Date	September 15, 2022
To	Town of Cumberland Planning Board
From	Carla Nixon, Town Planner
Subject	**Planning Board Site Plan Review – Yarmouth Veterinary Center**

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1. REQUEST/PROJECT DESCRIPTION:

The Applicant is Yarmouth Veterinary Center, LLC. The Applicant is requesting Planning Board Site Plan Review for the construction of a two-story, 14,662 sf. office building, associated parking, infrastructure, and landscaping on Lot #4 of the Heritage Village (formerly Cumberland Foreside Village) subdivision. There is an entrance from Route 1 that will be shared with Lot 3.

The 2.95-acre parcel is shown on Tax Assessor Map R01, Lot 11-4 and is located within the Office Commercial - South (OC-S) zoning district with a contract zoning overlay.

Jeffrey Read, P.E., of Sevee & Maher Engineers prepared the site plan and will represent the Applicant at the Planning Board meeting. Al Palmer, P.E., of Gorrill Palmer Engineers reviewed the plans for the Town.

This project is subject to review under the provisions of the Site Plan Ordinance and the Route 1 Design Standards.

2. DESCRIPTION:

Proposed Use:	Veterinary office.
Hours of Operation:	M-F: 7:30 a.m. to 6:00 p.m.; Saturday 8:00 a.m. to 12:00 p.m.
Parking:	57 spaces; 3 handicapped.
Access:	24' wide shared access drive with Lot 3.
Water:	Public
Sewer:	Public
Floodplain:	Map #230162-0018C. Designation: Zone C: minimal flooding
Fire Protection:	A sprinkler and alarm system is proposed.
Right, Title or Interest:	Deed

3. OUTSIDE AGENCY APPROVALS:

MDEP Site Location of Development permit: Awaiting updated SLODA permit The SLODA Amendment application has been accepted by MEDEP and is currently in their review/processing process.
MDEP Stormwater Permit: See above Stormwater was included in the SLODA application currently under review at MEDEP.
Maine Historic Preservation Commission: Letter on file dated 12/2/15
Maine Dept. of Inland Fisheries & Wildlife: Letter on file dated 12/10/15
Maine Dept. of Agriculture, Conservation and Forestry: Letter on file dated 11/7/15

4. WAIVER REQUESTS:

1. Waiver from High Intensity Soil Survey – Town Engineer recommends approval of this waiver.
2. Waiver from Hydrogeologic evaluation – Town Engineer recommends approval of this waiver given that the lot will served by public sewer.

3. Waiver from Parking and loading requirement. Town Engineer recommends approval of this waiver.
4. Waiver from Market Study –Town Engineer recommends approval of this waiver.

5. DEPARTMENT HEAD REVIEW COMMENTS:

Dan Small, Fire Chief:

1) Fire suppression sprinkler system.
2) Monitored fire alarm system.
3) Key Box approved by the fire department.

Charles Rumsey, Police Chief: No Concerns

6. Cumberland Lands and Conservation Commission: No concerns.

7. TOWN PLANNER'S COMMENTS:

1. Who is the owner of the parcel. Willow Street LLC or Yarmouth Vet, LLC?
   The parcel is owned by Willow Street, LLC.

2. Will there be overnight boarding? Concern about barking in the side turf yard. Any overnight boarding at the proposed facility will be for animals undergoing medical procedures that require an overnight stay, including procedure preparation, medical observation, or recovery. Proposed use at the proposed facility will not include overnight boarding for healthy animals, similar to a traditional kennel. We do not anticipate barking in the turf yard will be a nuisance to neighbors. The side turf yard will not be used as a dog exercise yard where animas will be left unattended for extended periods of time. This area is designed to be used as a short-term relief area for animals prior to or following medical procedures. Staff will be present when animals are in this area to control nuisance barking. Any barking that does occur should be infrequent and adequately buffered by distance and vegetation. Residential structures to the west are more than 200 feet away from the turf yard and include over 70 feet of natural wooded area to mitigate noise.

3. Suggest additional non-deciduous trees be placed along Route 1 and northern property line with Belted Cow.
   At present, SME understands abutters to the north at the Belted Cow facility are satisfied with the current landscaping and buffer plantings. If this changes and neighbors to the north desire additional screening, YVC and SME will coordinate with the Town and neighbor to address any issues.

4. Foundation plantings? Add evergreen trees along Route 1 and northern property line?
   The project design includes roofline drip strip filters for stormwater management. Proposed plantings at the front of the building include low, deciduous plantings and ornamental grasses. If the Town desires alternate foundation plantings based on the US Route One Design Standards, YVC and SME will be happy to coordinate with the Town to address any issues.

   There are currently no additional plantings planned for the edge of the proposed clearing limits at the eastern edge of the project area. Approximately 65 feet of

wooded area exists between the front property line and the edge of US Route 1. Upon completion of construction, there will be approximately 75 feet of a tree buffer from US Route 1 and the developed area. SME and YVC will review this area with the Town and coordinate additional evergreen plantings, if necessary, to provide adequate screening and buffer conditions between the proposed development and US Route One.

5. The Planning Board should discuss the location of the dumpster relative to the connector drive.

   The dumpster location was selected at the end of the access drive to provide adequate separation from the building and accessibility for the waste hauler. As outlined in our response to Gorrill Palmer's peer review comments, the dumpster location should not preclude a future connection between Lots 4 and 5. If necessary, it can be relocated for future access aligned with the proposed drive. We look forward to reviewing this item with the Board.

8. PEER REVIEW ENGINEER'S COMMENTS & RESPONSE FROM SME:

On behalf of Yarmouth Veterinary Center, LLC (YVC) , Sevee & Maher Engineers, Inc. (SME) has prepared the following response to peer review comments by Gorrill Palmer in a memorandum dated September 8, 2022, and forwarded to SME via email on the same day.

The comment headings below correspond to the sections in the memo. Application materials have been revised in response to review comments as indicated below:

GORRILL PALMER PEER REVIEW COMMENTS

Site Plan Application

1. **As stated in the Application, the following waivers were requested:**
   a. **High Intensity Soil Survey**
   b. **Hydro-geologic study**
   c. **Market study**
   d. **Survey of trees greater than 10" in size**
   e. **Reduce required number of parking spaces by 2**

We have no objections to the granting of the waivers from an engineering perspective based on the scale and nature of the project.

SME Response: No Action Needed

2. **A copy of the SLDA Permit Amendment should be provided to the Town upon receipt.**

   SME Response: SME will provide a copy of the SLODA permit amendment to the Town upon approval from MEDEP.

Site Plans

3. **Site Layout Plan – Lot 4 (subject parcel) is encumbered by a common access easement that benefits the lot to the north (Lot 5). While Lot 5 is currently developed, with its own access to Route 1, the**

access easement does not appear to have been extinguished. Does the location of the dumpster within the access easement preclude a driveway connection between these parcels in the future?

SME Response: The dumpster location should not preclude a future connection between Lots 4 and 5. If necessary, it can be relocated for future access aligned with the proposed drive. However, we understand the Town has reviewed this item with the current owner of Lot 5 and they believe the access easement is not necessary or desirable given the current use of the lots. They also stated the common easement does not include the existing driveway connecting development on Lot 5 to US Route 1, which could limit legal access from Lot 4 to US Route 1 through Lot 5.

4. **Site Grading Plan – A 25' wide Buffer/Front Setback is required along this parcel. The grading associated with the underdrained soil filter will remove approximately half of the existing vegetation in the buffer. Is this acceptable to the Board?**

   SME Response: This project was designed to maintain as much of a natural buffer between the development and the property lines as possible. Unfortunately, this site has some significant grading challenges including anticipated ledge cuts at the northern and western limits of the project area which limit development options.

   Zoning Ordinance Section 315-13 for the OC-S district does not list any specific buffer requirements. US Route 100 Design standards recommended buffers at the front property line along US Route 1, but do not specify mandatory no-cut areas. Similarly, the 25-foot-wide buffer zone outlined on the Fourth Amended Subdivision Plan does not identify no-cut buffers.

   The encroachment into the 25-foot-wide buffer zone is required to provide adequate treatment and storage of stormwater runoff from the new development in conformance with the existing MEDEP SLODA permit for the subdivision. The intrusion into this area was minimized as much as possible.

   There are no structures planned for this area, and approximately 65 feet of wooded area exists between the front property line and the edge of US Route 1. Upon completion of the underdrain soil filter, the area will be revegetated with grass. Upon completion of work, there will be approximately 75 feet of a tree buffer from US Route 1 and the developed area.

5. **Site Grading Plan – The berm for the underdrain filter closest to the access drive appears to be 3' wide between the 102 contour, with a spot grade of 102.5 in the middle of the berm. We recommend that the Engineer reconsider the width of the berm as it appears to be less than desirable.**

   SME Response: We have had success permitting this detail with MEDEP on many other projects. The Underdrained Soil Filter detail on Dwg C-303 outlines an impermeable liner the full depth of the basin which makes an embankment failure highly unlikely. However, we will consider this change and update the plan set to include a wider berm with the next plan revision, if necessary.

3. **Site Grading Plan – The water surface elevation for the 25-year storm is 101.75' which only provides 0.75' of freeboard to the top of berm. We recommend that the Engineer reconsider the elevation of the berm to provide additional freeboard.**

   SME Response: Similar to our response to the previous comment, we have had success permitting this detail with MEDEP on many other projects. However, we will consider this change and update the plan set to include additional freeboard with the next plan revision, if necessary.

SITE PLAN REVIEW APPROVAL STANDARDS AND CRITERIA

Chapter 229 - Site Plan Review, Section 10: Approval Standards and Criteria

The following criteria shall be used by the Planning Board in reviewing applications for site plan review and shall serve as minimum requirements for approval of the application. The application shall be approved unless the Planning Board determines that the applicant has failed to meet one or more of these standards. In all instances, the burden of proof shall be on the applicant who must produce evidence sufficient to warrant a finding that all applicable criteria have been met.

A. Utilization of the Site

Utilization of the Site - The plan for the development, including buildings, lots, and support facilities, must reflect the natural capabilities of the site to support development. Environmentally sensitive areas, including but not limited to, wetlands, steep slopes, floodplains, significant wildlife habitats, fisheries, scenic areas, habitat for rare and endangered plants and animals, unique natural communities and natural areas, and sand and gravel aquifers must be maintained and preserved to the maximum extent. The development must include appropriate measures for protecting these resources, including but not limited to, modification of the proposed design of the site, timing of construction, and limiting the extent of excavation.

The proposed development of veterinary center on an approved subdivision lot is an appropriate utilization of the site. There are letters on file from State agencies that were provided during the subdivision review process in 2015 that show there are no wildlife habitats. MDEP is reviewing the plan for an amended Site Location of Development amendment permit. Receipt of this permit is a proposed condition of approval.

Based on the above findings of fact, and with the proposed condition of approval, the Board finds the standards of this section have been met.

B. Traffic, Circulation and Parking

(1) Traffic Access and Parking. Vehicular access to and from the development must be safe and convenient.
(a) Any driveway or proposed street must be designed so as to provide the minimum sight distance according to the Maine Department of Transportation standards, to the maximum extent possible.
(b) Points of access and egress must be located to avoid hazardous conflicts with existing turning movements and traffic flows.
(c) The grade of any proposed drive or street must be not more than + 3% for a minimum of two (2) car lengths, or forty (40) feet, from the intersection.
(d) The intersection of any access/egress drive or proposed street must function: (a) at a Level of Service D, or better, following development if the project will generate one thousand (1,000) or more vehicle trips per twenty-four (24) hour period; or (b) at a level which will allow safe access into and out of the project if less than one thousand (1,000) trips are generated.
(e) Where a lot has frontage on two (2) or more streets, the primary access to and egress from the lot must be provided from the street where there is less potential for traffic congestion and for traffic and pedestrians hazards. Access from other streets may be allowed if it is safe and does not promote short cutting through the site.
(f) Where it is necessary to safeguard against hazards to traffic and pedestrians and/ or to avoid traffic congestion, the applicant shall be responsible for providing turning lanes, traffic directional islands, and traffic controls within public streets.
(g) Access ways must be designed and have sufficient capacity to avoid queuing of entering vehicles on any public street.
(h) The following criteria must be used to limit the number of driveways serving a proposed project:

(1) No use which generates less than one hundred (1) vehicle trips per day shall have more than one (1) two-way driveway onto a single roadway. Such driveway must be no greater than thirty (30) feet wide.
(2) No use which generates one hundred (1) or more vehicle trips per day shall have more than two (2) points of entry from and two (2) points of egress to a single roadway. The combined width of all access ways must not exceed sixty (60) feet.

(2) Access way Location and Spacing

Access ways must meet the following standards:

(a) Private entrance / exits must be located at least fifty (50) feet from the closest un-signalized intersection and one hundred fifty (150) feet from the closest signalized intersection, as measured from the point of tangency for the corner to the point of tangency for the access way. This requirement may be reduced if the shape of the site does not allow conformance with this standard.

(b) Private access ways in or out of a development must be separated by a minimum of seventy-five (75) feet where possible.

(3) Internal Vehicular Circulation. The layout of the site must provide for the safe movement of passenger, service, and emergency vehicles through the site.

(a) Projects that will be served by delivery vehicles must provide a clear route for such vehicles with appropriate geometric design to allow turning and backing.

(b) Clear routes of access must be provided and maintained for emergency vehicles to and around buildings and must be posted with appropriate signage (fire lane - no parking).

(c) The layout and design of parking areas must provide for safe and convenient circulation of vehicles throughout the lot.

(d) All roadways must be designed to harmonize with the topographic and natural features of the site insofar as practical by minimizing filling, grading, excavation, or other similar activities which result in unstable soil conditions and soil erosion, by fitting the development to the natural contour of the land and avoiding substantial areas of excessive grade and tree removal, and by retaining existing vegetation during construction. The road network must provide for vehicular, pedestrian, and cyclist safety, all season emergency access, snow storage, and delivery and collection services.

(4) Parking Layout and Design. Off street parking must conform to the following standards:

(a) Parking areas with more than two (2) parking spaces must be arranged so that it is not necessary for vehicles to back into the street.

(b) All parking spaces, access drives, and impervious surfaces must be located at least fifteen (15) feet from any side or rear lot line, except where standards for buffer yards require a greater distance. No parking spaces or asphalt type surface shall be located within fifteen (15) feet of the front property line. Parking lots on adjoining lots may be connected by accessways not exceeding twenty-four (24) feet in width.

(c) Parking stalls and aisle layout must conform to the following standards.

Parking Angle	Stall Width	Skew Width	Stall Depth	Aisle Width
90°	9'-0"		18'-0"	24'-0" 2-way
60°	8'-6"	10'-6"	18'-0"	16'-0" 1-way
45°	8'-6"	12'-9"	17'-6"	12'-0" 1-way
30°	8'-6"	17'-0"	17'-0"	12'-0" 1 way

(d) In lots utilizing diagonal parking, the direction of proper traffic flow must be indicated by signs, pavement markings or other permanent indications and maintained as necessary.

(e) Parking areas must be designed to permit each motor vehicle to proceed to and from the parking space provided for it without requiring the moving of any other motor vehicles.

(f) Provisions must be made to restrict the "overhang" of parked vehicles when it might restrict traffic flow on adjacent through roads, restrict pedestrian or bicycle movement on adjacent walkways, or damage landscape materials.

(5) Building and Parking Placement

(a) The site design should avoid creating a building surrounded by a parking lot. Parking should be to the side and preferably in the back. In rural, uncongested areas buildings should be set well back from the road so as to conform to the rural character of the area. If the parking is in front, a

generous, landscaped buffer between road and parking lot is to be provided. Unused areas should be kept natural, as field, forest, wetland, etc.
(b) Where two or more buildings are proposed, the buildings should be grouped and linked with sidewalks; tree planting should be used to provide shade and break up the scale of the site. Parking areas should be separated from the building by a minimum of five (5) to ten (10) feet. Plantings should be provided along the building edge, particularly where building facades consist of long or unbroken walls.
(6) Pedestrian Circulation: The site plan must provide for a system of pedestrian ways within the development appropriate to the type and scale of development. This system must connect the major building entrances/ exits with parking areas and with existing sidewalks, if they exist or are planned in the vicinity of the project. The pedestrian network may be located either in the street right-of-way or outside of the right-of-way in open space or recreation areas. The system must be designed to link the project with residential, recreational, and commercial facilities, schools, bus stops, and existing sidewalks in the neighborhood or, when appropriate, to connect the amenities such as parks or open space on or adjacent to the site.

The entrance location meets the above requirements. Adequate sight distance has been provided at the entrance/exit location. A copy of the Traffic Movement Permit from MDOT has been provided. An MDOT Driveway Entrance Permit was previously provided. There is a sidewalk along the sides of the building that lead to entrances. There is a walking trail along Route One that will cross the entrance drive and run along the front of the lot. The placement of the building, parking and entrance areas have been appropriately sited to reflect the requirements of the Route 1 Design Standards given the ledge site constraints which does not allow for rear parking; parking will be on both sides of the building

Based on the above findings of fact, the Board finds the standards of this section have been met.

C. Stormwater Management and Erosion Control

(1) Stormwater Management. Adequate provisions must be made for the collection and disposal of all stormwater that runs off proposed streets, parking areas, roofs, and other surfaces, through a stormwater drainage system and maintenance plan, which must not have adverse impacts on abutting or downstream properties.
(a) To the extent possible, the plan must retain stormwater on the site using the natural features of the site.
(b) Unless the discharge is directly to the ocean or major river segment, stormwater runoff systems must detain or retain water such that the rate of flow from the site after development does not exceed the predevelopment rate.
(c) The applicant must demonstrate that on - and off-site downstream channel or system capacity is sufficient to carry the flow without adverse effects, including but not limited to, flooding and erosion of shoreland areas, or that he / she will be responsible for whatever improvements are needed to provide the required increase in capacity and / or mitigation.
(d) All natural drainage ways must be preserved at their natural gradients and must not be filled or converted to a closed system unless approved as part of the site plan review.
(e) The design of the stormwater drainage system must provide for the disposal of stormwater without damage to streets, adjacent properties, downstream properties, soils, and vegetation.
(f) The design of the storm drainage systems must be fully cognizant of upstream runoff which must pass over or through the site to be developed and provide for this movement.
(g) The biological and chemical properties of the receiving waters must not be degraded by the stormwater runoff from the development site. The use of oil and grease traps in manholes, the use of on-site vegetated waterways, and vegetated buffer strips along waterways and drainage swales, and the reduction in use of deicing salts and fertilizers may be required, especially where the development stormwater discharges into a gravel aquifer area or other water supply source, or a great pond.

(2) Erosion Control
(a) All building, site, and roadway designs and layouts must harmonize with existing topography and conserve desirable natural surroundings to the fullest extent possible, such that filling, excavation and earth moving activity must be kept to a minimum. Parking lots on sloped sites must be terraced to avoid undue cut and fill, and / or the need for retaining walls. Natural vegetation must be preserved and protected wherever possible.
(b) Soil erosion and sedimentation of watercourses and water bodies must be minimized by an active program meeting the requirements of the Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices, dated March 1991, and as amended from time to time.

A stormwater management report (including erosion control) was submitted in the application and reviewed and approved by the Town Engineer. The pending MDEP SLODA amendment will also include a stormwater review.

Based on the above findings of fact, the Board finds the standards of this section have been met.

(D) Water, Sewer, and Fire Protection

(1) Water Supply Provisions: The development must be provided with a system of water supply that provides each use with an adequate supply of water. If the project is to be served by a public water supply, the applicant must secure and submit a written statement from the supplier that the proposed water supply system conforms with its design and construction standards, will not result in an undue burden on the source of distribution system, and will be installed in a manner adequate to provide needed domestic and fire protection flows.
(2) Sewage Disposal Provisions: The development must be provided with a method of disposing of sewage which is in compliance with the State Plumbing Code. If provisions are proposed for on-site waste disposal, all such systems must conform to the Subsurface Wastewater Disposal Rules.
(3) Utilities: The development must be provided with electrical, telephone, and telecommunication service adequate to meet the anticipated use of the project. New utility lines and facilities must be screened from view to the extent feasible. If the service in the street or on adjoining lots is underground, the new service must be placed underground.
(4) Fire Protection: The site design must comply with the Fire Protection Ordinance. The Fire Chief shall issue the applicant a “Certificate of Compliance” once the applicant has met the design requirement of the Town’s Fire Protection Ordinance.

The proposed development will connect to the existing utilities located in the Route 1 right of way or from the shared access drive. There will be public water for both domestic drinking water and fire protection. The subdivision received approval from the PWD. There will be underground electric, cable, and telephone/data. There will also be a connection to the natural gas main on Route 1. The building will be sprinkled and equipped with an alarm system.

Based on the above findings of fact, the Board finds the standards of this section have been met.

E. Water Protection

(1) Groundwater Protection: The proposed site development and use must not adversely impact either the quality or quantity of groundwater available to abutting properties or to the public water supply systems. Applicants whose projects involve on-site water supply or sewage disposal systems with a capacity of two thousand (2,000) gallons per day or greater must demonstrate that the groundwater at the property line will comply, following development, with the standards for safe drinking water as established by the State of Maine.

(2) Water Quality: All aspects of the project must be designed so that:
(a) No person shall locate, store, discharge, or permit the discharge of any treated, untreated, or inadequately treated liquid, gaseous, or solid materials of such nature, quantity, obnoxious, toxicity, or temperature that may run off, seep, percolate, or wash into surface or groundwaters so as to contaminate, pollute, or harm such waters or cause nuisances, such as objectionable shore deposits, floating or submerged debris, oil or scum, color, odor, taste, or unsightliness or be harmful to human, animal, plant, or aquatic life.
(b) All storage facilities for fuel, chemicals, chemical or industrial wastes, and biodegradable raw materials, must meet the standards of the Maine Department of Environmental Protection and the State Fire Marshall's Office.

(3) Aquifer Protection: If the site is located within the Town Aquifer Protection Area, a positive finding by the Board that the proposed plan will not adversely affect the aquifer is required.

The site is not located within the Town Aquifer Protection Area. All storage of fuel, chemicals, chemical or industrial wastes, biodegradable raw materials or liquid, gaseous or solid materials will meet the standards of the Maine Department of Environmental Protection and the State Fire Marshal's office. The project will be served by public water and sewer.

Based on the materials included in the application, the Board finds that the standards of this section have been met.

F. Floodplain Management

If any portion of the site is located within a special flood hazard area as identified by the Federal Emergency Management Agency, all use and development of that portion of the site must be consistent with the Town's Floodplain management provisions.

The site is not located within a floodplain as shown on the submitted FEMA map.

Based on the above finding of fact, the Board finds the standards of this section have been met.

G. Historic and Archaeological Resources

If any portion of the site has been identified as containing historic or archaeological resources, the development must include appropriate measures for protecting these resources, including but not limited to, modification of the proposed design of the site, timing of construction, and limiting the extent of excavation.

A letter dated November, 2015 is on file from the Maine Historic Preservation Commission stating that there will be no impact on historical or archaeological resources.

Based on the above finding of fact, the Board finds the standards of this section have been met.

H. Exterior Lighting

The proposed development must have adequate exterior lighting to provide for its safe use during nighttime hours, if such use is contemplated. All exterior lighting must be designed and shielded to avoid undue glare, adverse impact on neighboring properties and rights - of way, and the unnecessary lighting of the night sky.

The exterior lighting will consist of pole and building mounted fixtures. The catalogue cut sheets show that the fixtures are full cut-off. The photometric plan provided shows that there will be no light cast beyond the property lines.

The exterior lights will be off during non-business hours and one hour before and after hours of operation.

Based on the above findings of fact, the Board finds the standards of this section have been met.

I. Buffering and Landscaping

(1) Buffering of Adjacent Uses: The development must provide for the buffering of adjacent uses where there is a transition from one type of use to another use and for the screening of mechanical equipment and service and storage areas. The buffer may be provided by distance, landscaping, fencing, changes in grade, and / or a combination of these or other techniques.

(2) Landscaping: Landscaping must be provided as part of site design. The landscape plan for the entire site must use landscape materials to integrate the various elements on site, preserve and enhance the particular identity of the site, and create a pleasing site character. The landscaping should define street edges, break up parking areas, soften the appearance of the development, and protect abutting properties.

Buffers in the form of fences, grade changes, and landscaping have been designed to screen service and storage areas. A landscape plan was submitted that shows a mixture of deciduous trees with shrubs, perennials, and grasses.

Based on the above findings of fact, the Board finds the standards of this section have been met.

J. Noise

The development must control noise levels such that it will not create a nuisance for neighboring properties.

The proposed veterinary center use will not cause noise levels that would be a nuisance for neighboring properties.

Based on the above findings of fact, the Board finds the standards of this section have been met.

