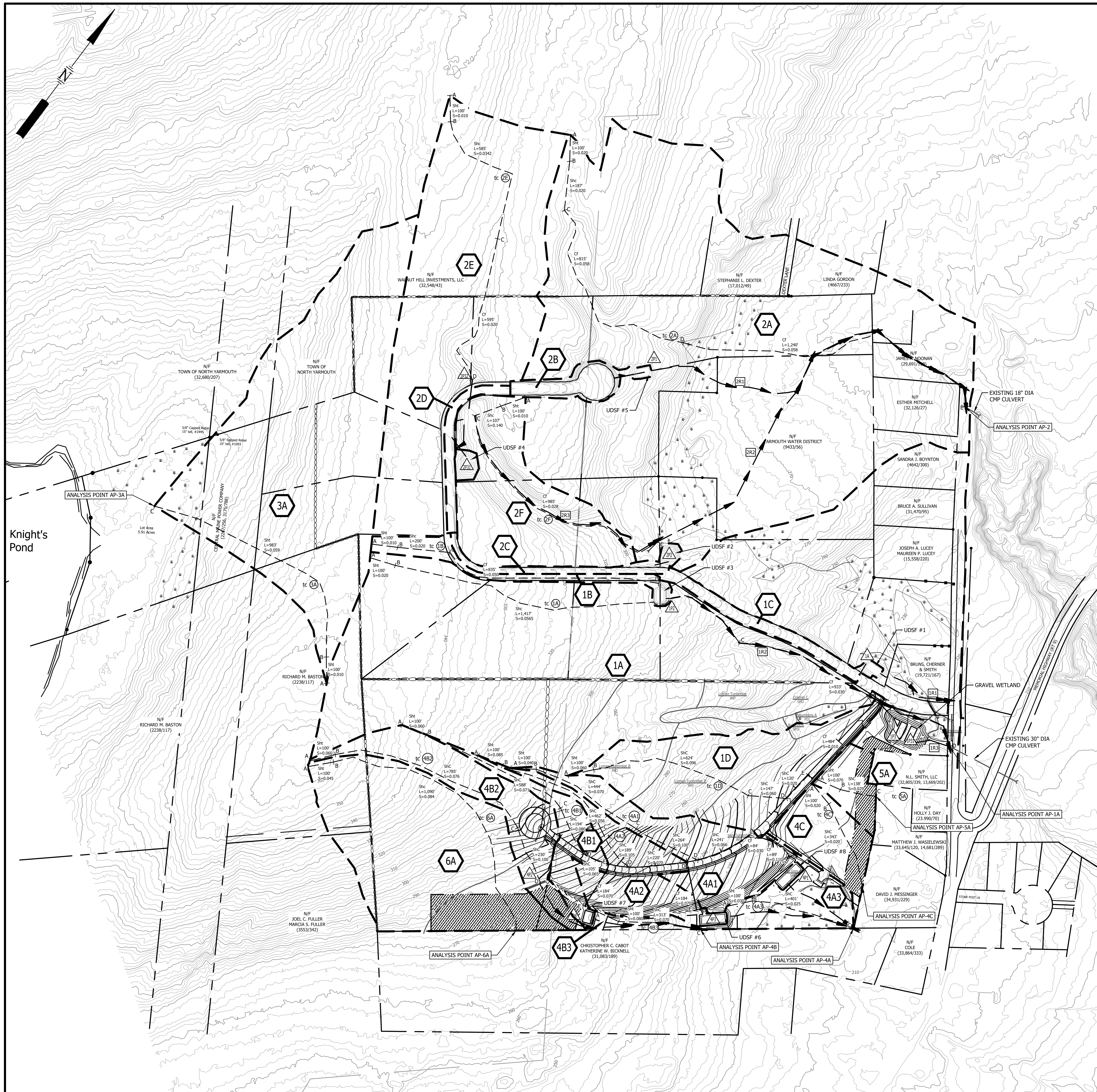

STORMWATER TREATMENT SUMMARY

Stormwater Treatment: Underdrained Soil Filter 6				Subcatchment 4A2
		DEVELOPED AREA =	108,103 sf	
		IMPERVIOUS AREAS CAPTURED: =	19,435 sf	
		NON IMPERVIOUS AREAS CAPTURED: =	88,668 sf	
		TOTAL AREA CAPTURED:	108,103 sf	
(1"/12")	19,435 +	REQUIRED TREATMENT VOLUME (0.4"/12") 88,668 =	4,575 cf	(4,985 cf provided)
		CHANNEL PROTECTION VOLUME (DEPTH) =	1.50 ft	(1.5 ft provided)
(0.05)	19,435 +	REQUIRED FILTER SURFACE AREA (0.02) 88,668 =	2,745 sf	(2,745 sf provided)
(10.00)	0.446	SEDIMENT TRAP VOLUME (500 lbs per acre-storm) : (90 lb /ft^3) =	25 cf	

Stormwater Treatment: Underdrained Soil Filter 7				Subcatchment 4B1
		DEVELOPED AREA =	53,574 sf	
		IMPERVIOUS AREAS CAPTURED: =	10,809 sf	
		NON IMPERVIOUS AREAS CAPTURED: =	42,750 sf	
		TOTAL AREA CAPTURED:	53,559 sf	
(1"/12")	10,809 +	REQUIRED TREATMENT VOLUME (0.4"/12") 42,750 =	2,326 cf	(2,788 cf provided)
		CHANNEL PROTECTION VOLUME (DEPTH) =	1.50 ft	(1.5 ft provided)
(0.05)	10,809 +	REQUIRED FILTER SURFACE AREA (0.02) 42,750 =	1,395 sf	(1,395 sf provided)
(10.00)	0.248	SEDIMENT TRAP VOLUME (500 lbs per acre-storm) : (90 lb /ft^3) =	14 cf	

Stormwater Treatment: Underdrained Soil Filter 8				Subcatchment 4A1
		DEVELOPED AREA =	115,676 sf	
		IMPERVIOUS AREAS CAPTURED: =	22,516 sf	