K. Storage of Materials

(1) Exposed nonresidential storage areas, exposed machinery, and areas used for the storage or collection of discarded automobiles, auto parts, metals or other articles of salvage or refuse must have sufficient setbacks and screening (such as a stockade fence or a dense evergreen hedge) to provide a visual buffer sufficient to minimize their impact on abutting residential uses and users of public streets.
(2) All dumpsters or similar large collection receptacles for trash or other wastes must be located on level surfaces which are paved or graveled. Where the dumpster or receptacle is located in a yard which abuts a residential or institutional use or a public street, it must be screened by fencing or landscaping.
(3) Where a potential safety hazard to children is likely to arise, physical screening sufficient to deter small children from entering the premises must be provided and maintained in good condition.

All storage areas and dumpsters are screened by either fencing or landscaping.

Based on the above findings of fact, the Board finds the standards of this section have been met.

L. Capacity of the Applicant

The applicant must demonstrate that he / she has the financial and technical capacity to carry out the project in accordance with this ordinance and the approved plan.

<u>Technical Ability:</u> The Applicant has retained the services of Sevee & Maher Engineers, a licensed site evaluator and an architect.
<u>Financial Capacity:</u> There is a letter dated 5/24/22 from LiveOak Bank stating that a review of the business and personal tax returns, personal financial statements, resumes and application documents indicates the business will be likely to received funding based on the estimated construction costs of up to $7.5 million dollars.

Based on the above findings of fact, the Board finds the standards of this section have been met.

M. Design and Performance Standards

(1) Route 1 Design Standards
(2) Route 1 Design Standards: APPLICABLE
(3) Town Center District Design and Performance Standards
(4) Village Mixed Use Performance Standards.

ROUTE 1 DESIGN AND PERFORMANCE STANDARDS

Route 1 Design Standards
Ordinance Requirements

1.2 Site Planning and Design

1.1 Master Planning

On properties that are large enough to accommodate more than a single structure, developers will be expected to prepare a conceptual master plan to show the Planning Board the general location of future buildings, parking lots, circulation patterns, open space, utilities, provisions for stormwater management, and other components of site development.

On sites with multiple buildings, the outdoor space defined by the structures should be designed as a focal point for the development, with provisions for seating and other outdoor use. Landscaping, bollards and other site features should maintain a safe separation between vehicles and pedestrians.

FINDING: A subdivision plan was previously approved by the Planning Board which shows the location of this lot.

1.2 Professional Design

Developers shall have their site plans designed by licensed professionals (civil engineers, architects or landscape architects) as required by State of Maine professional licensing requirements to address the health, safety, welfare and visual pleasure of the general public, during all hours of operation and all seasons of the year.

FINDING: The above professionals were involved in the preparation of the site plan.

1.3 Route 1 Buffer Strip

Developments should be designed to preserve the naturally forested character of much of the Rt. 1 corridor. A 75' is required.

FINDING: This has been provided.

1.4 Vehicular Access

Development along Cumberland's Route 1 corridor should promote safe, user-friendly and efficient vehicular movement while reducing both the number of trips on the roadway and the number of curb cuts wherever possible. The vehicular movements discussed in this chapter, both on-site and off-site, shall be designed by a professional engineer and shall be in conformance with all Maine Department of Transportation requirements.

FINDING: There is one access point from Route 1 as per the approved subdivision plan. This will be a shared entrance with Lot 3.

1.4.1 Route 1 Curb Cuts

To promote vehicular, bicycle and pedestrian safety, the number of curb cuts on Route 1 should be kept to a minimum. Adjacent uses are encouraged to use shared driveways wherever possible, thereby reducing the number of turning motions onto and off of Route 1. This practice will increase motorist, bicycle and pedestrian safety, and has the added environmental benefit of helping to reduce impervious (paved) area.

Driveways and their associated turning movements should be carefully designed and spaced to reduce interruptions in Route 1's level of service and to promote safe and easily understandable vehicular movements. Where curb cuts will interrupt sidewalks, ADA requires that the cross slope not exceed 2% in order to maintain accessibility.

New driveways and existing driveways for which the use has changed or expanded require a Maine Department of Transportation "Driveway Entrance Permit." The Planning Board will not grant project approval until the Town has been provided a copy of the permit, or alternately, until the applicant provides the Town a letter from the DOT stating that such a permit is not required. The MDOT may also require a Traffic Movement Permit if the number of vehicle trips exceeds the threshold established by the MDOT.

FINDING: There is one access point from Route 1 as per the approved subdivision plan. This will be a shared entrance with Lot 3.

1.4.2 Site Circulation

Internal vehicular movement on each site should be designed to achieve the following goals: to ensure the safety of motorists, delivery vehicles, pedestrians and cyclists by providing clear cues to the motorist as to where to drive or park, etc., once they enter the site. Landscaping, to reduce impervious areas, is encouraged as much possible.

Every effort should be made to restrict paved surfaces to a maximum of two sides of the building. The site should not feature a building surrounded by drive lanes and parking.

To ensure safe and easily understandable circulation, parking spaces, directional arrows, crosswalks and other markings on the ground should be painted on the pavement paint or shown by other suitable methods.

FINDING: The plan reflects all of the above recommended features.

1.4.3 Driveways between Parcels

Driveways between adjacent parcels should be used where feasible in order to make deliveries easier and reduce unnecessary trips and turning movements on Route 1.

These driveways should provide safe, direct access between adjacent lots, but only where the paved areas of the two adjacent lots are reasonably close together. However, they are inappropriate where they would require excessive impervious (paved) area or impose undue financial burden on the owner.

All such driveways between parcels should have pedestrian walkways when possible.

FINDING: The approved subdivision plan shows a shared common access easement along the rear of this parcel and a shared entrance driveway from Route 1.

1.5 Building Placement

Objective: Buildings should be placed on their sites in a way that is sensitive to existing site conditions and respectful of adjacent uses.

1.5.1 Location of Building on the Site

In placing the building on the site, the designer should carefully consider the building's relationship to existing site features such as the size of the site, existing vegetation and topography, drainage, etc., as well as the abutting land uses.

The site design should make every effort to avoid creating a building surrounded by parking lot. In addition, buildings should generally be square to Route 1 and should avoid unusual geometry in building placement unless the site requires it.

FINDING: The location of the building on the site is appropriate.

1.5.2 Building Entrances

The building's main entrance should be a dominant architectural feature of the building, clearly demarcated by the site design and landscaping. Main entrances should front onto the most convenient parking area.

At building entrance areas and drop-off areas, site furnishings such as benches, sitting walls and, if appropriate, bicycle racks should be encouraged. Additional plantings may be desirable at these points to clearly identify the building entrance and to invite pedestrians into it.

Where building entrances do not face Route 1, the Route 1 façade should still be made interesting and attractive to drivers on Route 1.

FINDING: The building entrances are covered and set off by architectural details.

1.5.3 Building Setbacks

If adjacent building facades are parallel with Route 1 and buildings have consistent setbacks from Route 1, the visual effect from the road will be orderly and attractive.

Side and rear building setbacks must conform to the requirements of the underlying zone.

FINDING: All setbacks are conforming and appropriate.

1.5.4 Hillside Development

When a proposed development is located on a hillside that is visible from Route 1 or from other public areas, its presence will be much more obvious than development on a level site. Because of this, it is even

more important that the structure be designed to fit harmoniously into the visual environment. The use of berms and plantings, where appropriate, will help soften the impact of buildings located in open fields.

Site clearing should also be minimized and vegetation should be retained or provided to minimize the visual impact of the development. Issues of drainage, run-off and erosion should also be closely examined.

FINDING: N/A

1.5.5 Universal Accessibility

Development of all properties, buildings, parking lots, crosswalks, walkways and other site features must comply with the applicable standards of the Americans with Disabilities Act (ADA).

FINDING: All ADA requirements have been met.

1.6 Parking

Objective: Development should provide safe, convenient and attractive parking. Parking lots should be designed to complement adjacent buildings, the site and the Route 1 corridor without becoming a dominant visual element. Every effort should be made to break up the scale of parking lots by reducing the amount of pavement visible from the road. Careful attention should be given to circulation, landscaping, lighting and walkways.

FINDING: The parking is located to the rear and sides of the building. There is no parking in front of the building.

1.6.1 Location

Parking lots should be located to the side or rear of buildings. Parking should only be placed between the building and Route 1 if natural site constraints such as wetlands or topography, allow no other option. If parking must be built between the building and Route 1, it should be limited, if at all possible, to only one row of parking spaces and be adequately buffered.

FINDING: There is no parking between the building and Route 1.

1.6.2 Landscaping

A 75' buffer between Route 1 and buildings and parking is intended to ensure that views from Route One are not of expanses of asphalt shall be required of each new development that is on Route 1

Parking should be separated from the building by a landscaped strip a minimum of five to ten feet wide.

Landscaping around and within parking lots will shade hot surfaces and visually soften the appearance of the hard surfaces. Parking lots should be designed and landscaped to create a pedestrian-friendly environment. A landscaped border around parking lots is encouraged, and landscaping should screen the parking area from adjacent residential uses. Tree plantings between rows of parking are very desirable. Granite curbs, while more expensive, are more attractive and require less maintenance than asphalt ones.

FINDING: The 75' buffer is shown on the plan.

Snow Storage

Provision should be made for snow storage in the design of all parking areas, and these areas should be indicated on the site plan. The area used for snow storage should not conflict with proposed landscaping or circulation patterns. These areas should be sited to avoid problems with visibility, drainage or icing during winter months.

FINDING: Locations for snow storage are shown on the plan.

1.6.4 Impervious Surfaces

The amount of paved surface required for parking, driveways and service areas should be limited as much as possible in order to provide green space, reduce run-off and preserve site character. This will have the added benefit of reducing construction and maintenance costs.

FINDING: The plan reflects these recommendations.

1.7 Service Areas

Objective: Service areas include exterior dumpsters, recycling facilities, mechanical units, loading docks and other similar uses. Service areas associated with uses along Route 1 should be designed to meet the needs of the facility with a minimum of visual, odor or noise problems. They should be the smallest size needed to fit the specific requirements of the building and its intended operation, and should be fully screened from view by either plantings or architectural elements such as attractive fences.

FINDING: Service areas are located to the rear of the building.

1.7.1 Location

Service areas should, if possible, be located so that they are not visible from Route 1 or from the building entrance. Locations that face abutting residential properties should also be avoided wherever possible.

Dumpster, recycling facilities and other outdoor service facilities should be consolidated into a single site location, in accordance with appropriate life safety requirements.

FINDING: Service areas are not visible from Route 1.

1.7.2 Design

Service areas should be designed to accommodate the turning movements of anticipated vehicles, and should be separated from other vehicle movements, parking areas and pedestrian routes.

Wherever possible, service drives should be separated from areas where people will be walking by landscaped islands, grade changes, berms, or other devices to minimize conflicts.

Gates on enclosures should be designed to prevent sagging or binding. Wooden fencing is always preferred, but where chain link is necessary for safety considerations, it should be screened by landscaping and painted a dark color, or coated with dark vinyl.

FINDING: The above criteria has been met.

1.7.3 Buffering/Screening

Service areas should be screened to minimize visibility from sensitive viewpoints such as Route 1, nearby residential dwellings, public open space, pedestrian pathways, and building entrances. Landscape screening may consist of evergreen trees, shrubs, and/or planted earth berms. Architectural screening may consist of walls, fences or shed structures, and should complement the design of the main structure through repetition of materials, detailing, scale and color.

Where plantings do not survive, or where they grow to a point where they no longer serve as effective screens, they shall be replaced or supplemented to meet the intent of the plan as approved by the Planning Board.

FINDING: The above criteria has been met.

1.8 Open Space

Objective: In order to provide an attractive, hospitable and usable environment, future development along Route 1 should have generous amounts of open space and attractive site details for such elements as pavement, curbing, sitting and other public areas, landscaping, planters, walls, signage, lighting, bollards, waste receptacles and other elements in the landscape.

FINDING: The site plan shows open areas around the building.

1.8.1 Internal Walkways

Internal walkways should invite pedestrians onto the property and make them feel welcome.

Walkways extending the full length of a commercial building are encouraged along any façade that features a customer entrance and an abutting parking area. Such walkways should be located five to ten feet from the face of the building to allow for planting beds. Such walkways should be shown on the project's landscaping plan.

Wherever feasible, interconnections between adjacent properties should be developed to encourage pedestrian movement and reduce vehicle trips.

At a minimum bituminous concrete should be used as the primary material for internal walkways, except that for entrance areas and other special features the use of brick or special paving shall be encouraged. Walkways should be separated from parking areas and travel lanes by raised curbing. Granite is strongly preferred for its durability, appearance and low maintenance requirements.

Driveway crosswalks should be marked by a change in pavement texture, pattern or color to maximize pedestrian safety in parking and other potentially hazardous areas.

FINDING: There are walkways along three sides of the building.

1.8.2 Landscaping

Where there are trees in the 75" buffer between Route 1 and the building, existing healthy trees should be maintained in their natural state. Where there are few or no trees in the 75' buffer, the buffer area should be landscaped either with trees, or with flowering shrubs, fencing, or such architectural elements as stone walls.

Where plantings do not survive, or grow to a point where they no longer serve as effective buffers, they shall be replaced or enhanced to meet the intent of the approved plan.

FINDING: Due to necessary grading for stormwater management, some existing trees will be removed, however additional plantings will buffer the building in time.

1.8.3 Usable Open Space

Whenever possible, site plans should provide inviting open spaces where people can sit, relax and socialize. Open spaces should be thought of as outdoor rooms, with consideration to ground surfaces, landscaping, lighting and other physical elements. Examples of such spaces include a forecourt outside a building entrance, or a peaceful place outdoors where employees can sit down and eat lunch or have breaks.

FINDING: There are open space areas on the site.

1.9 Buffering of Adjacent Uses

Objective: Buffering or screening may be necessary to effectively separate quite different land uses such as housing and office or commercial buildings. Plantings, earth berms, stone walls, grade changes,

fences, distance and other means can be used to create the necessary visual and psychological separation.

1.9.1 Appropriateness

The selection of the proper type of buffer should result from considering existing site conditions, distances to property lines, the intensity (size, number of users) of the proposed land use, and the degree of concern expressed by the Planning Department, Planning Board, and abutting landowners. Discussions regarding the need for buffers, and appropriate sizes and types, should begin at the sketch plan stage of review.

1.9.2 Design

Buffers and screens should be considered an integral part of the site and landscaping plans. Stone walls, plantings, fencing, landforms, berms, and other materials used for buffers should be similar in form, texture, scale and appearance to other landscape elements. Structural measures, such as screening walls, should likewise be related to the architecture in terms of scale, materials, forms and surface treatment.

1.9.3 Maintenance

Where plantings do not survive, or where they grow to a point where they no longer serve as effective buffers, they shall be replaced or supplemented to meet the intent of the plan as approved by the Planning Board.

FINDING: The above criteria has been met.

1.10 Erosion, Sedimentation and Stormwater Management

Objective: Protecting the natural environment in Cumberland is as much a priority in these design standards as protecting the visual environment. A developer should take every measure possible in the construction and operation of a project to ensure that little or no adverse impact to the natural environment occurs. These measures should be as visually attractive as possible.

1.10.1 Erosion and Sedimentation

Before any site work, construction or the disturbance of any soil occurs on a property, methods, techniques, designs, practices and other means to control erosion and sedimentation, as approved or required by the Maine Department of Environmental Protection, shall be in place. For guidance developers should refer to "Maine Erosion and Sedimentation Control Handbook for Construction – Best Management Practices," produced by the Cumberland County Soil and Water Conservation District and the Maine DEP.

FINDING: The erosion and sedimentation control plan has been reviewed by the Town Engineer and is currently being reviewed by MDEP.

1.11 Utilities

Objective: It is important to make efficient use of the utility infrastructure that exists along the Route 1 corridor, and to ensure that utility connections to individual development lots are as inconspicuous as possible.

FINDING: All utilities will be underground from Route 1.

1.11.1 Water and Sewer

All proposed development along the Route 1 Corridor must connect to the municipal water supply and the municipal sewer, wherever such connections are available. Proposed connections are subject to review by the Town and/or its peer reviewers.

FINDING: There will be a connection to the public water line.

1.11.2 Electric, Telephone and Cable

Electric, telephone, cable and other wired connections from existing utilities on Route 1 should be made to individual development lots via underground conduit wherever possible. This prevents the accumulation of unsightly overhead wires, and preserves the natural character of the corridor.

FINDING: Service will be via underground lines.

2.1 General Architectural Form

These standards encourage the use of materials and forms that are characteristic of the construction of ordinary houses and commercial buildings of 19th century in northern New England, and particularly in Maine. Modern interpretations and versions of these materials and forms are entirely appropriate and encouraged.

FINDING: The building design reflects the above criteria by using clapboard style siding in appropriate earth tone colors.

2.1.1 Roofs

Because of the need to shed snow, New England roofs have generally been pitched rather than flat. Federal roofs are sometimes gambrel-shaped. In the Greek Revival style they are often gabled or have dormers, and have decorative "returns" at the bottom edge of the gable or dormers, suggesting the pediment of a Greek temple. Victorian houses typically have more steeply sloped roofs. Flat roofs are to be avoided.

FINDING: The roofline is pitched.

2.1.2 Windows

Windows are typically vertical rectangles, often with two or more panes of glass. They may have shutters. If shutters are used, each should be wide enough to actually cover half of the window. Horizontal and vertical "lights", rows of small panes of New England buildings such as parapets. Where parapets are used to break up a flat roofline, the height of glass, are common over and next to doors. Window frames often have a decorative wood or stone pediment over them.

FINDING: The windows reflect the above criteria.

2.1.3 Detailing

Each historical period also has its characteristic embellishments. Federal buildings may have a decorative fanlight over the entrance door. Greek Revival buildings have corner-boards in the form of pilasters or even rows of actual columns across 1 façade, below a pediment. Victorian buildings use a wealth of turned columns and decorative scroll-work and shingle-work. Too many embellishments can look "busy", and mixing the details of several periods or styles can also spoil the desired effect. Modern interpretations of older styles often used simplified forms to suggest the details that were more elaborately defined in earlier periods.

FINDING: The detailing reflects the above criteria.

2.1.4 Building Materials

Traditional siding materials common to Northern New England are brick, painted clapboard and either painted or unpainted shingles. Contemporary materials that have the same visual characteristics as traditional materials (e.g., cemeticious clapboards or vinyl siding) are acceptable if attention is paid to detailing (e.g., corners, trim at openings, changes in material). Metal cladding is not permitted.

Common traditional roofing materials are shingles – cedar originally or asphalt now, as well as standing seam metal. Where visible, the roofing color should be selected to complement the color and texture of the building's façade. Roofing colors are usually darker than the color of the façade.

Colors commonly found in historic New England houses vary by period. In the Federal and Greek Revival periods, white was the most common color, often with green or black shutters. But houses were not infrequently painted "sober" colors such as dull mustard or gray. In the Victorian period much brighter colors were often used, with trim in complementary colors. The characteristic colors for barns are white, barn red, or weathered shingle.

FINDING: The building materials reflect the above criteria.

2.2 Large Scale Buildings

Objective: Due to their visibility and mass, the design of new large structures (10,000 square feet or greater) have the ability to greatly enhance or detract from Route 1's visual character. These structures should be designed as attractive pieces of commercial architecture that are responsive to their site and compatible with adjacent development.

FINDING: The building reflects the above criteria.

2.2.1 Design and Massing

Large structures should be designed so that their large mass is broken up into smaller visual components through the use of clustered volumes, projections, recesses and varied façade treatment. The design should provide variation to add shadow and depth and a feeling of reduced scale.

FINDING: The building reflects the above criteria.

2.2.2 Site Design

Wherever possible, large buildings should fit into the existing topography and vegetation, and should not require dramatic grade changes around their perimeter. Landscaping, site walls, pedestrian amenities and existing trees can be effective in reducing the apparent scale of large buildings.

FINDING: The building reflects the above criteria.

2.2.3 Architectural Details

Large structures should have the same degree of detailing found in well-designed smaller and medium sized buildings along the Route 1 corridor. Architectural details can be used to reduce the scale and uniformity of large buildings. Elements such as colonnades, pilasters, gable ends, awnings, display windows and appropriately positioned light fixtures can be effective means of achieving a human scale.

FINDING: The building reflects the above criteria.

2.2.4 Facades and Exterior Walls

Unbroken facades in excess of 80 feet are overwhelming whether they are visible from Route 1, other roadways or pedestrian areas, or when they abut residential areas. Breaking up the plane of the wall can reduce this sense of overwhelming scale. Where the plane of the wall is broken, the offset should be proportionate to the building's height and length. A general rule of thumb for such projections or recesses is that their depth shall be at least 3% of the façade's length, and they shall extend for at least 20% of the façade's length.

Other devices to add interest to long walls include strong shadow lines, changes in rooflines, pilasters and similar architectural details, as well as patterns in the surface material and wall openings. All façade elements should be coordinated with the landscape plan.

Facades of commercial buildings that face Route 1 or other roadways should have transparent openings (e.g. display windows or entry areas) along 30% or more of the length of the ground floor. Blank or unadorned walls facing public roads, residential neighborhoods, or abutting properties are boring and unattractive.

FINDING: The building reflects the above criteria.

2.2.5 Building Entrances

Large structures should have clearly defined and highly visible entrances emphasized through such devices as significant variations in rooflines or cornice lines, changes in materials, porticos, landscape treatments, distinctive lighting or other architectural treatments.

FINDING: The building reflects the above criteria.

2.3 Linear Commercial Buildings

Objective: Linear commercial structures, such as multi-tenant offices or commercial buildings may be appropriate along Route 1 provided that they are designed with façade and roofline elements that reduce their sense of large scale and add visual interest.

2.3.1 Design

Buildings with multiple storefronts should be visually unified through the use of complementary architectural forms, similar materials and colors, consistent details, and a uniform signage size and mounting system.

FINDING: The building reflects the above criteria.

2.3.2 Façade Design

The use of covered walkways, arcades, or open colonnades is strongly encouraged along long facades to provide shelter, encourage people to walk from store to store, and to visually unite the structure. Pedestrian entrances to each business or tenant should be clearly defined and easily accessible.

FINDING: The building reflects the above criteria.

2.3.3 Focal Points

Linear commercial buildings can include a focal point – such as a raised entranceway or clock tower, or other architectural element – to add visual interest and help reduce the scale of the building.

FINDING: The building reflects the above criteria.

2.3.4 Façade Offsets

Variations in the plane of the front façade add visual interest. They also create opportunities for common entries, and social or landscaped spaces.

FINDING: The building reflects the above criteria.

2.3.5 Rooflines

Variations in rooflines, detailing, cornice lines and building heights should be incorporated into the design to break up the scale of linear commercial buildings.

FINDING: The building reflects the above criteria.

2.4 Smaller Freestanding Commercial Buildings

Objective: Smaller freestanding commercial buildings can easily make use of traditional New England building forms and should be designed to be attractive pieces of architecture, expressive of their use and compatible with surrounding buildings.

2.4.1 Single Use Buildings

Buildings that are constructed for use by a single business are generally smaller in scale than multi-tenant buildings. Single use buildings should be designed to be attractive and architecturally cohesive. To the greatest extent possible, the same materials, window types and roof types should be used throughout.

FINDING: The building reflects the above criteria.

2.4.2 Franchise Design

Franchise architecture with highly contrasting color schemes, non-traditional forms, reflective siding and roof materials are not related to any traditional New England style. They are buildings that are stylized to the point where the structure is a form of advertising. However, franchises have been willing to use existing "vernacular" buildings, and sometimes have designs that somewhat reflect local styles.

FINDING: N/A

2.4.3. Mixed Use Buildings

Buildings containing mixed uses (e.g., health club on the first floor with professional offices on the second floor) are encouraged. The architecture of a mixed-use building can reflect the different uses on the upper floors by a difference in façade treatment, as long as the building has a unified design theme.

FINDING: N/A

2.5 Residential Structures

Objective: Cumberland's future housing stock in the Route 1 corridor should be well designed and constructed, and is encouraged to have some connection to the traditional styles of New England residential architecture. The large mass of multiplex dwellings, can be broken up by façade articulation and architectural detailing in order to reduce their apparent size.

Building form and massing can conform to traditional New England residences by using gable or gambrel roofs with generous overhangs. Traditional vertically hung windows are encouraged. Garages should not constitute a major element of the front of the house that faces the street, but should be located to the side or rear wherever possible.

Dwellings with ells and additions, and ones with multiple roof planes harken back to traditional New England farm and seaside homes. Box-like, ranch or split-level "contractor modern" type dwellings do not particularly reflect Maine styles.

Similarly, traditional New England building materials such as wooden shingles and clapboards are encouraged. Modern low-maintenance materials such as cemeticious shingles and clapboards may be substituted.

FINDING: N/A

2.6 Residential Care Facilities

Objective: Ensure that the future needs of Cumberland's aging population are met in healthy and well-designed facilities, and that the architecture and site design of such facilities fit into the Cumberland context.

The design of Residential Care Facilities can also draw on the local vernacular architecture of gable roofs, multiple building forms and traditional materials. Landscaping, site design and resident amenities will also be of concern to the Planning Board. The site should offer outdoor amenities such as decks, terraces, gardens, gazebos, lawns or similar features. Residential Care Facilities should be buffered from roadways and adjacent uses as much as possible.

FINDING: N/A

2.7 Hotels

Objective: To ensure that any future hotels in the Town of Cumberland are in keeping with the character of the surrounding area, and that the scale and design respects the architectural context of the region.

Using traditional building materials and colors is encouraged, and the use of large blocks of bright, primary colors is discouraged.

The signage and lighting standards contained in this publication will help as well.

FINDING: N/A

2.7.1 All Building Types: Awnings and Canopies

Awnings and canopies can enhance the appearance and function of a building by providing shade, shelter, shadow patterns, and visual interest. Where awnings are used, they should complement the overall design and color of the building.

Whether fixed or retractable, awnings and canopies should be an integral element of the architecture. They should be located directly over windows and doors to provide protection from the elements. Awnings or canopies should not be used as light sources or advertising features. Graphics and wording located on canopies and awnings will be considered part of the total signage area. Any such graphics shall be designed as an integral part of the signage program for the property, and coordinated with other sign elements in terms of typeface, color and spacing.

FINDING: N/A

3.1 Sign Design

Objective: Commercial uses along Route 1 in Cumberland should be identified by attractive, legible signs that serve the need of the individual business, while complementing the site and the architecture. All signage shall comply with the requirements of the Zoning Ordinance of the Town of Cumberland.

3.1.1 Signage Plan

For development proposals requiring one or more signs, the applicant shall provide a detailed signage plan as part of Site Plan or Subdivision review. The signage plan should show the location of all signs on a site plan drawing and on building elevations, as well as sign construction details, dimensions, elevations, etc., and accurate graphic representations of the proposed wording.

FINDING: TBD with sign permit application

3.1.2 Sign Location

Signs should be placed in locations that do not interfere with the safe and logical usage of the site. They should not block motorists' lines of sight or create hazards for pedestrians or bicyclists. Roof mounted signs are not encouraged.

FINDING: Complies

3.1.3 Sign Design

The shape and materials and finish of all proposed signage should complement the architectural features of the associated building. Simple geometric forms are preferable for all signs. All signage shall comply with the requirements of the Zoning Ordinance of the Town of Cumberland.

FINDING: TBD with sign permit application

3.1.4 Sign Colors

Signs should be limited to two or three contrasting colors that are clearly complimentary to the colors of the associated building.

FINDING: TBD with sign permit application

3.1.5 Sign Content

To ensure a clear and easily readable message, a single sign with a minimum of informational content should be used. As a general rule no more than about 30 letters should be used on any sign.

Lettering on any sign intended to be read by passing motorists needs to be legible at the posted speed limit. In general a minimum letter height of 6 inches is appropriate. Smaller letters can require motorists to slow down thereby creating traffic and safety hazards. Upper and lower case lettering is preferred to all upper case, as it is easier to read.

The use of variable message "reader boards", sponsor logos, slogans or other messages that promote products or services other than the tenants' are not permitted.

Signage for any proposed development should prominently feature its assigned street address to facilitate general way-finding and e-911 emergency response.

FINDING: TBD with sign permit application

3.2 Sign Type

Objective: To ensure that any sign type complements the architecture of the associated building, and to ensure that they are attractively designed and functional while clearly delivering the intended information.

3.2.1 Building Mounted Signs

Building or façade mounted signs should be designed as an integral element of the architecture, and should not obscure any of the architectural details of the building. Signage should be mounted on vertical surfaces and should not project past or interfere with any fascia trim. Signs should be located a minimum of 18" from the edge of a vertical wall, however the overall proportions of both the wall and sign should be taken into consideration in the placement of the sign.

Flush mounted (flat) signage should be mounted with concealed hardware. Perpendicularly mounted hanging signs should be mounted with hardware designed to complement the building's architecture. All metal hardware should be corrosion and rust resistant to prevent staining or discoloration of the building.

FINDING; TBD with sign permit application

3.2.2 Freestanding Signs

An alternative to a façade-mounted sign is a freestanding "pylon" sign. These signs are typically located between the building and the roadway right-of-way, adjacent to the site's vehicular entry point.

As with façade-mounted signage, design and content standards shall apply. Because freestanding signs amount to architecture themselves, it is important that they be carefully designed to complement the associated building. This will entail similar forms, materials, colors and finishes. Landscaping surrounding the base of such signs shall be consistent with the landscaping of the entire site.

Where a freestanding sign lists multiple tenants, there should be an apparent hierarchy: i.e., Address, name of the building or development, primary tenant, other tenants.

FINDING: TBD with sign permit application

3.2.3 Wayfinding Signs

To prevent visual clutter and motorist confusion, additional smaller signs indicating site circulation are generally discouraged. However they are sometimes needed to clarify complex circulation patterns. Wayfinding signage is also sometimes required to indicate different areas of site usage, such as secondary building entries, loading, or service areas. The Planning Board shall exercise its discretion in the requirement or prohibition of such signs.

Where required, wayfinding signage should be unobtrusive, no taller than absolutely necessary, and shall complement the overall architecture and signage plan in terms of materials, color, form and finishes.

FINDING: TBD with sign permit application

3.3 Sign Illumination

Only externally lit signs are permitted in the Route 1 corridor because, compared with internally lit signs, the direction and intensity of the light can be more easily controlled. Externally illuminated signs are made of an opaque material and have a dedicated light fixture or fixtures mounted in close proximity, aimed directly at the sign face. The illumination level on the vertical surface of the sign should create a noticeable contrast with the surrounding building or landscape without causing undue reflection or glare.

Lighting fixtures should be located, aimed and shielded such that light is only directed onto the surface of the sign. Wherever possible, fixtures should be mounted above the sign and be aimed downward to prevent illumination of the sky.

FINDING: Complies

4 Lighting

Outdoor lighting is used to identify businesses and illuminate roadways, parking lots, yards, sidewalks and buildings. When well designed and properly installed it can be very useful in providing us with better visibility, safety, and a sense of security, while at the same time minimizing energy use and operating costs. If outdoor lighting is not well designed or is improperly installed it can be a costly and inefficient nuisance. The main issues are glare (hampering the safety of motorists and pedestrians rather than enhancing it), light trespass (shining onto neighboring properties and into residential windows), energy waste (lighting too brightly or lighting areas other than intended or necessary), and sky glow (lighting shining outward and upward washing out views of the nighttime sky).

4.1 Good Lighting

Objective: Good lighting does only the job it is intended to do, and with minimum adverse impact on the environment. Common sense and respect for neighbors goes a long way toward attaining this goal.

The applicant should provide sufficient lighting for the job without over-illuminating.

Fixtures should be fully shielded, giving off no light above the horizontal plane. They should also direct the light onto the intended areas. Fully shielded produce very little glare, which can dazzle the eyes of motorists and pedestrians.

The height and positioning of fixtures is also important, since even well shielded fixtures placed on tall poles can create light trespass. Fixtures should be positioned to uniformly illuminate the subject area. Hot spots created by too-bright or too-low fixtures make the in between areas seem dark, which can create safety problems.

High efficiency lamps are encouraged. Shielded lights can be lower in wattage, and will actually light an area better than unshielded high-output lights because they don't waste light by casting it outward and upward.

FINDING: Complies

4.2 The Lighting Plan

Objective: As part of Site Plan or Subdivision review the Planning Board may, at its discretion, require that a lighting plan be provided. It should be prepared by a professional with expertise in lighting design. The intent of the lighting plan is to show how the least amount of light possible will be provided to achieve the lighting requirements.

4.2.1 Elements of the Lighting Plan

In addition to meeting the requirements of the Zoning Ordinance, the Lighting Plan should contain a narrative that describes the hierarchy of site lighting, describes how lighting will be used to provide safety and security, and describes how it will achieve aesthetic goals. The Lighting Plan should include specifications and illustrations of all proposed fixtures, including mounting heights, photometric data, and other descriptive information. It should also include a maintenance and replacement schedule for the fixtures and bulbs.

The Planning Board may require a photometric diagram that shows illumination levels from all externally and internally visible light sources, including signage.

The location and design of lighting systems should complement adjacent buildings, pedestrian routes, and site plan features. Pole fixtures should be proportionate to the buildings and spaces they are designed to illuminate.

Buffers, screen walls, fencing and other landscape elements should be coordinated with the lighting plan to avoid dark spots and potential hiding places.

Where proposed lighting abuts residential areas, parking lot lighting and other use-related site lighting should be substantially reduced in intensity within one hour of the business closing.

FINDING: Complies

4.3 Types of Lighting

4.3.1 Façade and Landscaping Lighting

Lighting on the front of a building can highlight architectural features or details of a building and add depth and interest to landscaping. This style of lighting should not be used to wash an entire façade in light or light the entire yard. Rather should be used to emphasize particular aspects of the project. All fixtures should be located, aimed and shielded so that they only illuminate the façade or particular plantings and do not illuminate nearby roadways, sidewalks or adjacent properties. For lighting a façade, the fixtures should be designed to illuminate the portion of the face of the building from above, aimed downward, to eliminate skyglow.

4.3.2 Parking Lot and Driveway Lighting

Parking lot and driveway lighting should be designed to provide the minimum lighting necessary for safety and visibility. Poles and fixtures should be in proportion to the roadways and areas they are intended to illuminate.

All fixtures should be fully shielded or "cut-off" style, such that no light is cast above the horizontal plane. Decorative fixtures are strongly encouraged as long as they meet the cut-off criteria, and their design and color complements the architecture and landscaping of the project.

FINDING: Complies

4.3.3 Pedestrian Lighting

Places where people walk, such as sidewalks, stairs, sitting areas, curbs and landscaping should be adequately but not excessively illuminated.

Mounting heights for pedestrian lighting should be appropriate in design and scale for the project and its setting. Bollard fixtures of 3' to 4' in height and ornamental fixtures of up to 12' in height are encouraged. Fixtures should be a maximum of 1 watts and should not create glare or light trespass onto abutting properties.

FINDING: Complies

EXPIRATION OF APPROVAL: Construction of the improvements covered by any site plan approval must be substantially commenced with 12 months of the date upon which the approval was granted. If construction has not been substantially commenced within 12 months of the date upon which approval was granted, the approval shall be null and void. If construction has not been substantially completed within 24 months of the date upon which approval was granted or within a time period as specified by the Planning Board, the approval shall be null and void. The applicant may request an extension of the period. Such request must be made in writing and must be made to the Planning Board. The Planning Board may grant up to two one-year extensions to the period if the approved plan conforms to the ordinances in effect at the time the extension is granted and any and all federal and state approvals and permits are current.

STANDARD CONDITION OF APPROVAL: This approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted by the applicant. Any variation from the plans, proposals and supporting documents, except de minimis changes as so determined by the Town Planner which do not affect approval standards, is subject to review and approval of the Planning Board prior to implementation.

PROPOSED CONDITIONS OF APPROVAL:

1. A preconstruction conference is required prior to the start of construction.
2. The amended SLODA permit shall be submitted to the Town Planner prior to the preconstruction conference.
3. All review comments by the Town Engineer shall be addressed prior to the preconstruction conference.
4. A performance guarantee in an amount and form acceptable to the Town Manager will be required prior to the preconstruction conference.
5. All clearing limits shall be flagged and approved by the Town Engineer prior to the preconstruction conference.
6. A blasting permit, if required, shall be obtained from the Code Enforcement Officer.
7. All legal and technical review fees shall be paid to the Town prior to the preconstruction conference.
8. An electronic copy of the as-built plans shall be submitted to the Town Planner prior to the release of any remaining inspection fees.
9. A sign permit for the proposed ground mounted sign to be located at the edge of the entrance is required.
10. Exterior lighting will only be on during the actual hours of operation and one hour prior to and one hour following the hours of operation.
11. Truck deliveries/pick-ups should be limited to daylight hours.
12. All storage for fuel, chemicals, chemical or industrial wastes, biodegradable raw materials or liquid, gaseous or solid materials shall meet the standards of the Maine Department of Environmental Protection and the State Fire Marshal's office.
13. The recommendations of the Fire Chief should be shown on the plan.

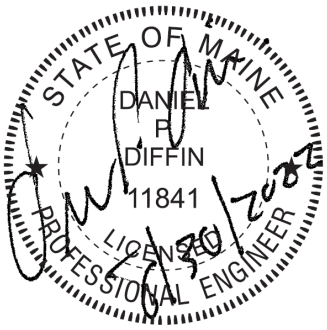
TOWN OF CUMBERLAND PLANNING BOARD
SITE PLAN REVIEW APPLICATION
YARMOUTH VETERINARY CENTER

Prepared for

YARMOUTH VETERINARY CENTER, LLC

US Route 1

Cumberland, Maine



August 2022

4 Blanchard Road
P.O. Box 85A
Cumberland, Maine 04021
Phone: 207.829.5016 smemaine.com

ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

SME
SEVEE & MAHER
ENGINEERS

TABLE OF CONTENTS

Section No.	Title	Page No.
SITE PLAN REVIEW APPLICATION		
SITE PLAN SUBMISSION CHECKLIST		
1.0 PROJECT DESCRIPTION		**1-1**
2.0 CHAPTER 229 – SITE PLAN REVIEW		**2-1**
2.1 §229-4 Waivers and modifications		2-1
2.2 §229-8 Financial and Technical Capacity		2-1
2.3 229-10 Approval Standards and Criteria		2-1
A.	Utilization of the Site	2-1
B.	Traffic, Circulation and Parking	2-2
C.	Stormwater Management and Erosion Control	2-3
D.	Water, Sewer, and Fire Protection	2-3
E.	Water Protection	2-3
F.	Floodplain Management	2-4
G.	Historic and Archaeological resources	2-4
H.	Exterior Lighting	2-4
I.	Buffering and Landscaping	2-4
J.	Noise	2-4
K.	Storage of Materials	2-5
L.	Capacity of the Applicant	2-5
M.	Design and Performance Standards	2-5

LIST OF APPENDICES

APPENDIX A TITLE, RIGHT, OR INTEREST
APPENDIX B FINANCIAL CAPACITY
APPENDIX C TECHNICAL CAPACITY
APPENDIX D MEDEP SLODA DEPARTMENT ORDER # L-21578-39-C-N
APPENDIX E STORMWATER MANAGEMENT REPORT
APPENDIX F PWD ABILITY TO SERVE REQUEST LETTER
APPENDIX G WASTEWATER CAPACITY REQUEST LETTER
APPENDIX H FEMA FIRM MAP
APPENDIX I LIST OF ABUTTERS
APPENDIX J CIVIL PLAN SET
APPENDIX K ARCHITECTURAL DRAWINGS
APPENDIX L SITE LIGHTING CUT SHEETS
APPENDIX M ARCHITECTURAL DESIGN NARRATIVE

LIST OF FIGURES

Figure No.	Title	Page No.
1	SITE LOCATION MAP	1-3

SITE PLAN REVIEW
Town of Cumberland

Appendix C
Planning Board Site Plan Review Application

Applicant's name Yarmouth Veterinary Center - Zachary Smith

Applicant's address 75 Willow Street, Yarmouth, ME 04096

Cell phone _____ Home phone _____ Office phone 207-846-6515

Email Address zachsmithyvc@gmail.com

Project address US Route 1, Cumberland, ME

Project name Yarmouth Veterinary Center

Describe project New Veterinary Center - See Attached for more details

Number of employees 30

Days and hours of operation Mon- Fri 7:30am-6pm and Sat 8am-12pm

Project review and notice fee $2,150

Name of representative Sevee and Maher Engineers, Inc- Jeffrey Read, P.E.

Contact information: Cell: 207-671-8027 Office: 207-829-5016

What is the applicant's interest in the property?

Own ✓ Lease_____ Purchase and sale agreement_____ (provide copy of document)
If you are not the owner, list owner's name, address and phone number _____

If you are not the owner, list owner's name, address and phone number _____

Boundary Survey
Submitted? Yes ✓ No _____

Are there any deed restrictions or easements? Yes ✓ No_____ If yes, provide information and show easement location on site plan.

Building Information
Are there existing buildings on the site? Yes _____ No ✓ Number: _____
Will they be removed? Yes _____ No_____ (Note: A demolition permit is required 10 days prior to demolition.)

Will a new structure(s) be built on the site? Yes ✓ No _____
Describe: See Architectural plans
Number of new buildings 1
Square footage 14,662 sf
Number of floor levels including basement 2

Parking
Number of existing parking spaces 0
Number of new parking spaces 57
Number of handicapped spaces 3
Will parking area be paved? ✓ Yes ___No

Entrance
Location: Acess Road off Route 1
Width 24' Length 375'
Is it paved? ✓ Yes_____No_____If not, do you plan to pave it?

Where will snow storage for entrance and parking be located? Show on site plan.

Utilities

Water: Public water ✓ Well_____(Show location on site plan.)

Sewer/septic: Public sewer ✓ Private septic_____Show location on site plan and submit HHE-200 septic design or location of passing test pit locations if new system is proposed. Also show any wells on abutting properties within 200 feet of the site.

Electric: On site? Yes ✓ No _____
Show location of existing and proposed utilities on the site plan and indicate if they are above or below ground.

Signs
Number: 1
Size: Unknown/TBD
Material: Unknown/TBD
Submit sign design and completed sign application.
Will the sign be lighted? Yes Submit information on type and wattage of lights.
Show location of sign(s) on the site plan.

Natural Features
Show location of any of the following on the site plan:
River n/a Stream n/a Wetland n/a Pond n/a Lake n/a Stone walls n/a
Are there any other historic or natural features? No

Lighting
Will there be any exterior lights? Yes ✓ No_____Show location on site plan (e.g., pole fixtures, wall packs on building) and provide fixture and lumen information.

Trees
Show location of existing trees on the site plan and indicate if any are to be removed.

Landscaping
Is there existing landscaping on the site? Yes _____ No ✓ Show type and location on site plan.

Is new landscaping proposed? (Note: if property has frontage on Route 100, a twenty-five-foot landscape easement to the Town is required.)

Buffering
Show any existing or proposed buffering measures for adjacent properties, e.g., plantings, fences.

Erosion Control
Has an erosion and sedimentation control plan been submitted? Yes ✓ No _____

Stormwater Management Plan
Provide stormwater information for both pre and post development of the site. Show location of any detention areas and/or culverts on the site plan.

Fire Protection
Location of nearest hydrant 1,000 ft Sprinklers? Yes ✓ No _____
Do you plan to have an alarm system? Yes ✓ No_____Please contact the Fire/EMS Department at 829-4573 to discuss any Town or state requirements.

Trash
Will trash be stored inside _____ outside ✓. If outside, will a dumpster be used? Yes ✓ No_____. Show location on site plan and show type of screening proposed (e.g., fencing, plantings).

Technical Capacity
List and provide contact information for all consultants who worked on the project, for example: licensed land surveyor, licensed soils evaluator, professional engineer, attorney, etc.
See attached

Financial Capacity
Please indicate how project will be financed. If obtaining a bank loan, provide a letter from the bank See attached

- Zoning district: Office Commercial South (OC-S)
- Minimum lot size: 1 ac
- Classification of proposed use: Veterinary Center
- Parcel size: 2.95 ac
- Frontage: 427 ft
- Setbacks: Front >25 ft Side > 20 ft Rear >65 ft
- Board of Appeals Required? No
- Tax Map R01 Lot 11-4 Deed book 36453 Deed page 164
- Floodplain map number 2301620018C Designation Zone C
- Vernal pool identified? No
- Is parcel in a subdivision? Yes- Cumberland Foreside Village- Renamed to Heritage Village
- Outside agency permits required: MEDEP Site Location of Development Application Amendement to #L-21578-39-A
  MDEP Tier 1 N/A MDEP Tier 2 N/A Army Corps of Engineers N/A
  MDEP general construction (stormwater) permit (for disturbance of 1 acre or more)
- MDOT entrance permit existing
- MDOT traffic movement permit N/A
- Traffic study required N/A
- Hydrogeologic evaluation N/A - Waiver Requested
- Market study N/A - Waiver Requested
- Route 1 Design Guidelines? yes
- Route 100, VMU or TCD Design Standards? N/A

Applicant's signature _____

Submission date: 8/29/22

PLANNING BOARD SITE PLAN REVIEW SUBMISSION CHECKLIST

FOR ALL PROJECTS:

Submission Requirement	**Provide Location in Application Packet (e.g., plan sheet number, binder section, narrative**	**If requesting a waiver, indicate below:**
Example: Erosion Control	*Plan Sheet E-1*	
General Information:		
Completed Site Plan Application Form	This Document	
Names and addresses of all consultants	Appendix C	
Narrative describing existing conditions and the proposed project	This Document- 1.0 Project Description	
Evidence of right, title or interest (deed, option, etc.)	Appendix A	
Names and Addresses of all property owners within 200 feet	Appendix I	
Boundaries of all contiguous property under control of owner	Drawing C-101	
Tax map and lot numbers	Drawing C-101	
Area of the parcel	This Document - 1.0 Project Description	
FEMA Floodplain designation & map #	Appendix H	
Zoning classification	This Document - 1.0 Project Description	
Evidence of technical and financial capability to carry out the project	Appendix B and C	
Boundary survey	Drawing C-101	
List of waiver requests on separate sheet with reason for request.	This Document - 2.1 Waivers and Modification	
Proposed solid waste disposal plan	This Document - 2.3.K Storage of Materials	
Existing Conditions Plan showing:		
Name, registration number and seal of person who prepared plan	Drawing C-101	
North arrow, date, scale, legend	Drawing C-101	
Area of the parcel	Drawing C-101	
Setbacks and building envelope	Drawing C-101	
Utilities, including sewer & water, culverts & drains, on-site sewage	Drawing C-101	
Location of any septic systems	Drawing C-101	
Location, names, widths of existing public or private streets ROW's	Drawing C-101	

Location, dimension of ground floor elevation of all existing buildings	Drawing C-101	
Location, dimension of existing driveways, parking, loading, walkways	Drawing C-101	
Location of intersecting roads & driveways within 200 feet of the site	Drawing C-101	
Wetland areas	Drawing C-101	
Natural and historic features such as water bodies, stands of trees, streams, graveyards, stonewalls, floodplains	Drawing C-101	
Direction of existing surface water drainage across the site & off site	Drawing C-101	
Location, front view, dimensions and lighting of existing signs	Drawing C-101	
Location and dimensions of existing easements & copies of documents	Drawing C-101	
Location of nearest fire hydrant or water supply for fire protection	Drawing C-101	
Proposed Development Site Plan showing:		
Name of development	Drawing C-102	
Date	Drawing C-102	
North arrow	Drawing C-102	
Scale	Drawing C-102	
Legend	Drawing C-100	
Landscape plan	Drawing L-1	
Stormwater management	Drawing D-100 and D-101	
Wetland delineation	N/A	
Current & proposed stands of trees	Drawing L-1	
Erosion control plan	Drawing C-104 & C-300	
Landscape plan	Drawing L-1	
Lighting/photometric plan	Appendix L	
Location and dimensions of all proposed buildings	Drawing C-102 & Appendix K	
Location and size of utilities, including sewer, water, culverts and drains	Drawing C-103	
Location and dimension of proposed on-site septic system; test pit locations and nitrate plumes	N/A	
Location of wells on subject property and within 200’ of the site	N/A	
Location, names and widths of existing and proposed streets and ROW’s	Drawing C-102	

Location and dimensions of all accessways and loading and unloading facilities	Drawing C-102	
Location and dimension of all existing and proposed pedestrian ways	Drawing C-102	
Location, dimension and # of spaces of proposed parking areas, including handicapped spaces	Drawing C-102	
Total floor area and ground coverage of each proposed building and structure	Drawing C-102	
Proposed sign location and sign lighting	Drawing C-102	
Proposed lighting location and details	Drawing C-103	
Covenants and deed restrictions proposed	Drawing C-101	
Snow storage location	Drawing C-102	
Solid waste storage location and fencing/buffering	Drawing C-102	
Location of all fire protection	Drawing C-103	
Location of all temporary & permanent monuments	Drawing C-101	
Street plans and profiles	N/A	

ADDITIONAL REQUIREMENTS FOR MAJOR SITE PLAN PROJECTS:

Submission Requirement	**Provide Location in Application Packet (e.g., plan sheet number, binder section, narrative**	**If requesting a waiver, indicate below:**
High intensity soils survey	N/A	✔
Hydro geologic evaluation	N/A	✔
Traffic Study	Narrative	
Market Study	N/A	✔
Location of proposed recreation areas (parks, playgrounds, other public areas)	N/A	
Location and type of outdoor furniture and features such as benches, fountains.	N/A	

TOWN OF CUMBERLAND
PLANNING BOARD SITE PLAN REVIEW APPLICATION
YARMOUTH VETERINARY CENTER
CUMBERLAND, MAINE

1.0 PROJECT DESCRIPTION

Yarmouth Veterinary Center (YVC) is proposing the development of a commercial veterinary center and parking area on a parcel of land off Route 1 in Cumberland, Maine. The project will include approximately 0.96 acres of commercial building footprint, outdoor pet relief area, and employee and customer parking. The property was chosen based on its location within the Office Commercial South Zoning District for the Town of Cumberland which allows the use of a Veterinary Center. See Figure 1, Site Location Map for the site location on a 7.5 Min USGS Topo Quad Map. More details on the project site are shown in the engineering drawing set provided with this application. The project is subject to Site Plan Review by the Town of Cumberland Planning Board. This application provides detailed project information and outlines compliance with the applicable sections of the Town Ordinance.