		NON IMPERVIOUS AREAS CAPTURED: =	93,160 sf	
		TOTAL AREA CAPTURED:	115,676 sf	
(1"/12")	22,516 +	REQUIRED TREATMENT VOLUME (0.4"/12") 93,160 =	4,982 cf	(5,426 cf provided)
		CHANNEL PROTECTION VOLUME (DEPTH) =	1.50 ft	(1.5 ft provided)
(0.05)	22,516 +	REQUIRED FILTER SURFACE AREA (0.02) 93,160 =	2,989 sf	(3,000 sf provided)
(10.00)	0.517	SEDIMENT TRAP VOLUME (500 lbs per acre-storm) : (90 lb /ft^3) =	29 cf	

Stormwater Treatment: Gravel Wetland				Subcatchment 1D
		DEVELOPED AREA =	101,177 sf	
		IMPERVIOUS AREAS CAPTURED: =	34,493 sf	
		NON IMPERVIOUS AREAS CAPTURED: =	66,684 sf	
		TOTAL AREA CAPTURED:	101,177 sf	
(1"/12")	34,493 +	REQUIRED TREATMENT VOLUME (0.4"/12") 66,684 =	5,097 cf	(7,251 cf provided)
		CHANNEL PROTECTION VOLUME (DEPTH) =	1.50 ft	(1.5 ft provided)
(0.05)	34,493 +	REQUIRED FILTER SURFACE AREA (0.02) 66,684 =	3,058 sf	(3,100 sf provided)
10% x	5097.22	SEDIMENT TRAP VOLUME cf =	510 cf	

STORMWATER BUFFER SUMMARY

Stormwater Treatment: Level Spreader to a Forrested Buffer		Subcatchment 4B2
TREATED IMPERVIOUS AREA =	10,538 sf	
TREATED LAWN AREA =	39,308 sf	
FORESTED BUFFER LENGTH =	150 ft	*Table 5.5 in Chapter 5 of the Stormwater BMP Manual
LEVEL SPREADER LENGTH PER IMPERVIOUS ACRE TREATED =	150 ft/acre	
LEVEL SPREADER LENGTH PER LAWN ACRE TREATED =	45 ft/acre	
REQUIRED LEVEL SPREADER LENGTH (Minimum) =	77 ft	