The subject property is owned by Yarmouth Veterinary Center, LLC and is identified as Lot 11-4 on the Town of Cumberland Tax Map R01. The parcel is located within the Office Commercial-South (OC-S) and Medical Caregiver Overlay Districts. Currently, the parcel is 2.95 acres of undeveloped woodland. The property is bordered by Route 1 to the east, commercial building to the south, and residential properties and undeveloped forested land to the north and west. The parcel is subject to the Town of Cumberland Route 1 Design Guidelines.

The two-story veterinary center will have a gross leasable area of 14,663 square feet (sf) and a building footprint of 12,630 sf (0.29 acre). The building will be accessed by a new 24-foot-wide paved access road with a two-way traffic flow entering and exiting off an existing 40-foot-wide access easement to Route 1. The internal road will range between 3 to 5 percent slope. SME evaluated internal circulation of the road to accommodate a WB-67 truck. The road will have access to two parking areas including 54 regular spaces and three handicap accessible spaces. Additional site improvements include public water and sewer, underground utilities, stormwater management, and landscaping.

The site work will include construction of an underdrained soil filter and roof dripline filter for stormwater treatment of the YVC roof and exterior parking lot runoff. Vegetated developed areas will be stabilized with loam, seed, and mulch. Information about stormwater treatment is included in Appendix E of this application.

Proposed development will result in approximately 2.45 acres of cleared area. There will be approximately 13,000 square feet (0.30 acres) of commercial veterinary facility, 1,280 sf (0.03 acre) of concrete slabs-on-

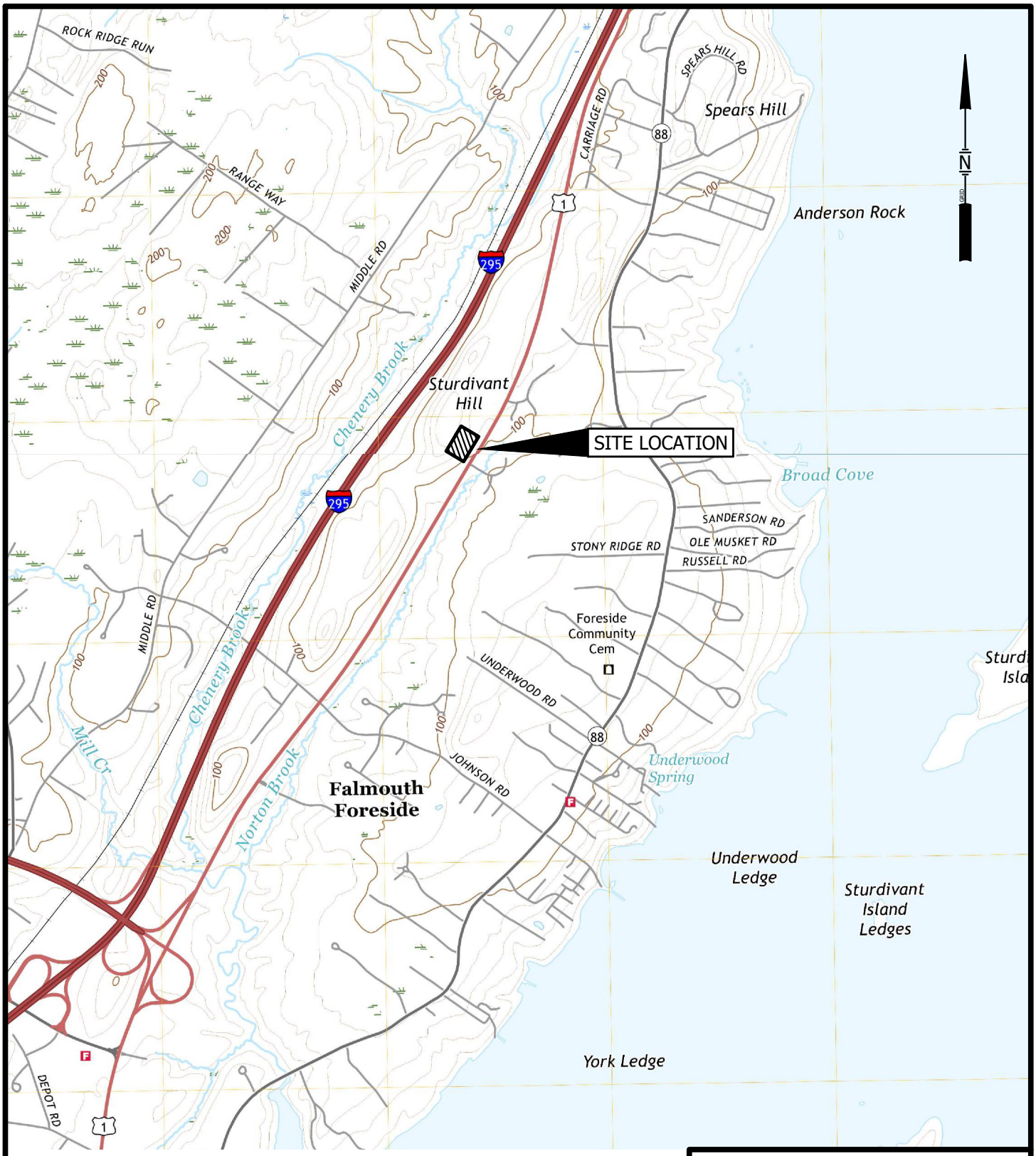
grade, and 27,800 sf (0.63 acres) of paved parking and access road. The project will result in approximately 0.96 acres of new impervious area and approximately 2.45 acres of total developed area.

The parcel is part of an existing subdivision, Cumberland Foreside Village, which has been renamed Heritage Village and is regulated by the Maine Department of Environmental Protection (MEDEP) Site Location of Development Act (SLODA) permit. The existing Department Order #L-21578-39-C-N/L-21578-TB-B-N dated February 17, 2004, approved the subdivision of a 51.22-acre parcel of land into 12 commercial/light industrial lots ranging in size from 1.66 acres to approximately 12.99 acres. Several subsequent Department Orders approved other modifications to the development of Cumberland Foreside Village. This project will occur on Commercial Lot 4 of the existing subdivision.

This project will require a MEDEP SLODA Minor Amendment application permit prior to the start of construction. The SLODA Minor Amendment permit was submitted on August 11, 2022. A copy of the application was provided to the Town. The development also has an approved driveway entrance permit from the Maine Department of Transportation (MEDOT).

Albert Frick Associates delineated property wetlands in May 2022. No streams or wetlands were identified.

The remaining details for the project are described in the following Section which defines how the project complies with the applicable Chapters of the Town of Cumberland Zoning and Site Plan Review Ordinances.



BASEMAP ADAPTED FROM 7.5 MIN USGS TOPO QUADS
YARMOUTH, ME - 2018
PORTLAND EAST, ME - 2018

1000 0 2000 FEET

FIGURE 1
SITE LOCATION MAP
YARMOUTH VETERINARY CENTER
ROUTE 1
CUMBERLAND, MAINE

SME
SEVEE & MAHER ENGINEERS

DWG: SITELOC LMN: NONE CTB: SME-STD REV: 4/1/2022

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2.0 CHAPTER 229 – SITE PLAN REVIEW

2.1 §229-4 Waivers and modifications

As part of this application, the Applicant requests the following waivers from the Site Plan Review Ordinance:

- A waiver from performing a high-intensity soil survey for the project. A medium-density soil survey from a Custom Soil Resource Report by the U.S. Natural Resources Conservation Service (NRCS) and a series of test pits on the property were used to evaluate suitability for construction on the property.
- A waiver from performing a hydrogeological evaluation for the project. The site is served by public water and sewer, therefore there will be no subsurface wastewater disposal or other anticipated groundwater impacts associated with this project. The site is not within the watershed of a significant sand and gravel aquifer.
- A waiver from performing a market study. The proposed use of the site is consistent with existing developments along Route 1. Based on the proposed use and function of this property, a market study does not apply to this project.
- A waiver from marking all trees greater than 10 inches in caliper.
- A waiver from the parking and loading requirement for 1 parking space for each 250 square feet of gross leasable area. Based on the building area, 59 spaces are required. The applicant proposes 57 spaces on a challenging site with substantial physical constraints. The applicant believes 57 spaces will be adequate for the proposed use.

2.2 §229-8 Financial and Technical Capacity

The Applicant has provided a letter in Appendix B to prove financial capacity to complete the project.

Technical capacity and contact information for Sevee & Maher Engineers, Inc. (SME) is provided in Appendix C.

2.3 229-10 Approval Standards and Criteria

A. Utilization of the Site

The project has been designed within the site constraints to provide the appropriate building area and minimize impact to adjacent properties and natural resources. The parcel is not currently located in an environmentally sensitive area or a significantly mapped sand and gravel aquifer.

Under the existing Site Location of Development Act (SLODA) Permit # L-21578-39-C-N, the Maine Natural Areas Program (MNAP) identified no rare, threatened, or endangered plant species within the project area. The Maine Department of Inland Fisheries and Wildlife (MDIFW) Service has not mapped designated essential or significant wildlife habitats in the project area. Tree clearing is necessary for this project and will not affect Maine's endangered species of bats. A copy of the Department Order is included in Appendix D for reference.

B. Traffic, Circulation and Parking

The proposed site will be accessed from an existing access drive sized to accommodate the Town of Cumberland Fire Department's 46-foot-long ladder truck. The entrance location will provide much greater than 500 feet of sight distance to the north and south as Route 1 is straight with minimal change in grade at this location. The proposed veterinary center will not cause unreasonable highway or public road congestion or unsafe conditions with respect to the use of the highways or public roads, existing or proposed. The anticipated number of daily vehicle trips generated will be 13 trips per 1,000 square feet of gross floor area (for a medical facility) as established by the Trip Generation Manual, published by the Institute of Transportation Engineers. The total anticipated weekday trips from the veterinary center will be 456 trips. The peak-hour trips were analyzed as well, and it is estimated that the development will result in 46 trips in the weekday a.m. peak-hour and 55 trips in the weekday p.m. peak-hour. This is below the 100 peak-hour trips that would trigger further review by the MEDOT. During a project review meeting with Tony Fontaine of MEDOT, there were no high-crash locations within the area or other issues identified for the access onto Route 1.

The project will provide 57 parking spaces for the proposed facility. The Ordinance requires one parking space per 250 square feet of leasable area which totals 59 parking spaces. A waiver will be requested for two-space difference. The proposed parking areas and drive aisles were designed to meet the requirements for ninety-degree off-street parking outlined in this Ordinance. The Site Layout Plan, Drawing C-102, outlines design and construction dimensions for the proposed parking area. The 57 parking spaces include 37 parking spaces, two of which are ADA accessible for customer parking in the southern lot, and 19 parking spaces in the northern lot for employee and overflow parking with 1 additional ADA accessible parking space.

Site circulation has been designed to provide two-way access within the parking areas. The circulation has also been designed to accommodate access by the Town of Cumberland 46-foot ladder truck. The truck will be able to access the building and turn around using the parking area to the south of the building.

Pedestrian access at the site will be limited to the building entrances. The various changes in grade and the constraints of the parcel limit what could be accomplished with pedestrian connectivity and internal circulation.

C. Stormwater Management and Erosion Control

Stormwater management of the site is described in detail in the Stormwater Management Report included as Appendix E.

All grading, filling, and associated site construction will be conducted in accordance with the Maine Erosion and Sediment Control Best Management Practices (BMPs), latest edition dated October 2016. This will be the minimum standard for erosion and sedimentation control for the project, as adopted by the Town of Cumberland from the MEDEP standards. Erosion and sedimentation control notes and details are included on Drawings C-106, C-300, and C-301.

D. Water, Sewer, and Fire Protection

Public water for YVC will be supplied by the Portland Water District (PWD). The peak domestic water demand usage is approximately 3,225 gallons per day. The design flow for the proposed facility was provided by architectural calculations based off the number of fixtures, staffing, and operations.

SME has requested a capacity to serve letter from the PWD to verify adequate water supply for the proposed project and will provide a final authorization letter once received from PWD. A copy of the capacity request letter is provided in Appendix F.

The parcel will be serviced by the Town sewer system along Route 1 that was constructed as a low-pressure gravity system several years ago. In 2019, the sewer system was extended up the access road off Route 1 with an 8-inch gravity main pipe connection at the manhole approximately 136 feet west from the edge of Route 1. This project will connect the sewer lateral from the building to the manhole located in the access road south of the building.

The proposed building will be sprinklered for fire protection. The water entrance into the YVC will be separated into a domestic water entrance and a sprinkler entrance to provide more reliable sprinkler access.

Existing utilities are shown on the Existing Conditions Plan, Drawing C-101. Proposed water and sewer utilities are shown on the Site Utilities Plan, Drawing C-103.

E. Water Protection

There will be no groundwater used or hazardous materials discharged as a result of this project. The property is not located within an area designated as a source protection area or a sand and gravel aquifer. No effects to groundwater are anticipated from this project. Pavement will be graded to drain away to minimize runoff or snow melt impact to infrastructure.

F. Floodplain Management

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the project area is included in Appendix H. The project is located in Zone C and is indicated as an area of minimal flood hazard.

G. Historic and Archaeological resources.

As part of the original SLODA Department Order; the Maine Historic Preservation (MHPC) reviewed the proposed project and stated that it will have no effect upon any structure or site of historic, architectural, or archaeological significance. A copy of the Department Order is provided in Appendix D. There are no known National Register-eligible properties or areas considered sensitive for archaeological resources.

H. Exterior Lighting

Exterior lighting proposed for the site will provide adequate lighting for customers and employees as they enter the building. The lighting at the property has been minimized to the areas of the site where use is expected during nighttime or early morning hours. The site lights will be full cut-off LED lights that are located around the outside of the building and parking lot. A Site Photometric Plan showing the light distribution at the property is included in the project plan set. Manufacturer cut sheets for the proposed lighting fixtures are provided as Appendix L.

I. Buffering and Landscaping

Buffering of the site from adjacent properties will be accomplished through preservation of existing vegetation and the addition of proposed plantings shown on the Landscape Plans, S1 and S2. The views from adjacent properties to the west will be well buffered through the existing 50-foot vegetated drainage easement parallel to the property line. The commercial property to the north will be buffered by existing vegetation at the northernmost point of the parking lot. The views from Route 1 will be buffered with the existing 25-foot buffer of vegetation.

Landscape design was completed by Terrence J. DeWan & Associates (TJDA). A landscape plan outlining planting location and species is included in the project plan set. The landscaping will have a variety of plants to provide seasonal colors and variety of heights.

J. Noise

The noise levels of the proposed condominium multiplex are expected to be under 65 dB between 7:00 am and 10:00 pm and under 55 dB between 10:01 pm and 6:59 am.

Construction of the project will generally occur between the hours of 7:00 am and 7:00 pm on Mondays through Fridays unless otherwise approved by the Town. The project will require ledge removal for the building construction and site grading. A Blasting Plan will be prepared and reviewed with Town Staff prior to start of construction.

K. Storage of Materials

There will be no storage of hazardous materials on-site. A dumpster pad is proposed on-site and will be enclosed with a gated fence. The location of the dumpster receptacle is outlined on the Site Layout Plan.

The development will require disposal of special waste which will be stored inside the facility until it is removed from site. YVC utilizes Sharps Compliance Inc based in Houston, Texas for all potentially dangerous medical waste on-site.

L. Capacity of the Applicant

Financial and technical capacity of the Applicant are outlined in Appendices B and C of this application.

M. Design and Performance Standards

Proposed project is consistent with the performance standards of Route 1 Design Guidelines. New buildings, proposed lighting, drainage design, parking standards, and landscaping are in conformance with §315-Zoning Route 1 Design Guidelines. A letter from the project Architect outlining conformance with the Route 1 Design Guidelines is included in Appendix M.

APPENDIX A

TITLE, RIGHT, OR INTEREST

SME
SEVEE & MAHER
ENGINEERS

QUITCLAIM DEED WITH COVENANT

KNOW ALL PERSONS BY THESE PRESENTS THAT, ELIKRIS REALTY LLC, a Maine limited liability company with its principal place of business in the town of Falmouth, County of Cumberland and State of Maine, in consideration of one dollar and other valuable consideration paid, grants to **WILLOW STREET REALTY, LLC,** a Maine limited liability company whose mailing address is 75 Willow Street, Yarmouth, Maine 04096, with **QUITCLAIM COVENANT,** the premises situated on or 0 US Route 1 in the Town of Cumberland, County of Cumberland and State of Maine, more particularly bounded and described on Exhibit A attached hereto and made a part hereof.

Being the same premises conveyed to the within Grantor by Deed of Heritage Development Group, LLC, dated February 7, 2020, recorded in the Cumberland County Registry of Deeds in Book 36453, Page 164.

IN WITNESS WHEREOF, the said Rodney Coleman, sole Member of Elikris Realty LLC has signed and sealed this instrument on May 5, 2022.

Elikris LLC

Witness Bruce M Read

By Rodney Coleman, Its sole member

STATE OF MAINE
COUNTY OF CUMBERLAND, SS. May 5, 2022

Personally appeared before me the above-named Rodney Coleman, sole Member of Elikris Realty LLC and acknowledged the foregoing instrument to be his free act and deed and the free act and deed of said limited liability company.

Notary Public/Attorney-at-Law

BRUCE M. READ
Notary Public, State of Maine
My Commission Expires 12/28/2028

EXHIBIT A

A certain lot or parcel of land, together with the buildings and improvements thereon, situated on the Northerly side of U.S. Route I, in the Town of Cumberland, County of Cumberland, State of Maine, and being Commercial Lot 11-4 as shown on the Fourth Amended Subdivision Plan, Cumberland Foreside Village for Cumberland Foreside Village, LLC by Owen Haskell, Inc. dated January 26, 2007 and recorded at the Cumberland County Registry of Deeds in Plan Book 217, Page 85, as may have been further amended (the "Plan).

APPENDIX B

FINANCIAL CAPABILITY

SME
SEVEE & MAHER
ENGINEERS

ALLIEDCOOK CONSTRUCTION

Veterinary Clinic

Cumberland, ME

Concept Budget
April 1, 2022

Budget Summary

NO.	ITEM	AMOUNT	DIVISION TOTALS
1	**GENERAL CONDITIONS**		**12 months**
a.	General Conditions	$ 360,970	
b.	Winter Conditions - ALLOWANCE	$ 100,000	
c.	Dumpster - ALLOWANCE	$ 17,250	**$478,220**
2	**SELECTIVE DEMOLITION**		
a.	Site Demolition	**include w/Div31**	**$0**
3	**CONCRETE**		
a.	Concrete Foundations	$ 107,710	
b.	Site Concrete	$ 7,200	
c.	Slab on Grade	$ 86,215	
d.	Barrier One Additive	**Excluded**	**$201,125**
4	**MASONRY**		
a.	Stone Veneer - Exterior	$ 81,200	**$81,200**
5	**STEEL**		
a.	Structural and Miscellaneous Steel - ALLOWANCE	$ 30,000	**$30,000**
6	**CARPENTRY**		
a.	Rough Carpentry - Building Shell and Blocking	$ 457,600	
b.	Clean-up, Carpenter Foreman, Trucking and Lull (Div 2-6)	$ 165,300	
c.	Finish Carpentry	$ 332,430	**$955,330**
7	**THERMAL & MOISTURE PROTECT.**		
a.	Foundation Dampproofing	$ 5,000	
b.	Rigid Insulation - Foundation/SOG	$ 11,019	
c.	Air Barrier	$ 42,000	
d.	Thermal Insulation	$ 35,750	
e.	Exterior Siding and Trim	$ 90,000	
f.	Exterior Louvers	$ 27,000	
g.	Roofing - Metal and EPDM	$ 285,425	
h.	Fire Stopping	$ 28,600	
i.	Joint Sealants	$ 2,450	**$527,244**
8	**DOORS & WINDOWS**		
a.	Doors, Frames, & Hardware	$ 233,820	
b.	Access Doors - ALLOWANCE	$ 5,000	
c.	Aluminum Storefront/Curtainwall, Entries & Misc. Glazing	$ 80,710	
d.	Windows	$ 15,575	**$335,105**
9	**FINISHES**		
a.	FRP	$ 15,094	
b.	Drywall Systems	$ 307,504	
c.	Acoustical Ceilings and Wood Ceiling	$ 102,875	
d.	Flooring	$ 158,194	
e.	Floor Protection and Moisture Testing	$ 3,750	
f.	Painting	$ 50,050	**$637,467**
10	**SPECIALTIES**		
a.	Corner Guards	$ 3,125	
b.	Interior Building Signage	$ 10,725	
c.	Knox Box	$ 1,100	
d.	Plastic Laminate Lockers	$ 7,290	
e.	Fire Extinguishers & Cabinets	$ 2,750	
f.	Toilet & Bathroom Accessories	$ 3,000	**$27,990**
11	**EQUIPMENT**		
a.	Animal Kennels/Cages Installation	$ 12,540	
b.	Residential Appliances	$ 6,855	
c.	Pass-throughs at Surgery	$ 2,540	**$21,935**
12	**FURNISHINGS**		
a.	Window Treatments	$ 16,065	**$16,065**
13	**SPECIAL CONSTRUCTION**	**(no work)**	

ALLIEDCOOK CONSTRUCTION

Veterinary Clinic

Cumberland, ME

Concept Budget
April 1, 2022

Budget Summary

14	**CONVEYING SYSTEMS**		**(no work)**		
21	**FIRE SUPPRESSION**				
a.	Fire Sprinkler System	$	55,550		$55,550
22	**PLUMBING**				
a.	Plumbing		included w/ 23a		$0
23	**HEATING, VENTILATING & AIR CONDITIONING**				
a.	Heating, Ventilating & Air Conditioning	$	425,400		$425,400
26	**ELECTRICAL**				
a.	Electrical Systems	$	336,050		
b.	CMP Fees		Excluded		$336,050
28	**ELECTRONIC SAFETY AND SECURITY**				
a.	Security System		Excluded		
31	**EARTHWORK**				
a.	Site Clearing, Common Ex, Erosion Control - ALLOWANCE	$	954,160		
b.	Structural Ex and Backfill		Included		
c.	Base Courses, Gravels, Drip Edge		Included		
d.	Loam & Seed, Fine Grading		Included		
e.	Ledge Removal		Included		$954,160
32	**EXTERIOR IMPROVEMENTS**				
a.	Asphalt Paving, Curbing and Pavement Markings		Included		
b.	Fencing and Bollards	$	6,750		
c.	Concrete Sidewalks and Walking Path	$	28,765		
d.	Landscaping, Temp Watering and Dog Run surface	$	86,300		
e.	Site Furnishings		Excluded		
f.	Monument Sign Foundation - ALLOWANCE	$	7,500		$129,315
33	**UTILITIES**				
a.	Storm Sewer		Included		
b.	Retention Basins with Underdrain		Included		
c.	Water Distribution		Included		
d.	Sanitary Sewer and Grease Trap		Included		
e.	Interior UG Utility Trench and Backfill		Included		
f.	Radon System		Excluded		$0
		$	5,212,156		
	Permit Fee	$	100		
	Building Permit ($0.28/sf)	$	5,720		
		$	5,820	$ 5,217,976	
	Builder's Risk Insurance		By Owner		
	General Liability	$	26,090		
	Performance & Payment Bond		Excluded		
		$	26,090	$ 5,244,066	
	Construction Contingency - 8%	$	419,525		
		$	419,525	$ 5,663,591	
	Construction Management Fee 3%	$	169,908		
		$	169,908	$ 5,833,499	
	TOTAL(14,300 SF)	**$**	**5,833,499**		**$407.94 /SF**

July 27, 2015

Willow Street Realty, LLC & Yarmouth
Veterinary Center, PA
76 Willow Street
Yarmouth, ME 0496-6935

RE: New Ground Up Construction of an Animal Hospital

Dear Dr. Smith:

Live Oak Bank (hereafter "Bank") has formally approved you to construct an animal hospital, located on 2.95-acre tract of land located at O US Route 1, Lot 11-4, Cumberland County, Cumberland, ME 04021.

The Bank is anticipating closing sometime early next year, after the CUP is approved, a final construction budget completed, and third-party appraisal reports and an environmental phase I report is completed.

If you have any questions, please call me at (469) 441-8851. Thank you for your business and we look forward to being your long-time financial partner.

Sincerely,

Brei' Silvia
Brei' Silvia
Vice President
Live Oak Bank

May 24, 2022

Dr's Peter & Louise Smith and Zachary Smith:

It has been a pleasure working with you and discussing your goals regarding financing the expansion of your animal hospital. After reviewing your business and personal tax returns, personal financial statements, resumes and application documents, I feel you would be an ideal candidate for a loan with us.

While not a commitment to lend, Live Oak Bank hereby extends this letter to document you have met all initial criteria for approval on the expansion and ground up construction up to $7.5MM. Any future financing commitment, if issued by the Bank, would be subject to the Bank's normal underwriting guidelines for funding loans under the parameters of the U.S. Small Business Administration's guarantee loan program ("SBA 7a") and Conventional Lending within Live Oak Bank.

I look forward to working with you on this opportunity.

Yours respectfully,

Brei Silvia | VP
Sr. Loan Officer
Specialty Lending
Brei.silvia@liveoak.bank
C: 469-441-8851

Live Oak Bank
1741 Tiburon Drive
Wilmington, NC 28403

Tel 910.790.5867
Fax 910.790.5868

www.liveoakbank.com

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APPENDIX C

TECHNICAL CAPABILITY

SME
SEVEE & MAHER
ENGINEERS

APPENDIX C

TECHNICAL CAPACITY

For over 35 years, Yarmouth Veterinary Center (YVC) has been a family-owned and operated veterinary center located in Yarmouth, Maine. YVC was started by Louise LeBoeuf and Peter Smith first as a house-call only practice for the first six months before converting their home on the corner of Bridge and Willow Streets in Yarmouth to a three-and-a-half-room hospital with the x-ray machine in their living room. A year later they moved out of the home to allow their practice to take over the home. A few years later they renovated a cape on Willow Street turning it into a grooming salon and boarding practice. In 2000, they completed the construction of the present-day Yarmouth Veterinary Center on site of the former grooming/boarding facility. YVC facility is designed, constructed, and equipped to allow the staff to provide the best veterinary care possible for clients' pets.

YVC has contracted Sevee & Maher Engineers, Inc. (SME) to assist with project design and permitting. The following personnel are integral to the site planning, design and permitting of the YVC:

Daniel P. Diffin, P.E., LEED AP – Site Design and Permitting – Sevee & Maher Engineers, Inc.

Mr. Diffin, SME Vice President and principal, has more than 18 years of experience on a wide variety of civil engineering design and construction management projects for private and public sector clients. Mr. Diffin has been responsible for the engineering, design, and construction services for land development projects, commercial, industrial, and medical site developments, educational campuses, stormwater management and erosion control projects, and local, state, and federal permitting. Typical projects include: Bath Iron Works, Bath, Maine – Facility Build-out Plan; Woodland Pulp Mill – Tissue Machine Project at the Baileyville, Maine mill; Backyard Farms, Madison, Maine R&D Station and other facility upgrades and Long Creek Watershed, Westbrook, Maine stormwater retrofits in Catchment B21 of the Long Creek Watershed Management Plan.

SME is working with the following subconsultants to support the SLODA Permit application:

Warren Freedenfeld, AIA, NCARB – Rauhaus, Freedenfeld, & Associates

Brady Frick- Licensed Site Evaluator & Certified USACOE Wetland Delineator – Al Frick Associates

APPENDIX D

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION SITE LAW OF DEVELOPMENT ACT DEPARTMENT ORDER #L-21578-39-C-N

SME
SEVEE & MAHER
ENGINEERS

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

DEPARTMENT ORDER

IN THE MATTER OF

CUMBERLAND FORESIDE VILLAGE, LLC	) SITE LOCATION OF DEVELOPMENT ACT
Cumberland, Cumberland County	) NATURAL RESOURCES PROTECTION ACT
CUMBERLAND FORESIDE VILLAGE	) TIER 1 WETLAND ALTERATION
L-21578-39-C-N (approval)	) WATER QUALITY CERTIFICATION
L-21578-TB-D-N	) FINDINGS OF FACT AND ORDER

Pursuant to the provisions of 38 M.R.S.A. Sections 481 et seq. and 480-A et seq., and Section 401 of the Federal Water Pollution Control Act, the Department of Environmental Protection has considered the application of CUMBERLAND FORESIDE VILLAGE, LLC with the supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROJECT DESCRIPTION:

A. History of Project: In Department Orders #L-21578-L2-A-N and L-21578-TB-B-N, dated March 31, 2004, the Department approved the development of a subdivision consisting of 38 residential lots and 2 commercial lots on an approximately 51-acre parcel of land. The project site is located on the west side of US Route 1 in the Town of Cumberland.

Since construction of the project was not started prior to March 31, 2006, Department Orders # L-21578-L2-A-N and L-21578-TB-B-N expired. On December 27, 2005, Peter Kennedy the original applicant and holder of Department Orders # L-21578-L2-A-N and L-21578-TB-B-N deeded the property to the current applicant, Cumberland Foreside Village, LLC.

B. Summary: The applicant proposes to subdivide the original parcel of land into an 11-lot commercial/light industrial business park, which may include a mix of light industry and warehouse/distribution space. There are six interior lots and five lots fronting US Route 1 that range in size from approximately 1.66 to 12.99 acres. The proposed project is shown on a set of plans the first of which is entitled "Cumberland Foreside Village," prepared by Mohr & Seredin Landscape Architects, Inc. and Pinkham & Greer Consulting Engineers, Inc., and dated June 21, 2006, with a last revision date of January 17, 2007.

The applicant is also including a second, 4.66-acre parcel of land in the proposed project. This parcel is not contiguous with the original parcel and is located approximately 1,000 feet north on US Route 1. With the additional land, the total acreage of the project site will be approximately 54.08 acres.

The project site is moderately to steeply sloped along a ridge back that parallels to US Route 1. Depth to bedrock ranges from two to three feet; therefore, extensive site preparation will be required. Approximately 370,000 cubic yards of rock are proposed to be removed from the project site. Aspects of the proposed rock removal are discussed further in Findings 9, 18, and 19.

The applicant is also seeking a Natural Resources Protection Act (NRPA) Tier 1 Wetland Alteration permit to fill approximately 8,612 square feet of freshwater wetland on portions of Lots 2, 3, and 4.

C. Current Use of Site: The site of the proposed project is currently undeveloped fields and woodland. There are no structures on the property.

2. FINANCIAL CAPACITY:

The total cost of the project is estimated to be $1,318,675. The applicant submitted a letter from TD Banknorth, dated May 5, 2006 expressing an interest in financing the project. Prior to the start of construction, the applicant must submit evidence that it has been granted a line of credit or a loan by a financial institution authorized to do business in this State or evidence of any other form of financial assurance determined by Department Rules, Chapter 373(1), to be adequate to the Bureau of Land and Water Quality (BLWQ) for review and approval.

Provided the additional financial information is submitted as outlined above, the Department finds that the applicants have demonstrated adequate financial capacity to comply with Department standards.

3. TECHNICAL ABILITY:

The applicant provided resume information for key persons involved with the project and a list of projects successfully constructed by the applicant. The applicant also retained the services of Mohr & Seredin Landscape Architects, Inc. and Pinkham and Greer Consulting Engineers, Inc., a professional engineering firm, to assist in the design and engineering of the project.

The Department finds that the applicant has demonstrated adequate technical ability to comply with Department standards.

4. NOISE:

The applicant stated that no significant noise sources are associated with daily operations from future businesses expected to locate at the project site. The applicant proposes to limit construction on the site to the hours between 7:00 A.M. and 7:00 P.M. Construction noise generated during these hours is not regulated pursuant to 38 M.R.S.A. Section 484(3)(A). After construction is complete, noise from the site will be limited to vehicular and other activities that are exempt under Department Rules, Chapter 375 10(C)(5).

5. SCENIC CHARACTER:

The project site is primarily woodland and not immediately visible from public streets. Vegetated buffers along the property boundary with US Route 1, ranging from 25 to 35 feet wide, will minimize visibility of the proposed development from the highway in accordance with the Contract Zone Agreement between the Town of Cumberland and the applicant. Visibility of the proposed project from Interstate 95 will be mitigated by a 100-foot wide, vegetated Beautification Easement required by the State of Maine Highway Commission.

Based on the project's location and design, the Department finds that the proposed project will not have an unreasonable adverse effect on the scenic character of the surrounding area.

6. WILDLIFE AND FISHERIES:

The Maine Department of Inland Fisheries & Wildlife (MDIFW) reviewed the proposed project. In its comments, MDIFW stated that it found no records of any essential or significant wildlife habitats, or other wildlife habitats of special concern associated with this site. No fisheries concerns were identified.

The Department finds that the applicant has made adequate provision for the protection of wildlife and fisheries.

7. HISTORIC SITES AND UNUSUAL NATURAL AREAS:

The Maine Historic Preservation Commission reviewed the proposed project and stated that it will have no effect upon any structure or site of historic, architectural, or archaeological significance as defined by the National Historic Preservation Act of 1966.

The Maine Natural Areas Program database does not contain any records documenting the existence of rare or unique botanical features on the project site and, as discussed in Finding 6, MDIFW did not identify any unusual wildlife habitats located on the project site.

The Department finds that the proposed development will not have an adverse effect on the preservation of any historic sites or unusual natural areas either on or near the development site.

8. BUFFER STRIPS:

The eastern and western boundaries of the proposed project will include visual buffers, as described in Finding 5. Building envelopes on lots adjacent to the southern boundary are required to maintain a 20-foot setback in accordance with the Town of Cumberland's Subdivision and Site Plan approval standards.

The Department finds that the applicant has made adequate provision for buffer strips.

9. SOILS:

The applicant submitted a soil survey map and report based on the soils found at the project site. This report was prepared by a certified soils scientist and reviewed by staff from the Division of Environmental Assessment (DEA) of the BLWQ. DEA also reviewed a Blasting Plan (last revised September 20, 2006) submitted by the applicant and outlining the proposed procedures for removing ledge material from the project site. The Blasting Plan is discussed further in Finding 19.

A geotechnical investigation was not undertaken at the project site. DEA commented that construction of conventional, slab-on-grade structures at this site are not likely to require such an investigation, but different building designs, unanticipated soil conditions, or other factors may determine that a geotechnical investigation is necessary. DEA requested, and the applicant agreed, that in the event a geotechnical investigation becomes necessary, the results of the investigation be submitted to the BLWQ for review and approval.

DEA further commented that given the amount of rock removal and addition of clean fill, the underdrained soil filters proposed in the stormwater management system must overlie fill or native soils that have a lower permeability than that of the filter media. The applicant agreed with DEA and added a comment to the underdrained soil filters detail sheet requiring underlying soils be compacted to a permeability lower than the filter media.

The Department finds that, based on this report, and DEA's review, the soils on the project site present no limitations to the proposed project that cannot be overcome through standard engineering practices.

10. STORMWATER MANAGEMENT:

The proposed project includes approximately 17.7 acres of impervious area and 40.3 acres of developed area. The project site is primarily forested. A prominent ridge with moderate to steep slopes runs north to south in the center of the parcel paralleling Interstate 95 and US Route 1. Stormwater drains off-site to the east and west. There are no streams, significant channels, or drainage ways on the property. The applicant submitted a stormwater management plan based on the basic, general, and flooding standards contained in Department Rules, Chapter 500. The proposed stormwater management system consists of two underdrained soil filters, grassed swales, and 4 detention ponds during the site preparation phase and 19 underdrained soil filters and grassed swales for the developed area.

A. Basic Standards:

(1) Erosion and Sedimentation Control: The applicant submitted an Erosion and Sedimentation Control Plan (Section 14 of the application) that is based on the performance standards contained in Appendix A of Chapter 500 and the Best Management Practices outlined in the Maine Erosion and Sediment Control BMPS, which were developed by the Department. This plan and plan sheets containing erosion control details were reviewed by, and revised in response to the comments of the Cumberland County Soil and Water Conservation District (CCSWD).

Given the size and nature of the project site, CCSWD recommended that the applicant retain the services of a third party inspector to oversee the construction of the stormwater management system, and to oversee all erosion control measures. The applicant agreed to hire a third party inspector in accordance with the Special Condition for Third Party Inspection Program, which is attached to this Order.

Erosion control details will be included on the final construction plans and the erosion control narrative will be included in the project specifications to be provided to the construction contractor. Prior the start of construction, the applicant shall conduct a pre-construction meeting. This meeting shall be attended by the applicant's representative, Department staff, the design engineer, the contractor, and the third-party inspector.

(2) Inspection and Maintenance: The applicant submitted a maintenance plan that addresses both short and long-term maintenance requirements. This plan was reviewed by, and revised in response to the comments of CCSWD. The maintenance plan is based on the standards contained in Appendix B of Chapter 500. The applicant will be responsible for the maintenance of all common facilities including the stormwater management system until the formation of a lot owners' association. The Declaration of Covenants and Restrictions for the association was reviewed and found to meet Department standards.

The applicant stated that the proposed roadway will be constructed in accordance with municipal standards and will be offered for public acceptance to the Town of Cumberland. The applicant may not transfer responsibility for maintenance of the road and for the portion of the stormwater management system that is located in the road right-of-way to the town, until a letter has been submitted by the Town to the BLWQ that documents the Town's agreement to maintain both in accordance with the terms of this Order. If the Town does not accept the roadways, then the lot owners' association will be responsible for all maintenance.

(3) Housekeeping: The proposed project will comply with the performance standards outlined in Appendix C of Chapter 500.

Based on CCSWD's review of the erosion and sedimentation control plan and the maintenance plan, the Department finds that the proposed project meets the Basic Standards contained in Chapter 500(4)(A).

B. General Standard:

Best Management Practice (BMP): The applicant's stormwater management plan includes BMP treatment measures that will mitigate for the increased frequency and duration of channel erosive flows due to runoff from smaller storms, provide for effective treatment of pollutants in stormwater, and mitigate potential temperature impacts. This mitigation is being achieved by using BMPs that will control runoff from no less than 97.4% of the impervious area and no less than 89.6% of the developed area.

During the site preparation phase, the interior lots will be quarried first and rock will be removed incrementally from south to north. The detention ponds are designed so that no more than 30,000 square feet of exposed rock will drain to any one pond.

The applicant submitted conceptual lot development and stormwater management plans for each lot in an effort to demonstrate that each lot will be developed to meet the Department's standards for stormwater management. Any changes to the specific design plans for the lots must be submitted to the BLWQ for review and approval.

The BMPs proposed to meet the Chapter 500, General Standard were reviewed by, and revised in response to comments from CCSWD. CCSWD recommended that the applicant submit as-built drawings for the underdrained soil filters.

Based on CCSWD's review of the stormwater management plan, the Department finds that the proposed project meets the General Standard contained in Chapter 500(4)(B).

C. Flooding Standard:

The applicant is proposing to utilize a stormwater management system based on estimates of pre- and post-development stormwater runoff flows obtained by using Hydrocad, a stormwater modeling software that utilizes the methodologies outlined in Technical Releases #55 and #20, U.S.D.A., Soil Conservation Service and detains stormwater from 24-hour storms of 2-, 10-, and 25-year frequency. The post-development peak flow from the site will be increased by an insignificant amount over the pre-development peak flow from the site and the peak flow of the receiving water will not be increased as a result of stormwater runoff from the development site.

The stormwater management system proposed by the applicant was reviewed by, and revised in response to, comments from DWM. In its comments, CCSWD stated that the proposed system complies with the Chapter 500 Flooding Standard.

Based on the system's design and CCSWD's review, the Department finds that the applicant has made adequate provision to ensure that the proposed project will meet the Chapter 500, Flooding Standard for peak flow from the project site.

The Department further finds that the proposed project will meet the Chapter 500 standards for discharging to freshwater and coastal wetlands and threatened or endangered species.

11. GROUNDWATER:

The project site is not located over a mapped sand and gravel aquifer. The project does not propose any withdrawal from, or discharge to, the groundwater. The proposed project was reviewed by a geologist from the DEA, who commented that because the applicant is not able to identify exactly what commercial and light industrial uses will take place on the subdivision lots, if any lot occupant uses, handles, or stores petroleum products, pesticides, herbicides, fertilizers, road salt, solvents, or other materials with the potential to impact groundwater, then a groundwater protection plan must be provided to the BLWQ for review and approval prior to occupancy of that lot.

Provided groundwater protection plans are submitted, as outlined above, the Department finds that the proposed project will not pose an unreasonable risk that a discharge to a significant groundwater aquifer will occur. Therefore, the Department further finds that the proposed project will not have an unreasonable adverse effect on ground water quality.

12. WATER SUPPLY:

When completed, the proposed project is anticipated to use approximately 6,700 gallons of water per day. Water will be supplied by the Portland Water District. The applicant submitted a letter from the District, dated June 22, 2006, indicating that it will be capable of servicing this project.

The Department finds that the applicant has made adequate provision for securing and maintaining a sufficient and healthful water supply.

13. WASTEWATER DISPOSAL:

When completed, the proposed project is anticipated to discharge 6,700 gallons of wastewater per day to the Town of Cumberland's sanitary sewer system for conveyance to the Town of Falmouth's wastewater treatment facility. The applicant submitted a letter from the Town of Cumberland, dated September 15, 2006, stating that it will accept these flows. This project was reviewed by the Division of Water Quality Management (DWQM) of the BLWQ, which commented that the Town of Falmouth's wastewater treatment facility has the capacity to treat these flows and is operating in compliance with the water quality laws of the State of Maine.

Based on DWQM's comments, the Department finds that the applicant has made adequate provision for wastewater disposal at a facility that has the capacity to ensure satisfactory treatment.

14. SOLID WASTE:

When completed, the proposed project is anticipated to generate 4.8 tons of general and office solid waste per year. All general solid wastes from the individual lots will be the responsibility of the lot owners.

The proposed project will generate approximately 2,200 cubic yards of stumps and grubbings. All stumps and grubbings generated will be ground on site and the resulting material utilized for erosion control or burned, with the remainder to be worked into the soil, in compliance with Solid Waste Management Regulations of the State of Maine.

The proposed project will generate approximately 7,000 - 9,000 cubic yards of construction debris and demolition debris. Construction debris and demolition debris generated by the applicant during construction of the road and stormwater management system will be collected by Troiano Waste Services and disposed of at TurnKey in Rochester, New Hampshire or Cross Roads in Norridgewock, Maine. The Norridgewock facility is currently in substantial compliance with the Solid Waste Management Regulations of the State of Maine.

The applicant will require each lot owner to have solid waste contract agreements with solid waste contractors, which are currently in substantial compliance with the Solid Waste Management Regulations of the State of Maine, as part of the lot sale agreement. These agreements will include handling and disposal of construction debris and demolition debris, as well as, disposal of general and office solid waste.

Based on the above information, the Department finds that the applicant has made adequate provision for solid waste disposal.

15. FLOODING:

The proposed project is not located within the 100-year floodway of any river or stream.

The Department finds that the proposed project is unlikely to cause or increase flooding or cause an unreasonable flood hazard to any structure.

16. WETLAND IMPACTS:

The applicant proposes to alter approximately 8,612 square feet of freshwater wetland on portions of Lots 2, 3, and 4. Three wetland impacts on Lot 2 occur along the wetland edge because of construction of the stormwater management system. A fourth wetland impact is the result of the common access road for Lots 3 and 4. To minimize wetland impacts to the greatest extent practicable, the road width is the minimum width permitted by the Town of Cumberland and side slopes in the wetland area will be constructed at a 2:1 ratio.

The Department finds that the applicant has avoided and minimized wetland impacts to the greatest extent practicable, and that the proposed project represents the least environmentally damaging alternative that meets the overall purpose of the project.

18. AIR QUALITY:

The applicant intends to quarry rock out of a large portion of the site and intends to use a portable crusher to process the stone. The applicant submitted a copy of the Air Emissions License for the crusher (Department Order # A-904-71-A-N, dated October 15, 2004).

No significant source of air emissions was identified. Future development on individual lots may require air emissions licenses based on the type of use. If a facility that requires an air emission license is to be built on a lot, a copy of that license must be submitted to the BLWQ for review prior to occupancy of the facility.

19. BLASTING:

The applicant submitted a Blasting Plan, dated May 5, 2006, and revised September 20, 2006, providing general blasting guidelines, which outline the proposed procedures for removing ledge material from the project site. The applicant proposes to quarry approximately 200,000 cubic yards of rock from the interior lots and 170,000 cubic yards of rock from the lots fronting US Route 1. Quarrying operations will begin first with the interior lots and once stabilized, the exterior lots will be quarried. The Town of Cumberland requires site preparation be completed in two years; consequently, the applicant proposes to initiate rock removal by May 2007 and to complete this work by August 2009.

The Blasting Plan was reviewed by a geologist from the DEA and the Mining Coordinator for the Division of Land Resource Regulation. The Mining Coordinator commented, and the applicant agrees, that site preparation operations should comply with the blasting standards found in 38 M.R.S.A. Section 490-Z(14), Performance Standards for Quarries, with particular emphasis on pre-blast surveys and time of operation.

Provided the applicant complies with the blasting standards found in 38 M.R.S.A. Section 490-Z(14), Performance Standards for Quarries during the site preparation phase of development, the Department finds that the removal of ledge material by blasting should have no adverse affect on protected natural resources, structures, or wells not owned by the applicant.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S.A. Sections 480-A et seq. and Section 401 of the Federal Water Pollution Control Act:

A. The proposed activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic habitat, travel corridor, freshwater, estuarine, or marine fisheries or other aquatic life.

B. The proposed activity will not violate any state water quality law including those governing the classifications of the State's waters.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S.A. Sections 481 et seq.:

A. The applicant has provided adequate evidence of financial capacity and technical ability to develop the project in a manner consistent with state environmental standards final financial evidence is submitted to the BLWQ for review and approval as outlined in Finding 2.

B. The applicant has made adequate provision for fitting the development harmoniously into the existing natural environment and the development will not adversely affect existing uses, scenic character, air quality, water quality or other natural resources in the municipality or in neighboring municipalities and provided any necessary air emission licenses are submitted as described in Finding 18 and the applicant complies with the blasting standards found in 38 M.R.S.A. Section 490-Z(14), Performance Standards for Quarries during the site preparation phase of development as discussed in Finding 19.

C. The proposed development will be built on soil types which are suitable to the nature of the undertaking and will not cause unreasonable erosion of soil or sediment nor inhibit the natural transfer of soil provided that a pre-construction meeting is held and a third party inspector is hired to inspect the construction of the stormwater management system and to oversee all erosion control measures, as discussed in Finding 10, the results of any required geotechnical investigation are submitted to the BLWQ for review and approval, as discussed in Finding 9.

D. The proposed development meets the standards for storm water management in Section 420-D and the standard for erosion and sedimentation control in Section 420-C provided the applicant submits as-built drawings for the underdrained soil filters, and that changes to the specific stormwater design plans for the lots be submitted to the BLWQ for review and approval.

E. The proposed development will not pose an unreasonable risk that a discharge to a significant groundwater aquifer will occur provided groundwater protection plans are submitted as described in Finding 11.

F. The applicant has made adequate provision of utilities, including water supplies, sewerage facilities, solid waste disposal, and roadways required for the development and the development will not have an unreasonable adverse effect on the existing or proposed utilities and roadways in the municipality or area served by those services.

G. The activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties nor create an unreasonable flood hazard to any structure.

THEREFORE, the Department APPROVES the application of CUMBERLAND FORESIDE VILLAGE, LLC to construct a subdivision as described above, SUBJECT TO THE FOLLOWING CONDITIONS and all applicable standards and regulations:

1. The Standard Conditions of Approval, a copy attached.

2. In addition to any specific erosion control measures described in this or previous orders, the applicant shall take all necessary actions to ensure that its activities or those of its

agents do not result in noticeable erosion of soils or fugitive dust emissions on the site during the construction and operation of the project covered by this approval.

3. Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

4. The applicant or other responsible party shall, within three months of the expiration of each five-year interval from the date of this Order, submit a report certifying that the items listed in Department Rules, Chapter 500, Appendix B(4) have been completed in accordance with the approved plans.

5. The applicant shall include in all conveyances of subdivision lots deed restrictions making the conveyance subject to all terms and conditions of this Department permit and any applicable municipal approval. These terms and conditions may be incorporated by specific and prominent reference to the permit in the deed. All conveyances required by this approval to contain restrictions shall include in the restrictions the requirement that any subsequent conveyance shall specifically include the same restrictions.

6. The applicant shall give a copy of this permit, including the standard conditions, and a copy of the approved subdivision plan to each lot buyer at least 14 days prior to the date of closing on the sale or lease of the lot. The applicant also shall maintain a file containing signed and dated statements by lot buyers or lessees acknowledging that they have received and read their copy of this permit and the subdivision plan prior to the closing on their lot. The file shall also contain a copy of the signed and dated deed or lease containing the restrictive covenants required under this approval. The applicant shall make this file available for inspection upon request by the Department.

7. Prior to the start of construction, the applicant shall submit evidence that it has been granted a line of credit or a loan by a financial institution authorized to do business in this State or evidence of any other form of financial assurance determined by Department Rules, Chapter 373(1), to be adequate to the BLWQ for review and approval.

8. Prior to the start of construction, the applicant shall retain the services of a third party inspector, approved by the Department in accordance with the Department's Third Party Inspection Program, to inspect the construction of the stormwater management system and to oversee all erosion control measures until permanent stabilization is achieved.

9. Prior the start of construction, the applicant shall conduct a pre-construction meeting. This meeting shall be attended by the applicant's representative, Department staff, the design engineer, the contractor, and the third-party inspector.