Stormwater Management: Forest Buffer		Subcatchment 4B2
DEVELOPED AREA =	33,429 sf	
IMPERVIOUS AREA =	1,250 sf	
PERCENT IMPERVIOUS =	4 %	
LENGTH OF FLOW PATH =	150 ft	
SOIL TYPE =	D	
SLOPE =	0-8 %	
BUFFER FLOW PATH LENGTH =	150 ft	*Table 5.5

Stormwater Management: Forest Buffer		Subcatchment 6A
DEVELOPED AREA =	21,454 sf	
IMPERVIOUS AREA =	3,276 sf	
PERCENT IMPERVIOUS =	15 %	
LENGTH OF FLOW PATH ACROSS IMPERVIOUS =	< 100 ft	*Less than 1 ac impervious
SOIL TYPE =	D	
SLOPE =	9-15 %	
BUFFER FLOW PATH LENGTH =	180 ft	*Table 5.2

Stormwater Management: Forest Buffer		Subcatchment 4C and 5A Lots 19, 20, 21, and 24
DEVELOPED AREA =	79,084 sf	
IMPERVIOUS AREA =	14,696 sf	
PERCENT IMPERVIOUS =	19 %	
LENGTH OF FLOW PATH ACROSS IMPERVIOUS =	< 100 ft	*Less than 1 ac impervious
SOIL TYPE =	B and C	
SLOPE =	0-8 %	
BUFFER FLOW PATH LENGTH =	50 to 75 ft	*Table 5.2

STORMWATER MANAGEMENT LEGEND

Symbol	Description
2 (hexagon)	SUBCATCHMENT DESIGNATION
— — —	SUBCATCHMENT BOUNDARY
A — B — C	TIME OF CONCENTRATION SEGMENT DESIGNATION TIME OF CONCENTRATION PATH
———	SOIL TYPE BOUNDARY
B	SOIL TYPE DESIGNATION
Sht L=100' S=0.035	TIME OF CONCENTRATION TYPE, LENGTH AND SLOPE
Sht	SHEET FLOW
Shc	SHALLOW CONCENTRATED FLOW
Cf	CHANNEL FLOW
→→	DRAINAGE REACH
R5	REACH DESIGNATION (HYDROCAD)
P4A	POND/STRUCTURE DESIGNATION (HYDROCAD)
tc 2	TIME OF CONCENTRATION WITH SUBCATCHMENT DESIGNATION

SOIL TYPE LEGEND

SOIL ID	NAME	HYDROLOGIC GROUP
Ad	Adams	A
Cr	Croghan	B
Em	Elmwood	C
Na	Naumburg	C
Sc	Scantic	D

NOTE:

SEE DWG C-100 FOR INFORMATION ON ORIGINS OF TOPOGRAPHY, SITE FEATURES, AND WETLANDS.

40 0 80 160 FEET

REV.	BY	DATE	STATUS
	DPD	3/2021	ISSUED FOR TOWN APPROVAL
	DPD	2/2021	REVISED PER TOWN AND MEDEP COMMENTS
	DPD	12/2020	REVISED PER STAFF COMMENTS
	DPD	10/2020	ISSUED FOR TOWN AND MEDEP PERMIT REVIEW

STATE OF MAINE DANIEL R. DIFFIN 11841 LICENSED PROFESSIONAL ENGINEER 3/30/2021

CONSTRUCTION AGGREGATE INC.
VILLAGE CENTER ESTATES, PHASE 2
NORTH YARMOUTH, MAINE

STORMWATER MANAGEMENT PLAN
POST-DEVELOPMENT CONDITIONS

SME SEVEE & MAHER ENGINEERS
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
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DESIGN BY: JTR
DRAWN BY: SJM
DATE: 1/2020
CHECKED BY: BDP
LMN: SMP-P
CTB: SME-STD

JOB NO. 18295.01 DWG FILE BASE D-101

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