10. The applicant shall submit as-built drawings the underdrained soil filters to the BLWQ within 30 days of completion of construction of each filter.

11. The applicant shall comply with the blasting standards found in 38 M.R.S.A. Section 490-Z(14), Performance Standards for Quarries during the site preparation phase of development.

12. If any lot occupant uses, handles, or stores petroleum products, pesticides, herbicides, fertilizers, road salt, solvents, or other materials with the potential to impact groundwater, then a groundwater protection plan shall be provided to the BLWQ for review and approval prior to occupancy of that lot.

13. Any changes to the specific stormwater design plans for the lots shall be submitted to the BLWQ for review and approval prior to start of construction on the lot.

14. If a facility is constructed that requires an air emission license, a copy of that license shall be submitted to the BLWQ prior to occupancy of that lot.

15. In the event a geotechnical investigation becomes necessary, the results of the investigation shall be submitted to the BLWQ for review and approval.

THIS APPROVAL DOES NOT CONSTITUTE OR SUBSTITUTE FOR ANY OTHER REQUIRED STATE, FEDERAL OR LOCAL APPROVALS NOR DOES IT VERIFY COMPLIANCE WITH ANY APPLICABLE SHORELAND ZONING ORDINANCES.

DONE AND DATED AT AUGUSTA, MAINE, THIS 2ND DAY OF February, 2007.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

By: _____
DAVID P. LITTELL, COMMISSIONER

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application July 7, 2006
Date of application acceptance July 28, 2006

Date filed with Board of Environmental Protection
RLG/ATS59823&59824/L21578CN&L21578DN

FILED
FEB - 6 2007
BOARD OF ENVIRONMENTAL PROT.
STATE OF MAINE

NATURAL RESOURCE PROTECTION ACT (NRPA)
STANDARD CONDITIONS

THE FOLLOWING STANDARD CONDITIONS SHALL APPLY TO ALL PERMITS GRANTED UNDER THE NATURAL RESOURCE PROTECTION ACT, TITLE 38, M.R.S.A. SECTION 480-A ET.SEQ. UNLESS OTHERWISE SPECIFICALLY STATED IN THE PERMIT.

A. **Approval of Variations From Plans.** The granting of this permit is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from these plans, proposals, and supporting documents is subject to review and approval prior to implementation.

B. **Compliance With All Applicable Laws.** The applicant shall secure and comply with all applicable federal, state, and local licenses, permits, authorizations, conditions, agreements, and orders prior to or during construction and operation, as appropriate.

C. **Erosion Control.** The applicant shall take all necessary measures to ensure that his activities or those of his agents do not result in measurable erosion of soils on the site during the construction and operation of the project covered by this Approval.

D. **Compliance With Conditions.** Should the project be found, at any time, not to be in compliance with any of the Conditions of this Approval, or should the applicant construct or operate this development in any way other the specified in the Application or Supporting Documents, as modified by the Conditions of this Approval, then the terms of this Approval shall be considered to have been violated.

E. **Initiation of Activity Within Two Years.** If construction or operation of the activity is not begun within two years, this permit shall lapse and the applicant shall reapply to the Board for a new permit. The applicant may not begin construction or operation of the activity until a new permit is granted. Reapplications for permits shall state the reasons why the applicant will be able to begin the activity within two years form the granting of a new permit, if so granted. Reapplications for permits may include information submitted in the initial application by reference.

F. **Reexamination After Five Years.** If the approved activity is not completed within five years from the date of the granting of a permit, the Board may reexamine its permit approval and impose additional terms or conditions to respond to significant changes in circumstances which may have occurred during the five-year period.

G. **No Construction Equipment Below High Water.** No construction equipment used in the undertaking of an approved activity is allowed below the mean high water line unless otherwise specified by this permit.

H. **Permit Included In Contract Bids.** A copy of this permit must be included in or attached to all contract bid specifications for the approved activity.

I. **Permit Shown To Contractor.** Work done by a contractor pursuant to this permit shall not begin before the contractor has been shown by the applicant a copy of this permit.

SITE LOCATION OF DEVELOPMENT (SITE)
STANDARD CONDITIONS

STRICT CONFORMANCE WITH THE STANDARD AND SPECIAL CONDITIONS OF THIS APPROVAL IS NECESSARY FOR THE PROJECT TO MEET THE STATUTORY CRITERIA FOR APPROVAL.

1. **This approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from the plans, proposals and supporting documents is subject to the review and approval of the Board prior to implementation. Further subdivision of proposed lots by the applicant or future owners is specifically prohibited, without prior approval by the Board of Environmental Protection, and the applicant shall include deed restrictions to this effect.**

2. **The applicant shall secure and comply with all applicable Federal, State and local licenses, permits, authorizations, conditions, agreements, and orders, prior to or during construction and operation as appropriate.**

3. **The applicant shall submit all reports and information requested by the Board or Department demonstrating that the applicant has complied or will comply with all conditions of this approval. All preconstruction terms and conditions must be met before construction begins.**

4. **Advertising relating to matters included in this application shall refer to this approval only if it notes that the approval has been granted WITH CONDITIONS, and indicates where copies of those conditions may be obtained.**

5. **Unless otherwise provided in this approval, the applicant shall not sell, lease, assign or otherwise transfer the development or any portion thereof without prior written approval of the Board where the purpose or consequence of the transfer is to transfer any of the obligations of the developer as incorporated in this approval. Such approval shall be granted only if the applicant or transferee demonstrates to the Board that the transferee has the technical capacity and financial ability to comply with conditions of this approval and the proposals and plans contained in the application and supporting documents submitted by the applicant.**

6. **If the construction or operation of the activity is not begun within two years, this approval shall lapse and the applicant shall reapply to the Board for a new approval. The applicant may not begin construction or operation of the development until a new approval is granted. Reapplications for approval shall state the reasons why the development was not begun within two years from the granting of the initial approval and the reasons why the applicant will be able to begin the activity within two years from the granting of a new approval, if granted. Reapplications for approval may include information submitted in the initial application by reference.**

7. **If the approved development is not completed within five years from the date of the granting of approval, the Board may reexamine its approval and impose additional terms or conditions or prescribe other necessary corrective action to respond to significant changes in circumstances which may have occurred during the five-year period.**

8. **A copy of this approval must be included in or attached to all contract bid specifications for the development.**

9. **Work done by a contractor pursuant to this approval shall not begin before the contractor has been shown by the developer a copy of this approval.**

(2/81)/Revised November 1, 1979

DEPLW 0429

Special Condition
for
Third Party Inspection Program

DEPLW078-B2001

January 2001

THIRD-PARTY INSPECTION PROGRAM

1.0 THE PURPOSE OF THE THIRD-PARTY INSPECTION

As a condition of this permit, the Maine Department of Environmental Protection (MDEP) requires the permit applicant to retain the services of a third-party inspector to monitor compliance with MDEP permit conditions during construction. The objectives of this condition are as follows:

1) to ensure that all construction and stabilization activities comply with the permit conditions and the MDEP-approved drawings and specifications,

2) to ensure that field decisions regarding erosion control implementation, stormwater system installation, and natural resource protection are based on sound engineering and environmental considerations, and

3) to ensure communication between the contractor and MDEP regarding any changes to the development's erosion control plan, stormwater management plan, or final stabilization plan.

This document establishes the inspection program and outlines the responsibilities of the permit applicant, the MDEP, and the inspector.

2.0 SELECTING THE INSPECTOR

At least 30 days prior to starting any construction activity on the site, the applicant will submit the names of at least two inspector candidates to the MDEP. Each candidate must meet the minimum qualifications listed under section 3.0. The candidates may not be employees, partners, or contracted consultants involved with the permitting of the project or otherwise employed by the same company or agency. The MDEP will have 15 days from receiving the names to select one of the candidates as the inspector or to reject both candidates. If the MDEP rejects both candidates, then the MDEP shall state the particular reasons for the rejections. In this case, the applicant may either dispute the rejection to the Director of the Bureau of Land and Water Quality or start the selection process over by nominating two, new candidates.

3.0 THE INSPECTOR'S QUALIFICATIONS

Each inspector candidate nominated by the applicant shall have the following minimum qualifications:

1) a degree in an environmental science or civil engineering, or other demonstrated expertise,

2) a practical knowledge of erosion control practices and stormwater hydrology,

3) experience in management or supervision on large construction projects,

4) the ability to understand and articulate permit conditions to contractors concerning erosion control or stormwater management,

5) the ability to clearly document activities being inspected,

6) appropriate facilities and, if necessary, support staff to carry out the duties and responsibilities set forth in section 6.0 in a timely manner, and

7) no ownership or financial interest in the development other than that created by being retained as the third-party inspector.

4.0 INITIATING THE INSPECTOR'S SERVICES

The applicant will not formally and finally engage for service any inspector under this permit condition prior to MDEP approval or waiver by omission under section 2.0. No clearing, grubbing, grading, filling, stockpiling, or other construction activity will take place on the development site until the applicant retains the MDEP-approved inspector for service.

5.0 TERMINATING THE INSPECTOR'S SERVICES

The applicant will not terminate the services of the MDEP-approved inspector at any time between commencing construction and completing final site stabilization without first getting written approval to do so from the MDEP.

6.0 THE INSPECTOR'S DUTIES AND RESPONSIBILITIES

The inspector's work shall consist of the duties and responsibilities outlined below.

1) Prior to construction, the inspector will become thoroughly familiar with the terms and conditions of the state-issued site permit, natural resources protection permit, or both.

2) Prior to construction, the inspector will become thoroughly familiar with the proposed construction schedule, including the timing for installing and removing erosion controls, the timing for constructing and stabilizing any basins or ponds, and the deadlines for completing stabilization of disturbed soils.

3) Prior to construction, the inspector will become thoroughly familiar with the project plans and specifications, including those for building detention basins, those for installing the erosion control measures to be used on the site, and those for temporarily or permanently stabilizing disturbed soils in a timely manner.

4) During construction, the inspector will monitor the contractor's installation and maintenance of the erosion control measures called for in the state permit(s) and any additional measures the inspector believes are necessary to prevent sediment discharge to off-site properties or natural resources. This direction will be based on the approved erosion control plan, field conditions at the time of construction, and the natural resources potentially impacted by construction activities.

5) During construction, the inspector will monitor the contractor's construction of the stormwater system, including the construction and stabilization of ditches, culverts, detention basins, water quality treatment measures, and storm sewers.

6) During construction, the inspector will monitor the contractor's installation of any stream or wetland crossings.

7) During construction, the inspector will monitor the contractor's final stabilization of the project site.

8) During construction, the inspector will keep logs recording any rain storms at the site, the contractor's activities on the site, discussions with the contractor(s), and possible violations of the permit conditions.

9) During construction, the inspector will inspect the project site at least once a week and before and after any significant rain event. The inspector will photograph all protected natural resources both before and after construction and will photograph all areas of non-comliance. All photographs will be identified with, at a minimum the date the photo was taken, the location and the name of the individual taking the photograph. *Note: the frequency of these inspections as contained in this condition can be varied to best address the particular project needs.*

10) During construction, the inspector will prepare and submit weekly *(or other frequency)* inspection reports to the MDEP.

11) During construction, the inspector will notify the designated person at the MDEP immediately of any significant non-compliance issues.

7.0 INSPECTION REPORTS

The inspector will submit weekly written reports *(or at another designated frequency)*, including photographs of potential violations, on a form provided by the Department to the designated person at the MDEP. Each report will be due at the MDEP by the Friday *(or other designated day)* following the inspection week (Monday through Sunday).
The weekly report will summarize construction activities and events on the site for the previous week as outlined below.

1) The report will state the name of the development, its permit number(s), and the start and end dates for the inspection week (Monday through Sunday).

2) The report will state the date(s) and time(s) when the inspector was on the site making inspections.

3) The report will state the date(s) and approximate duration(s) of any rainfall events on the site for the week.

4) The report will identify and describe any erosion problems that resulted in sediment leaving the property or sediment being discharged into a wetland, brook, stream, river, lake, or public storm sewer system. The report will describe the contractor's actions to repair any damage to other properties or natural resources, actions to eliminate the erosion source, and actions to prevent future sediment discharges from the area.

5) The report will list the buildings, roads, parking lots, detention basins, stream crossings or other features open to construction for the week, including those features or areas actively worked and those left unworked (dormant).

6) For each area open to construction, the report will list the date of initial soil disturbance for the area.

7) For each area open to construction, the report will note which areas were actively worked that week and which were left dormant for the week. For those areas actively worked, the report will briefly state the work performed in the area that week and the progress toward final stabilization of the area -- e.g. "grubbing in progress", " grubbing complete", "rough grading in progress", "rough grading complete", "finish grading in progress", "finish grading complete", "permanent seeding completed", "area fully stable and temporary erosion controls removed", etc.

8) For each area open to construction, the report will list the erosion and sedimentation control measures installed, maintained, or removed during the week.

9) For each erosion control measure in-place, the report will note the condition of the measure and any maintenance performed to bring it to standard.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Third Party Compliance Inspection Form

(suggested format)

TO:_____	FROM:_____
PROJECT NAME/ LOCATION:_____	DEP #:_____
DATE OF INSPECTION:_____	DATE OF REPORT:_____
WEATHER:_____	CONDITIONS:_____

SITE CHARACTERISTICS:

# ACRES OPEN:_____	# ACRES ACTIVE:_____	# ACRES INACTIVE:_____
LOCATION OF OPEN LAND:	LOCATION OF ACTIVE LAND:	LOCATION OF INACTIVE LAND:
_____	_____	_____
_____	_____	_____
OPEN SINCE:	OPEN SINCE:	OPEN SINCE:
_____	_____	_____

PROGRESS OF WORK:

INSPECTION OF:	IN COMPLIANCE (PHOTO'S SUGGESTED)	OUT OF COMPLIANCE (PHOTO'S REQUIRED)
STORMWATER CONTROL (VEGETATIVE & STRUCTURAL BMP'S)	☐	☐
EROSION & SEDIMENTATION CONTROL (TEMPORARY & PERMANENT BMP'S)	☐	☐
OTHER: _____ (PERMIT CONDITIONS, ENGENEERIN DESIGN, ETC.)	☐	☐

COMMENTS/CORRECTIVE ACTIONS TAKEN:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Cc: _____ _____
_____

APPENDIX E

STORMWATER MANAGEMENT REPORT

SME
SEVEE & MAHER
ENGINEERS

STORMWATER MANAGEMENT REPORT
YARMOUTH VETERINARY CENTER
CUMBERLAND, MAINE

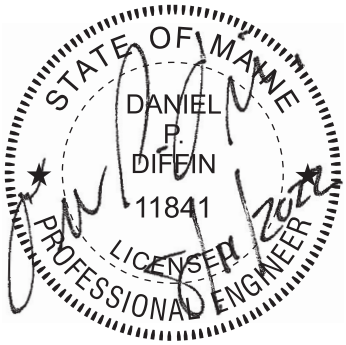
Prepared for

YARMOUTH VETERINARY CENTER, LLC

75 Willow Street

Yarmouth, Maine

August 2022



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ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

SME
SEVEE & MAHER
ENGINEERS

TABLE OF CONTENTS

Section No.	Title	Page No.
STORMWATER APPLICATION CHECKLIST		
1.0	**INTRODUCTION**	**1**
2.0	**PROJECT DESCRIPTION**	**1**
3.0	**SITE WATERSHED**	**3**
4.0	**BASIC STANDARDS**	**3**
5.0	**GENERAL STANDARDS**	**4**
6.0	**FLOODING STANDARDS**	**4**
7.0	**MAINTENANCE PLAN, INSPECTIONS, AND REQUIREMENTS**	**5**
8.0	**CONCLUSION**	**5**

LIST OF APPENDICES

APPENDIX A NRCS SOIL SURVEY
APPENDIX B PRE-DEVELOPMENT HYDROCAD CALCULATIONS
APPENDIX C POST-DEVELOPMENT HYDROCAD CALCULATIONS
APPENDIX D BMP TREATMENT SIZING & DEVELOPMENT CALCULATIONS
APPENDIX E POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN

LIST OF FIGURES

Figure No.	Title	Page No.
1	SITE LOCATION MAP	2

LIST OF TABLES

Table No.	Title	Page No.
1	STORMWATER QUANTITY SUMMARY-YARMOUTH VETERINARY CENTER	5

STORMWATER MANAGEMENT REPORT
YARMOUTH VETERINARY CENTER
CUMBERLAND, MAINE

1.0 INTRODUCTION

This Stormwater Management Report was prepared by Sevee & Maher Engineers, Inc. (SME) to assess stormwater management design for construction of the Yarmouth Veterinary Center located in Cumberland, Maine. Stormwater design is based on the water quality and quantity objectives identified in Chapter 500 of the Maine Department of Environmental Protection's (MEDEP) Stormwater Management Law.

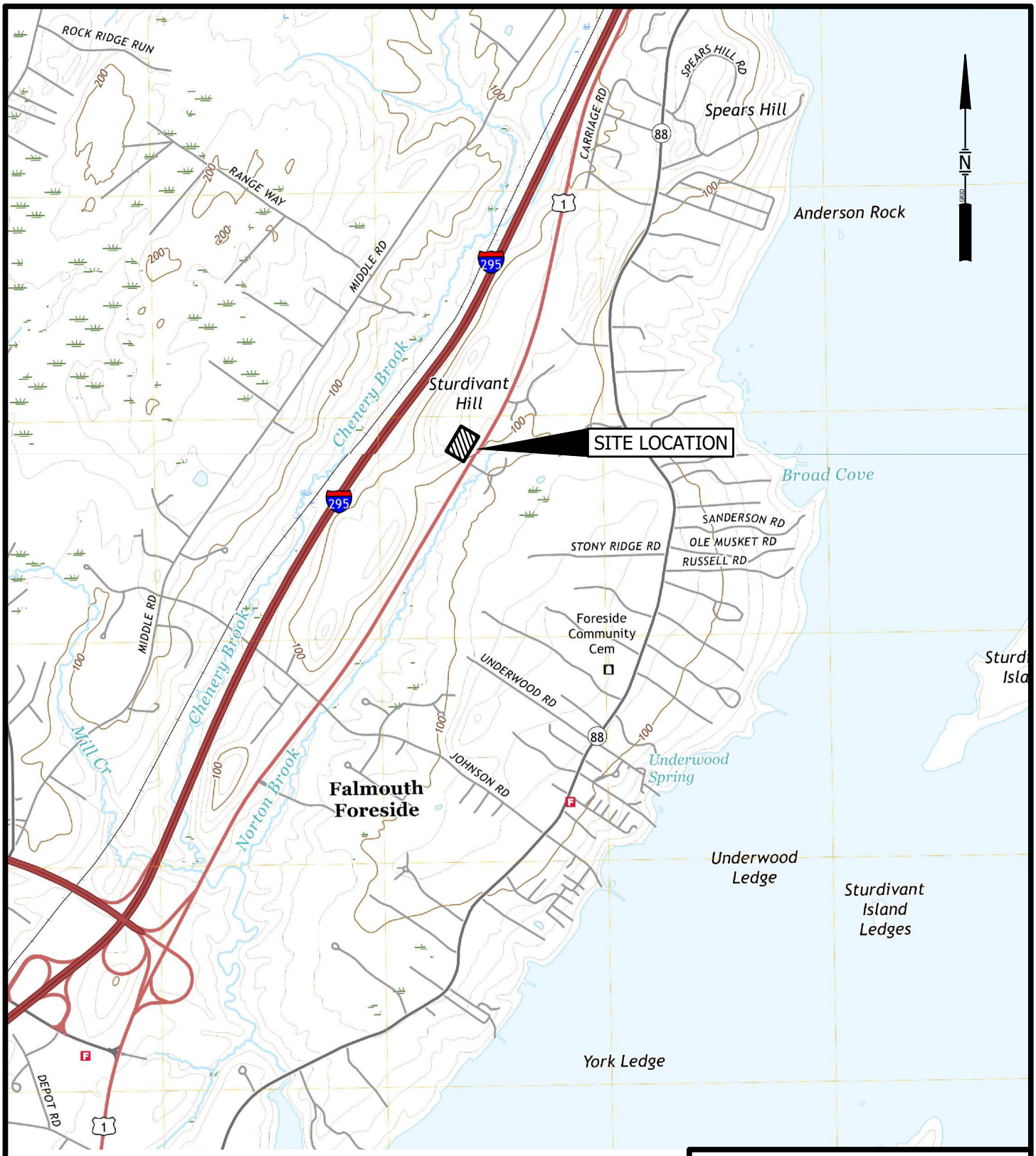
2.0 PROJECT DESCRIPTION

Yarmouth Veterinary Center (YVC) is proposing the development of a commercial veterinary center and parking area on a parcel of land off Route 1 in Cumberland, Maine. The project will include approximately 0.96 acres of commercial building, outdoor pet relief area, and employee and customer parking. The property was chosen based on its location within the Office Commercial South Zoning District for the Town of Cumberland which allows the use of a veterinary center. See Figure 1, Site Location Map for the site location on a 7.5 Min USGS Topo Quad Map. More details on the project site are shown in the engineering drawing set provided with this application.

The subject property is owned by Yarmouth Veterinary Center, LLC and is identified as Lot 11-4 on the Town of Cumberland Tax Map R01. Currently, the parcel is 2.95 acres of undeveloped woodland. The property is bordered by Route 1 to the east, commercial building to the south, and residential properties and undeveloped forested land to the north and west.

Proposed development will result in approximately 2.45 acres of cleared area. There will be approximately 13,000 square feet (0.30 acres) of commercial veterinary facility, 1,280 square feet (0.03 acre) of concrete slabs-on-grade, and 27,800 square feet (0.63 acres) of paved parking and access road. The project will result in approximately 0.96 acres of new impervious area and approximately 2.45 acres of total developed area.

Albert Frick Associates evaluated natural resources on the property in May 2022. No wetlands, streams, or vernal pools were observed on the property. A copy of their report outlining wetlands, streams, and potential vernal pools is included in the SLODA Amendment application.



BASEMAP ADAPTED FROM 7.5 MIN USGS TOPO QUADS
YARMOUTH, ME - 2018
PORTLAND EAST, ME - 2018

1000 0 2000 FEET

FIGURE 1
SITE LOCATION MAP
YARMOUTH VETERINARY CENTER
ROUTE 1
CUMBERLAND, MAINE

SME
SEVEE & MAHER ENGINEERS

DWG: SITELOC LMN: NONE CTB: SME-STD REV: 4/1/2022

\\Nserver\cfs\RFA\Yarmouth Vet Clinic\Acad\Figures\SITELOC.dwg, 4/1/2022 4:04:27 PM, bwb

3.0 SITE WATERSHED

On-site soils were identified using the Natural Resources Conservation Service (NRCS) soil information for Cumberland Country and part of Oxford County, Maine. A copy of the custom Soil Resource Report is included in Appendix A of this report. The soil report includes a map identifying soils in the project area. Soil information is also included in the project plan set.

Soil in the project area includes Lyman-Abram complex (HsB/HsC) and Scantic (Sn) silt loam. Soil classifications range from as "Somewhat excessively drained" to "Poorly drained" Hydrologic Soil Group D.

Stormwater management plans identify the on-site drainage patterns before and after proposed development (see Drawings D-100 and D-101). Appendix B includes pre-development stormwater calculations and Appendix C includes post-development calculations. These calculations were prepared using TR-20 methodologies within the HydroCAD Version 10.0 computer stormwater modeling system by Applied Microcomputer Systems of Chocorua, New Hampshire.

Surface drainage on the parcel is characterized by a local high point northwest of the subject property which drains to the south and southeast. The western portion of the property has steep grades ranging from 3 to 75 percent. The eastern portion of the parcel slopes gradually to the east with grades ranging from 1 to 30 percent.

For design purposes, the project watershed was divided into two regions. The northern subcatchment (SC-1) drains to an existing 24-inch culvert located under the shared access drive near the southeast corner of the property. The south subcatchment (SC-2) drains to an existing 24-inch culvert located under the entrance of the access drive, also near the southeast property corner near Route 1. The two subcatchments connect downslope and flow downstream in an existing roadside swale.

In developed conditions, stormwater will be diverted away from the YVC to stormwater treatment areas through surface drainage and closed storm drain system. Drainage of untreated areas will be accomplished with culverts and ditches to disperse concentrated flow. Final drainage is directed southeast toward an existing culvert located under the access road abutting Route 1.

4.0 BASIC STANDARDS

Erosion and Sediment Control details are included on the drawings and in Section 14 of the SLODA Permit application.

5.0 GENERAL STANDARDS

The YVC project is required to meet the General Standards since the site is fully wooded and undeveloped in existing conditions. The proposed development includes approximately 0.96 acres of new impervious area and 0.98 acres of new landscaped area. Total new development includes 2.45 acres. New development is subject to Chapter 500 and requires treatment of no less than 95 percent of impervious areas and no less than 80 percent of developed area. A summary of new development and treatment are included in Appendix D.

This treatment will be provided through construction of one underdrained soil filter and a roof drip filter surrounding the YVC structure.

Underdrained Soil Filter #1 has been designed to capture runoff from the parking lot areas, access road, and embankment to the north and west. The soil filter will treat 26,189 square feet of impervious area and 28,008 square feet of landscaped area, for a total of 54,197 square feet of treatment. The filter also captures approximately 7,148 square feet of upgradient runoff. The basin is sized to address the runoff volume from the upgradient area.

Roof Drip Filter #1 has been designed to capture the runoff from the west half of the building. The drip filter will treat 6,051 square feet of impervious area and no landscaped area, for a total of 6,051 square feet of treatment.

Roof Drip Filter #2 has been designed to capture the runoff from the east half of the building. The drip filter will treat 6,577 square feet of impervious area and no landscaped area, for a total of 6,577 square feet of treatment. In total, the filters will treat 12,628 square feet of impervious area or 31 percent, and 12,628 square feet of developed area or 15.2 percent.

The sizing calculations for the Stormwater Best Management Practices (BMPs) and overall Treatment Summary are included in Appendix D of this report.

6.0 FLOODING STANDARDS

Stormwater quantity is managed to the maximum extent practicable through treatment of impervious areas and utilizing the storage characteristics of the underdrained soil filter.

The stormwater models for these projects were developed to size the water quality treatment BMPs and to determine peak flow rates to the identified Analysis Points. Stormwater peak flow rates were modeled for the 2-, 10-, and 25-year/24-hour storm events with Type III Soil Conservation Service rainfall distribution, using the HydroCAD computer modeling system by Applied Microcomputer Systems of Chocorua, New Hampshire. The peak flow rates at each Analysis Point are summarized in Table 1. Rainfall

intensities were taken from Appendix H of MEDEP's Chapter 500 for each of the storms. The peak flows for each project are presented in the following subsections of this report.

The following table provides the results of the modeling for peak flows at the Analysis Points for the YVC. Copies of the HydroCAD calculations for the project are provided in Appendix B and Appendix C.

TABLE 1

STORMWATER QUANTITY SUMMARY
YARMOUTH VETERINARY CENTER

	2-Year Storm		10-Year Storm		25-Year Storm	
	Existing	**Proposed**	**Existing**	**Proposed**	**Existing**	**Proposed**
Analysis Point 1 (cfs)	5.11	4.23	10.39	8.09	14.09	13.66
Analysis Point 2 (cfs)	1.22	1.22	2.29	2.29	4.03	3.24

As outlined in Table 1, peak flows decreased with proposed development conditions when compared to pre-developed conditions. Based on these results, the anticipated stormwater runoff from the site will be minimal and will create no adverse impacts downstream.

7.0 MAINTENANCE PLAN, INSPECTIONS, AND REQUIREMENTS

Maintenance of the proposed facility and stormwater treatment BMPs will be performed by YVC personnel. Contact information for the facility and Owner's representative is included in the Post-Construction Stormwater Management Plan, attached as Appendix E. During construction, the site work contractor (not yet selected) will be responsible for all site maintenance. The Post-Construction Stormwater Management Plan describes the facilities to be maintained and includes sample maintenance logs. There are no new drainage easements, deed restrictions, or 'third-party' maintenance contracts proposed for this project.

8.0 CONCLUSION

The stormwater management for the YVC Project was designed in accordance with MEDEP Chapter 500 requirements for new development projects. Water quality treatment will be provided by grassed underdrained soil filter and roof drip-line filters as outlined in Section 5.0 of this report.

The peak flows for the project site resulted in a decrease at the analysis points. As a result, there will be no adverse impacts on downstream drainage or abutting properties.

APPENDIX A

NRCS SOIL SURVEY

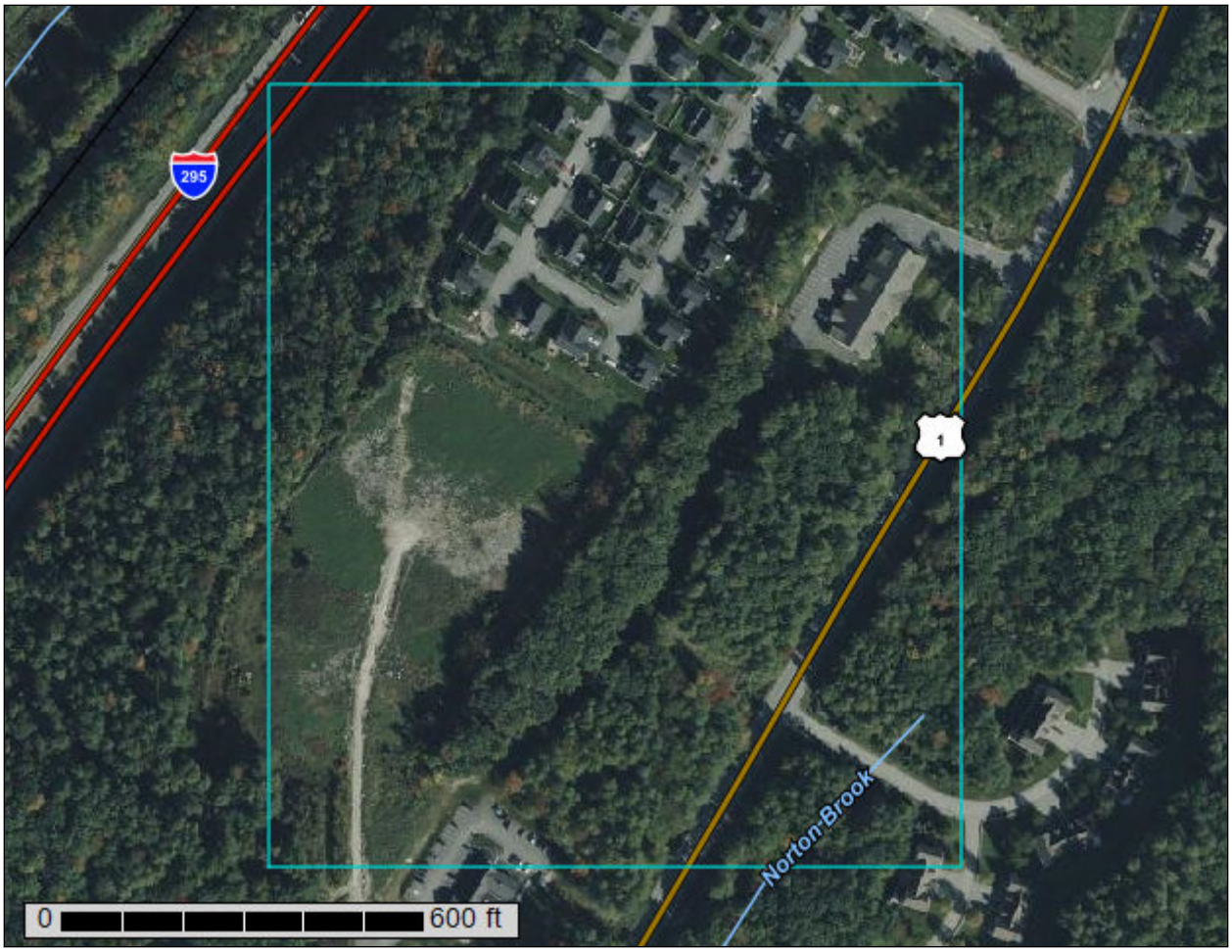
SME
SEVEE & MAHER
ENGINEERS

United States Department of Agriculture

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Cumberland County and Part of Oxford County, Maine



April 7, 2022

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

Preface.....2
How Soil Surveys Are Made.....5
Soil Map.....8
Soil Map.....9
Legend.....10
Map Unit Legend.....12
Map Unit Descriptions.....12
Cumberland County and Part of Oxford County, Maine.....14
Au—Au Gres loamy sand.....14
BgB—Nicholville very fine sandy loam, 0 to 8 percent slopes.....15
BuB—Lamoine silt loam, 3 to 8 percent slopes.....16
BuC2—Buxton silt loam, 8 to 15 percent slopes.....17
HsB—Lyman-Abram complex, 0 to 8 percent slopes, very rocky.....18
HsC—Lyman-Abram complex, 8 to 15 percent slopes, very rocky.....19
Sn—Scantic silt loam, 0 to 3 percent slopes.....21
References.....23

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

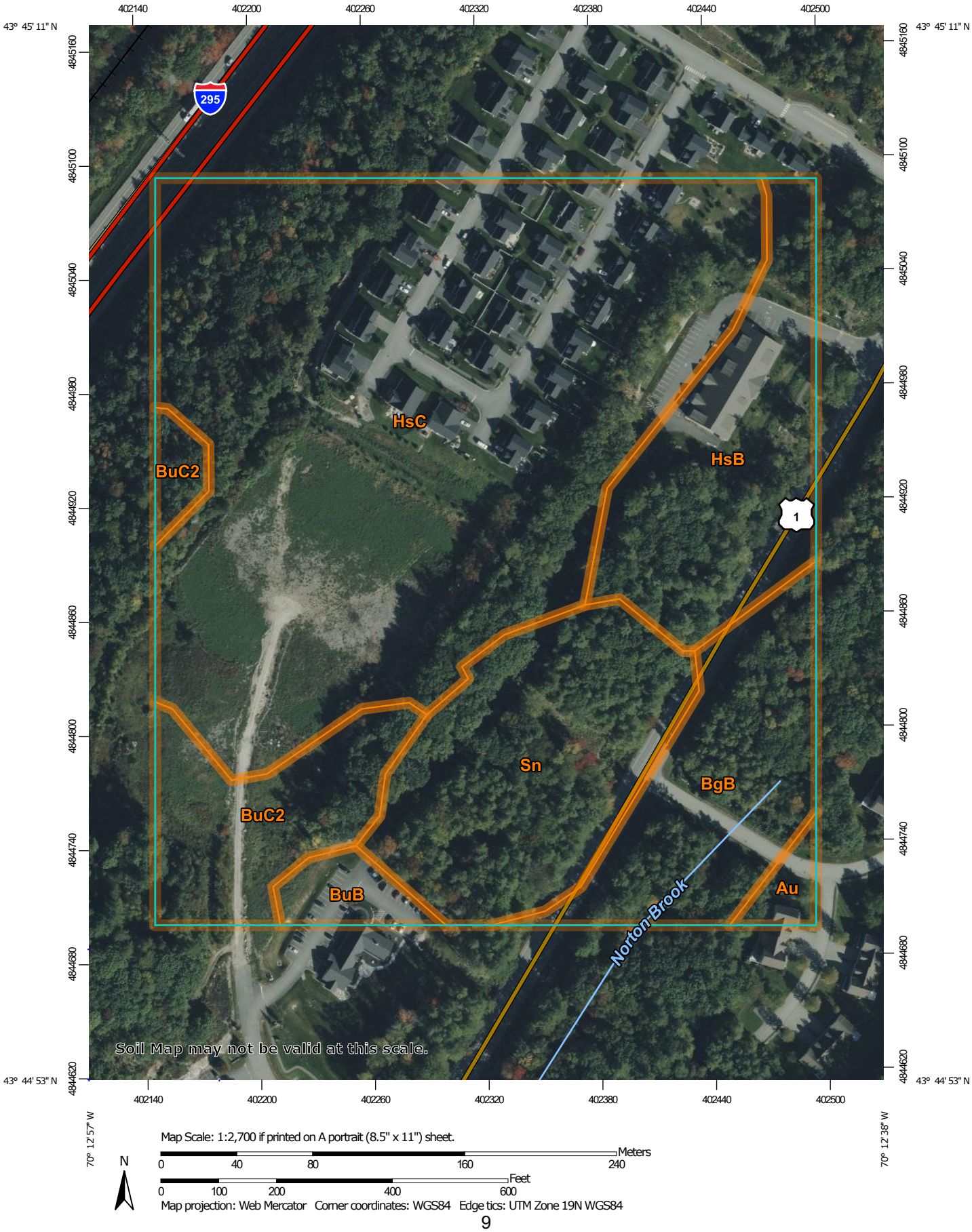
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:2,700 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 18, Aug 31, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 22, 2021—Oct 7, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Au	Au Gres loamy sand	0.3	1.0%
BgB	Nicholville very fine sandy loam, 0 to 8 percent slopes	3.5	10.2%
BuB	Lamoine silt loam, 3 to 8 percent slopes	0.6	1.8%
BuC2	Buxton silt loam, 8 to 15 percent slopes	2.8	8.3%
HsB	Lyman-Abram complex, 0 to 8 percent slopes, very rocky	4.1	12.0%
HsC	Lyman-Abram complex, 8 to 15 percent slopes, very rocky	18.0	53.0%
Sn	Scantic silt loam, 0 to 3 percent slopes	4.7	13.8%
Totals for Area of Interest		**34.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor

components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Cumberland County and Part of Oxford County, Maine

Au—Au Gres loamy sand

Map Unit Setting

National map unit symbol: blgr
Elevation: 200 to 1,800 feet
Mean annual precipitation: 34 to 50 inches
Mean annual air temperature: 41 to 45 degrees F
Frost-free period: 90 to 130 days
Farmland classification: Not prime farmland

Map Unit Composition

Au gres and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Au Gres

Setting

Landform: Outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy glaciofluvial deposits derived from granite and gneiss

Typical profile

H1 - 0 to 10 inches: loamy sand
H2 - 10 to 32 inches: loamy sand
H3 - 32 to 65 inches: sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

BgB—Nicholville very fine sandy loam, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2yjg5
Elevation: 20 to 2,300 feet
Mean annual precipitation: 34 to 50 inches
Mean annual air temperature: 37 to 45 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Nicholville and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nicholville

Setting

Landform: Lakebeds (relict)
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-silty glaciomarine deposits

Typical profile

Ap - 0 to 7 inches: very fine sandy loam
Bs - 7 to 19 inches: very fine sandy loam
BC - 19 to 30 inches: very fine sandy loam
C - 30 to 65 inches: loamy very fine sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods)
Hydric soil rating: No

BuB—Lamoine silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2t0kc
Elevation: 10 to 490 feet
Mean annual precipitation: 33 to 60 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Lamoine and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lamoine

Setting

Landform: Marine terraces, river valleys
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine glaciomarine deposits

Typical profile

Ap - 0 to 7 inches: silt loam
Bw - 7 to 13 inches: silt loam
Bg - 13 to 24 inches: silty clay loam
Cg - 24 to 65 inches: silty clay

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 6 to 17 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: F144BY401ME - Clay Flat
Hydric soil rating: No

BuC2—Buxton silt loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2x1by
Elevation: 10 to 490 feet
Mean annual precipitation: 33 to 60 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Buxton and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Buxton

Setting

Landform: Marine terraces, river valleys
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Fine glaciomarine deposits

Typical profile

Ap - 0 to 7 inches: silt loam
Bw1 - 7 to 18 inches: silt loam
Bw2 - 18 to 23 inches: silty clay loam
BC - 23 to 35 inches: silty clay loam
C - 35 to 65 inches: silty clay

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 17 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C/D
Hydric soil rating: No

HsB—Lyman-Abram complex, 0 to 8 percent slopes, very rocky

Map Unit Setting

National map unit symbol: 2x1d0
Elevation: 0 to 520 feet
Mean annual precipitation: 36 to 65 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Lyman and similar soils: 50 percent
Abram and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loam
E - 3 to 5 inches: fine sandy loam
Bhs - 5 to 7 inches: loam
Bs1 - 7 to 11 inches: loam
Bs2 - 11 to 18 inches: channery loam
R - 18 to 79 inches: bedrock

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: D
Hydric soil rating: No

Description of Abram

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy subglacial till

Typical profile

Oa - 0 to 2 inches: highly decomposed plant material
E - 2 to 3 inches: loam
Bs - 3 to 6 inches: loam
R - 6 to 79 inches: bedrock

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 3 to 13 inches to lithic bedrock
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Hydric soil rating: No

HsC—Lyman-Abram complex, 8 to 15 percent slopes, very rocky

Map Unit Setting

National map unit symbol: 2x1d1
Elevation: 0 to 520 feet
Mean annual precipitation: 36 to 65 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Lyman and similar soils: 45 percent
Abram and similar soils: 35 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loam
E - 3 to 5 inches: fine sandy loam
Bhs - 5 to 7 inches: loam
Bs1 - 7 to 11 inches: loam
Bs2 - 11 to 18 inches: channery loam
R - 18 to 79 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Abram

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy subglacial till

Typical profile

Oa - 0 to 2 inches: highly decomposed plant material
E - 2 to 3 inches: loam
Bs - 3 to 6 inches: loam
R - 6 to 79 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 3 to 13 inches to lithic bedrock
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Hydric soil rating: No

Sn—Scantic silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2slv3
Elevation: 10 to 900 feet
Mean annual precipitation: 33 to 60 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Scantic and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scantic

Setting

Landform: Marine terraces, river valleys
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Glaciomarine deposits

Typical profile

Ap - 0 to 9 inches: silt loam
Bg1 - 9 to 16 inches: silty clay loam
Bg2 - 16 to 29 inches: silty clay
Cg - 29 to 65 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: D
Ecological site: F144BY304ME - Wet Clay Flat
Hydric soil rating: Yes

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

APPENDIX B

PRE-DEVELOPMENT HYDROCAD CALCULATIONS

SME
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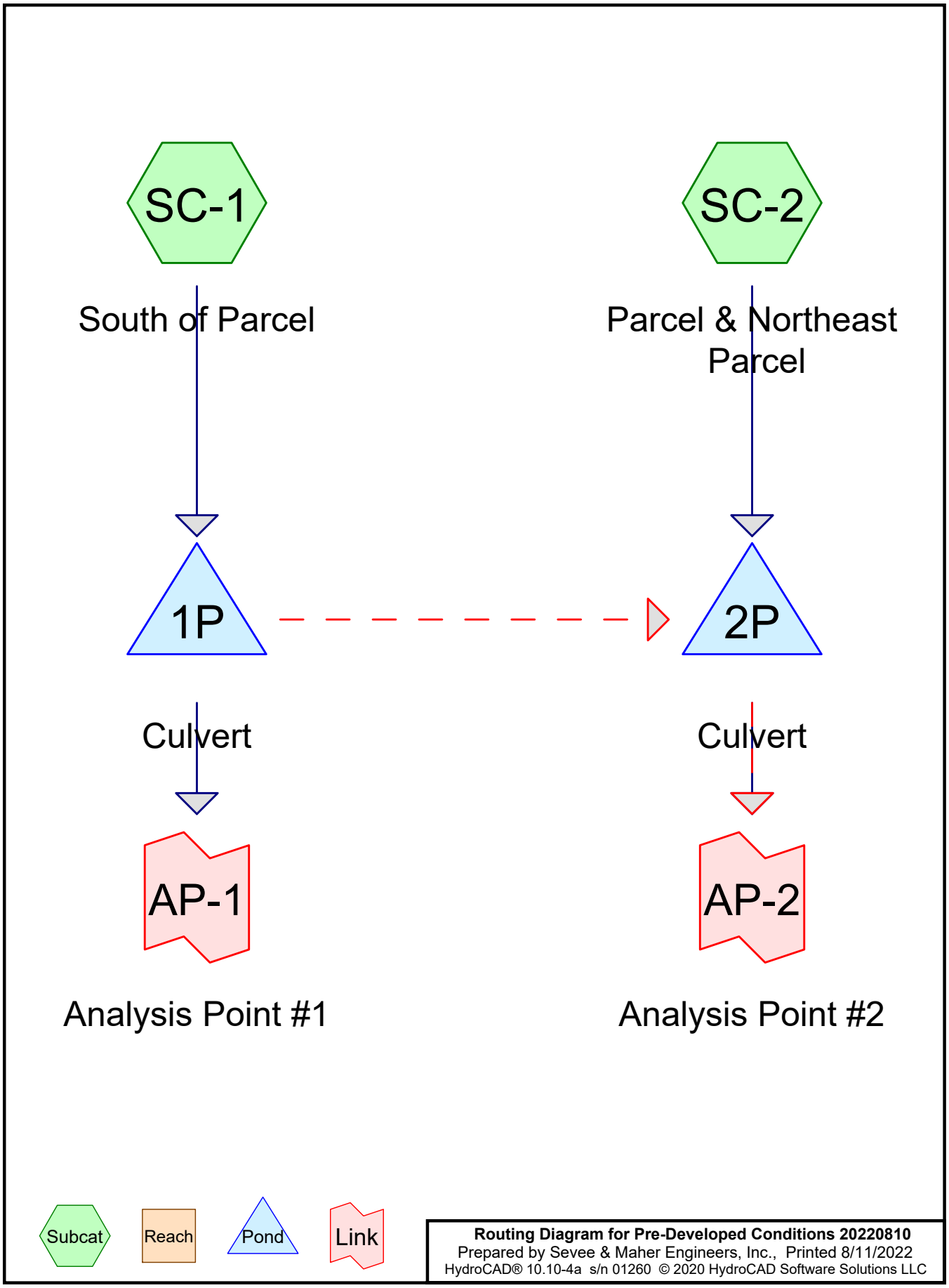
ENGINEERS



Routing Diagram for Pre-Developed Conditions 20220810
Prepared by Sevee & Maher Engineers, Inc., Printed 8/11/2022
HydroCAD® 10.10-4a s/n 01260 © 2020 HydroCAD Software Solutions LLC

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 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 SC-1: South of Parcel Runoff Area=247,105 sf 0.00% Impervious Runoff Depth>1.10"
Flow Length=699' Tc=21.0 min CN=78 Runoff=5.11 cfs 0.518 af

Subcatchment SC-2: Parcel & Northeast Runoff Area=46,920 sf 11.26% Impervious Runoff Depth>1.34"
Flow Length=636' Tc=20.3 min CN=82 Runoff=1.22 cfs 0.121 af

Pond 1P: Culvert Peak Elev=97.05' Storage=57 cf Inflow=5.11 cfs 0.518 af
Primary=5.11 cfs 0.518 af Secondary=0.00 cfs 0.000 af Outflow=5.11 cfs 0.518 af

Pond 2P: Culvert Peak Elev=94.98' Storage=71 cf Inflow=1.22 cfs 0.121 af
Primary=1.22 cfs 0.120 af Secondary=0.00 cfs 0.000 af Outflow=1.22 cfs 0.120 af

Link AP-1: Analysis Point #1 Inflow=5.11 cfs 0.518 af
Primary=5.11 cfs 0.518 af

Link AP-2: Analysis Point #2 Inflow=1.22 cfs 0.120 af
Primary=1.22 cfs 0.120 af

Summary for Subcatchment SC-1: South of Parcel

Runoff = 5.11 cfs @ 12.31 hrs, Volume= 0.518 af, Depth> 1.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

Area (sf)	CN	Description
234,334	77	Woods, Good, HSG D
7,988	96	Gravel surface, HSG D
4,783	80	>75% Grass cover, Good, HSG D
247,105	78	Weighted Average
247,105		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.3	100	0.0150	0.10		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
1.3	152	0.0800	1.98		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
3.3	391	0.1600	2.00		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
0.1	56	0.0260	15.09	47.42	**Pipe Channel, D-E** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010 PVC, smooth interior
21.0	699	Total			

Summary for Subcatchment SC-2: Parcel & Northeast Parcel

Runoff = 1.22 cfs @ 12.29 hrs, Volume= 0.121 af, Depth> 1.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

Area (sf)	CN	Description
10,566	93	Paved roads w/open ditches, 50% imp, HSG D
32,919	77	Woods, Good, HSG D
3,435	96	Gravel surface, HSG D
46,920	82	Weighted Average
41,637		88.74% Pervious Area
5,283		11.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.4	100	0.1400	0.10		**Sheet Flow, A-B** Woods: Dense underbrush n= 0.800 P2= 3.10"
2.3	190	0.0740	1.36		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.5	276	0.0200	9.22	110.67	**Trap/Vee/Rect Channel Flow, C-D** Bot.W=0.00' D=2.00' Z= 3.0 '/' Top.W=12.00' n= 0.022 Earth, clean & straight
0.1	70	0.0500	20.93	65.76	**Pipe Channel, D-E** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010 PVC, smooth interior
20.3	636	Total			

Summary for Pond 1P: Culvert

Inflow Area = 5.673 ac, 0.00% Impervious, Inflow Depth > 1.10" for 2-yr Storm event
Inflow = 5.11 cfs @ 12.31 hrs, Volume= 0.518 af
Outflow = 5.11 cfs @ 12.31 hrs, Volume= 0.518 af, Atten= 0%, Lag= 0.2 min
Primary = 5.11 cfs @ 12.31 hrs, Volume= 0.518 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 97.05' @ 12.31 hrs Surf.Area= 105 sf Storage= 57 cf

Plug-Flow detention time= 0.2 min calculated for 0.517 af (100% of inflow)
Center-of-Mass det. time= 0.2 min (821.6 - 821.5)

Volume	Invert	Avail.Storage	Storage Description
#1	96.00'	553 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
96.00	5	0	0
97.00	100	53	53
98.00	200	150	203
99.00	500	350	553

Device	Routing	Invert	Outlet Devices
#1	Primary	96.00'	**24.0" Round Culvert** L= 56.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 96.00' / 94.50' S= 0.0268 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Secondary	98.00'	**8.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=5.08 cfs @ 12.31 hrs HW=97.04' (Free Discharge)
└─**1=Culvert** (Inlet Controls 5.08 cfs @ 3.07 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=96.00' (Free Discharge)
└─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 2P: Culvert

Inflow Area = 1.077 ac, 11.26% Impervious, Inflow Depth > 1.34" for 2-yr Storm event
Inflow = 1.22 cfs @ 12.29 hrs, Volume= 0.121 af
Outflow = 1.22 cfs @ 12.30 hrs, Volume= 0.120 af, Atten= 0%, Lag= 0.7 min
Primary = 1.22 cfs @ 12.30 hrs, Volume= 0.120 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 94.98' @ 12.30 hrs Surf.Area= 196 sf Storage= 71 cf

Plug-Flow detention time= 1.9 min calculated for 0.120 af (100% of inflow)
Center-of-Mass det. time= 1.3 min (812.3 - 811.0)

Volume	Invert	Avail.Storage	Storage Description
#1	94.50'	3,225 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.50	100	0	0
95.00	200	75	75
96.00	300	250	325
97.00	500	400	725
98.00	1,000	750	1,475
99.00	2,500	1,750	3,225

Device	Routing	Invert	Outlet Devices
#1	Primary	94.50'	**24.0" Round Culvert** L= 70.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 94.50' / 91.00' S= 0.0500 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Secondary	98.50'	**20.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=1.22 cfs @ 12.30 hrs HW=94.98' (Free Discharge)
└─**1=Culvert** (Inlet Controls 1.22 cfs @ 2.09 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=94.50' (Free Discharge)
└─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link AP-1: Analysis Point #1

Inflow Area = 5.673 ac, 0.00% Impervious, Inflow Depth > 1.10" for 2-yr Storm event
Inflow = 5.11 cfs @ 12.31 hrs, Volume= 0.518 af
Primary = 5.11 cfs @ 12.31 hrs, Volume= 0.518 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link AP-2: Analysis Point #2

Inflow Area = 1.077 ac, 11.26% Impervious, Inflow Depth > 1.34" for 2-yr Storm event
Inflow = 1.22 cfs @ 12.30 hrs, Volume= 0.120 af
Primary = 1.22 cfs @ 12.30 hrs, Volume= 0.120 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 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 SC-1: South of Parcel Runoff Area=247,105 sf 0.00% Impervious Runoff Depth>2.20"
Flow Length=699' Tc=21.0 min CN=78 Runoff=10.39 cfs 1.039 af

Subcatchment SC-2: Parcel & Northeast Runoff Area=46,920 sf 11.26% Impervious Runoff Depth>2.54"
Flow Length=636' Tc=20.3 min CN=82 Runoff=2.30 cfs 0.228 af

Pond 1P: Culvert Peak Elev=97.62' Storage=133 cf Inflow=10.39 cfs 1.039 af
Primary=10.39 cfs 1.039 af Secondary=0.00 cfs 0.000 af Outflow=10.39 cfs 1.039 af

Pond 2P: Culvert Peak Elev=95.17' Storage=111 cf Inflow=2.30 cfs 0.228 af
Primary=2.29 cfs 0.227 af Secondary=0.00 cfs 0.000 af Outflow=2.29 cfs 0.227 af

Link AP-1: Analysis Point #1 Inflow=10.39 cfs 1.039 af
Primary=10.39 cfs 1.039 af

Link AP-2: Analysis Point #2 Inflow=2.29 cfs 0.227 af
Primary=2.29 cfs 0.227 af

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 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 SC-1: South of Parcel Runoff Area=247,105 sf 0.00% Impervious Runoff Depth>3.16"
Flow Length=699' Tc=21.0 min CN=78 Runoff=14.91 cfs 1.496 af

Subcatchment SC-2: Parcel & Northeast Runoff Area=46,920 sf 11.26% Impervious Runoff Depth>3.56"
Flow Length=636' Tc=20.3 min CN=82 Runoff=3.19 cfs 0.319 af

Pond 1P: Culvert Peak Elev=98.11' Storage=227 cf Inflow=14.91 cfs 1.496 af
Primary=14.09 cfs 1.488 af Secondary=0.83 cfs 0.008 af Outflow=14.92 cfs 1.496 af

Pond 2P: Culvert Peak Elev=95.42' Storage=167 cf Inflow=4.01 cfs 0.327 af
Primary=4.03 cfs 0.327 af Secondary=0.00 cfs 0.000 af Outflow=4.03 cfs 0.327 af

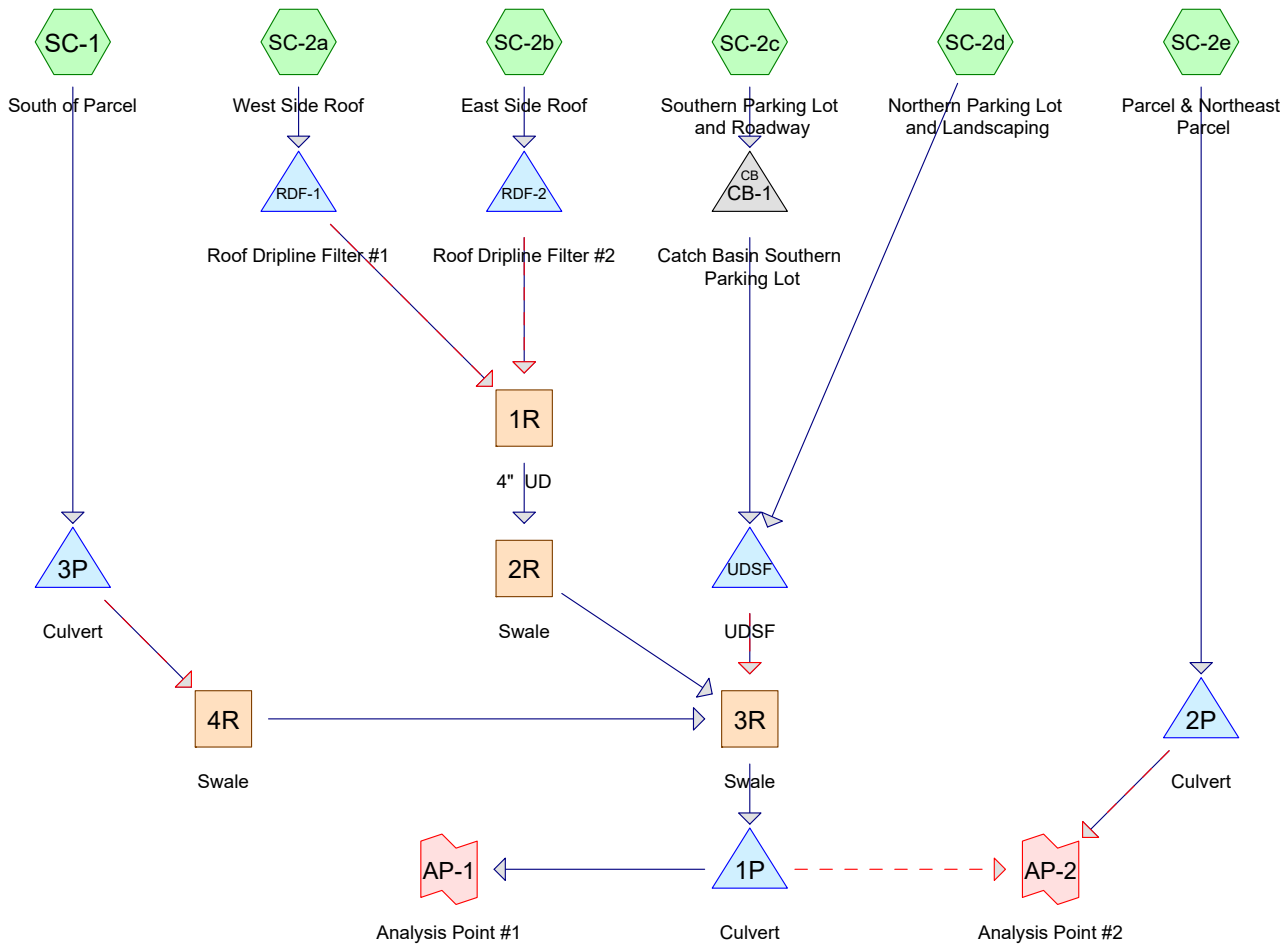
Link AP-1: Analysis Point #1 Inflow=14.09 cfs 1.488 af
Primary=14.09 cfs 1.488 af

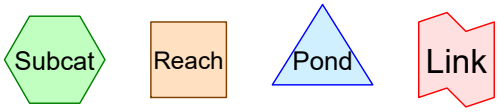
Link AP-2: Analysis Point #2 Inflow=4.03 cfs 0.327 af
Primary=4.03 cfs 0.327 af

APPENDIX C

POST-DEVELOPMENT HYDROCAD CALCULATIONS

SME
SEVEE & MAHER
ENGINEERS





Routing Diagram for Post-Developed Conditions20220810
Prepared by Sevee & Maher Engineers, Inc., Printed 8/11/2022
HydroCAD® 10.10-4a s/n 01260 © 2020 HydroCAD Software Solutions LLC

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 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 SC-1: South of Parcel Runoff Area=173,119 sf 1.01% Impervious Runoff Depth>1.10"
Flow Length=473' Tc=18.8 min CN=78 Runoff=3.75 cfs 0.363 af

Subcatchment SC-2a: West Side Roof Runoff Area=6,051 sf 100.00% Impervious Runoff Depth>2.68"
Tc=5.0 min CN=98 Runoff=0.42 cfs 0.031 af

Subcatchment SC-2b: East Side Roof Runoff Area=6,577 sf 100.00% Impervious Runoff Depth>2.68"
Tc=5.0 min CN=98 Runoff=0.46 cfs 0.034 af

Subcatchment SC-2c: Southern Parking Runoff Area=17,758 sf 95.90% Impervious Runoff Depth>2.59"
Flow Length=261' Tc=5.0 min CN=97 Runoff=1.21 cfs 0.088 af

Subcatchment SC-2d: Northern Parking Runoff Area=43,587 sf 21.01% Impervious Runoff Depth>1.48"
Flow Length=490' Tc=17.2 min CN=84 Runoff=1.34 cfs 0.123 af

Subcatchment SC-2e: Parcel & Northeast Runoff Area=46,920 sf 11.26% Impervious Runoff Depth>1.34"
Flow Length=636' Tc=20.3 min CN=82 Runoff=1.22 cfs 0.121 af

Reach 1R: 4" UD Avg. Flow Depth=0.12' Max Vel=5.05 fps Inflow=0.51 cfs 0.064 af
41.0" Round Pipe n=0.011 L=136.0' S=0.0404 '/' Capacity=224.23 cfs Outflow=0.51 cfs 0.064 af

Reach 2R: Swale Avg. Flow Depth=0.24' Max Vel=2.95 fps Inflow=0.51 cfs 0.064 af
n=0.022 L=29.0' S=0.0345 '/' Capacity=145.32 cfs Outflow=0.51 cfs 0.064 af

Reach 3R: Swale Avg. Flow Depth=0.57' Max Vel=4.35 fps Inflow=4.23 cfs 0.465 af
n=0.022 L=42.0' S=0.0238 '/' Capacity=120.75 cfs Outflow=4.23 cfs 0.465 af

Reach 4R: Swale Avg. Flow Depth=0.61' Max Vel=3.31 fps Inflow=3.73 cfs 0.363 af
n=0.022 L=120.0' S=0.0125 '/' Capacity=87.49 cfs Outflow=3.71 cfs 0.363 af

Pond 1P: Culvert Peak Elev=96.94' Storage=47 cf Inflow=4.23 cfs 0.465 af
Primary=4.23 cfs 0.465 af Secondary=0.00 cfs 0.000 af Outflow=4.23 cfs 0.465 af

Pond 2P: Culvert Peak Elev=94.98' Storage=71 cf Inflow=1.22 cfs 0.121 af
Primary=1.22 cfs 0.120 af Secondary=0.00 cfs 0.000 af Outflow=1.22 cfs 0.120 af

Pond 3P: Culvert Peak Elev=100.90' Storage=176 cf Inflow=3.75 cfs 0.363 af
Primary=3.73 cfs 0.363 af Secondary=0.00 cfs 0.000 af Outflow=3.73 cfs 0.363 af

Pond CB-1: Catch Basin Southern Parking Lot Peak Elev=101.36' Inflow=1.21 cfs 0.088 af
12.0" Round Culvert n=0.010 L=44.0' S=0.0159 '/' Outflow=1.21 cfs 0.088 af

Pond RDF-1: Roof Dripline Filter #1 Peak Elev=105.07' Storage=0.005 af Inflow=0.42 cfs 0.031 af
Primary=0.22 cfs 0.030 af Secondary=0.00 cfs 0.000 af Outflow=0.22 cfs 0.030 af

Pond RDF-2: Roof Dripline Filter #2 Peak Elev=104.96' Storage=0.004 af Inflow=0.46 cfs 0.034 af
Primary=0.30 cfs 0.033 af Secondary=0.00 cfs 0.000 af Outflow=0.30 cfs 0.033 af

Pond UDSF: UDSF Peak Elev=101.50' Storage=7,557 cf Inflow=2.04 cfs 0.212 af
Primary=0.05 cfs 0.038 af Secondary=0.00 cfs 0.000 af Outflow=0.05 cfs 0.038 af

Link AP-1: Analysis Point #1 Inflow=4.23 cfs 0.465 af
Primary=4.23 cfs 0.465 af

Link AP-2: Analysis Point #2 Inflow=1.22 cfs 0.120 af
Primary=1.22 cfs 0.120 af

Summary for Subcatchment SC-1: South of Parcel

Runoff = 3.75 cfs @ 12.27 hrs, Volume= 0.363 af, Depth> 1.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

	Area (sf)	CN	Description
	1,750	98	Paved parking, HSG D
	7,344	80	>75% Grass cover, Good, HSG D
	154,438	77	Woods, Good, HSG D
*	9,587	91	Ledge, HSG D
	173,119	78	Weighted Average
	171,369		98.99% Pervious Area
	1,750		1.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.3	100	0.0150	0.10		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
1.3	152	0.0800	1.98		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
1.1	129	0.1600	2.00		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
0.0	40	1.0000	16.10		**Shallow Concentrated Flow, D-E** Unpaved Kv= 16.1 fps
0.1	52	0.0100	6.52	78.26	**Trap/Vee/Rect Channel Flow, E-F** Bot.W=0.00' D=2.00' Z= 3.0 '/' Top.W=12.00' n= 0.022 Earth, clean & straight
18.8	473	Total			

Summary for Subcatchment SC-2a: West Side Roof

Runoff = 0.42 cfs @ 12.07 hrs, Volume= 0.031 af, Depth> 2.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

Area (sf)	CN	Description
6,051	98	Roofs, HSG D
6,051		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC-2b: East Side Roof

Runoff = 0.46 cfs @ 12.07 hrs, Volume= 0.034 af, Depth> 2.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

Area (sf)	CN	Description
6,577	98	Roofs, HSG D
6,577		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC-2c: Southern Parking Lot and Roadway

Runoff = 1.21 cfs @ 12.07 hrs, Volume= 0.088 af, Depth> 2.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

Area (sf)	CN	Description
17,030	98	Paved parking, HSG D
728	80	>75% Grass cover, Good, HSG D
17,758	97	Weighted Average
728		4.10% Pervious Area
17,030		95.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	261		0.87		**Direct Entry, PAVEMENT**

Summary for Subcatchment SC-2d: Northern Parking Lot and Landscaping

Runoff = 1.34 cfs @ 12.24 hrs, Volume= 0.123 af, Depth> 1.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

	Area (sf)	CN	Description
	8,636	98	Paved parking, HSG D
	523	98	Unconnected pavement, HSG D
*	4,736	91	Ledge, HSG D
	22,544	80	>75% Grass cover, Good, HSG D
	7,148	77	Woods, Good, HSG D
	43,587	84	Weighted Average
	34,428		78.99% Pervious Area
	9,159		21.01% Impervious Area
	523		5.71% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.6	100	0.2600	0.12		**Sheet Flow, A-B** Woods: Dense underbrush n= 0.800 P2= 3.10"
3.0	270	0.0900	1.50		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.6	120	0.0500	3.60		**Shallow Concentrated Flow, C-D** Unpaved Kv= 16.1 fps
17.2	490	Total			

Summary for Subcatchment SC-2e: Parcel & Northeast Parcel

Runoff = 1.22 cfs @ 12.29 hrs, Volume= 0.121 af, Depth> 1.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

Area (sf)	CN	Description
10,566	93	Paved roads w/open ditches, 50% imp, HSG D
32,919	77	Woods, Good, HSG D
3,435	96	Gravel surface, HSG D
46,920	82	Weighted Average
41,637		88.74% Pervious Area
5,283		11.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.4	100	0.1400	0.10		**Sheet Flow, A-B** Woods: Dense underbrush n= 0.800 P2= 3.10"
2.3	190	0.0740	1.36		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.5	276	0.0200	9.22	110.67	**Trap/Vee/Rect Channel Flow, C-D** Bot.W=0.00' D=2.00' Z= 3.0 '/' Top.W=12.00' n= 0.022 Earth, clean & straight
0.1	70	0.0500	20.93	65.76	**Pipe Channel, D-E** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010 PVC, smooth interior
20.3	636	Total			

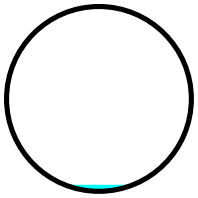
Summary for Reach 1R: 4" UD

Inflow Area = 0.290 ac,100.00% Impervious, Inflow Depth > 2.63" for 2-yr Storm event
Inflow = 0.51 cfs @ 12.17 hrs, Volume= 0.064 af
Outflow = 0.51 cfs @ 12.19 hrs, Volume= 0.064 af, Atten= 1%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.05 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 2.48 fps, Avg. Travel Time= 0.9 min

Peak Storage= 14 cf @ 12.18 hrs
Average Depth at Peak Storage= 0.12' , Surface Width= 1.25'
Bank-Full Depth= 3.42' Flow Area= 9.2 sf, Capacity= 224.23 cfs

41.0" Round Pipe
n= 0.011 PVC, smooth interior
Length= 136.0' Slope= 0.0404 '/'
Inlet Invert= 103.50', Outlet Invert= 98.00'



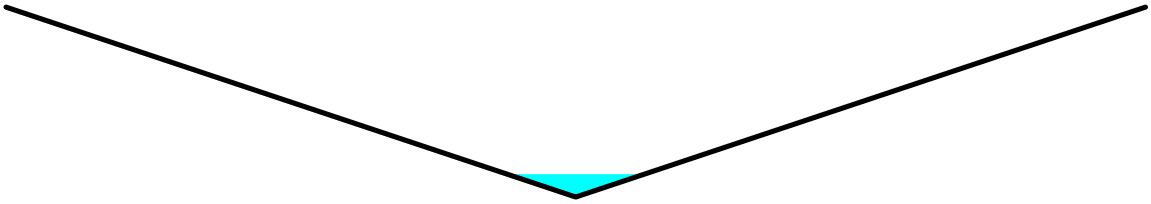
Summary for Reach 2R: Swale

Inflow Area = 0.290 ac,100.00% Impervious, Inflow Depth > 2.63" for 2-yr Storm event
Inflow = 0.51 cfs @ 12.19 hrs, Volume= 0.064 af
Outflow = 0.51 cfs @ 12.20 hrs, Volume= 0.064 af, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.95 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.50 fps, Avg. Travel Time= 0.3 min

Peak Storage= 5 cf @ 12.19 hrs
Average Depth at Peak Storage= 0.24' , Surface Width= 1.44'
Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 145.32 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= 29.0' Slope= 0.0345 '/'
Inlet Invert= 98.00', Outlet Invert= 97.00'



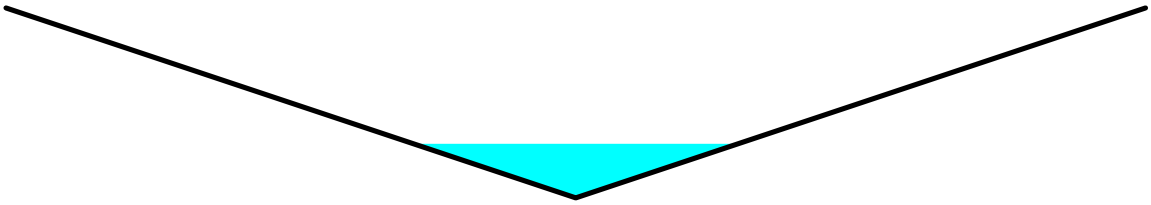
Summary for Reach 3R: Swale

Inflow Area = 5.672 ac, 16.42% Impervious, Inflow Depth > 0.98" for 2-yr Storm event
Inflow = 4.23 cfs @ 12.31 hrs, Volume= 0.465 af
Outflow = 4.23 cfs @ 12.31 hrs, Volume= 0.465 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.35 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.95 fps, Avg. Travel Time= 0.4 min

Peak Storage= 41 cf @ 12.31 hrs
Average Depth at Peak Storage= 0.57' , Surface Width= 3.42'
Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 120.75 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= 42.0' Slope= 0.0238 '/'
Inlet Invert= 97.00', Outlet Invert= 96.00'



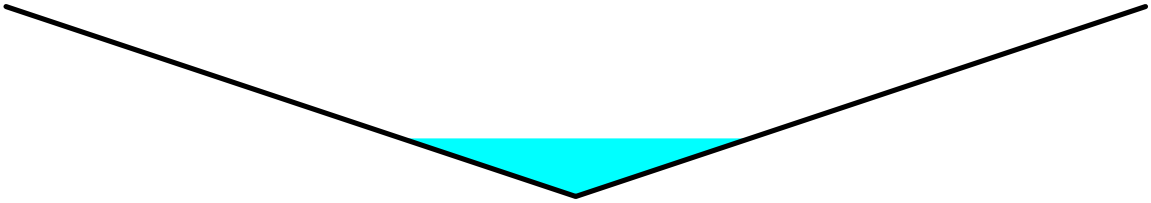
Summary for Reach 4R: Swale

Inflow Area =	3.974 ac,	1.01% Impervious,	Inflow Depth >	1.10"	for 2-yr Storm event
Inflow =	3.73 cfs @	12.29 hrs,	Volume=	0.363 af	
Outflow =	3.71 cfs @	12.31 hrs,	Volume=	0.363 af,	Atten= 1%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.31 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.71 fps, Avg. Travel Time= 1.2 min

Peak Storage= 135 cf @ 12.30 hrs
Average Depth at Peak Storage= 0.61' , Surface Width= 3.67'
Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 87.49 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= 120.0' Slope= 0.0125 '/'
Inlet Invert= 99.50', Outlet Invert= 98.00'



Summary for Pond 1P: Culvert

Inflow Area =	5.672 ac,	16.42% Impervious,	Inflow Depth >	0.98"	for 2-yr Storm event
Inflow =	4.23 cfs @	12.31 hrs,	Volume=	0.465 af	
Outflow =	4.23 cfs @	12.31 hrs,	Volume=	0.465 af,	Atten= 0%, Lag= 0.2 min
Primary =	4.23 cfs @	12.31 hrs,	Volume=	0.465 af	
Secondary =	0.00 cfs @	5.00 hrs,	Volume=	0.000 af	

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 96.94' @ 12.31 hrs Surf.Area= 94 sf Storage= 47 cf

Plug-Flow detention time= 0.2 min calculated for 0.465 af (100% of inflow)
Center-of-Mass det. time= 0.2 min (821.4 - 821.2)

Volume	Invert	Avail.Storage	Storage Description
#1	96.00'	553 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
96.00	5	0	0
97.00	100	53	53
98.00	200	150	203
99.00	500	350	553

Device	Routing	Invert	Outlet Devices
#1	Primary	96.00'	**24.0" Round Culvert** L= 56.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 96.00' / 94.50' S= 0.0268 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Secondary	98.00'	**8.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=4.20 cfs @ 12.31 hrs HW=96.94' (Free Discharge)
└**1=Culvert** (Inlet Controls 4.20 cfs @ 2.91 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=96.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 2P: Culvert

Inflow Area = 1.077 ac, 11.26% Impervious, Inflow Depth > 1.34" for 2-yr Storm event
Inflow = 1.22 cfs @ 12.29 hrs, Volume= 0.121 af
Outflow = 1.22 cfs @ 12.30 hrs, Volume= 0.120 af, Atten= 0%, Lag= 0.7 min
Primary = 1.22 cfs @ 12.30 hrs, Volume= 0.120 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 94.98' @ 12.30 hrs Surf.Area= 196 sf Storage= 71 cf

Plug-Flow detention time= 1.9 min calculated for 0.120 af (100% of inflow)
Center-of-Mass det. time= 1.3 min (812.3 - 811.0)

Volume	Invert	Avail.Storage	Storage Description
#1	94.50'	3,225 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.50	100	0	0
95.00	200	75	75
96.00	300	250	325
97.00	500	400	725
98.00	1,000	750	1,475
99.00	2,500	1,750	3,225

Device	Routing	Invert	Outlet Devices
#1	Primary	94.50'	**24.0" Round Culvert** L= 70.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 94.50' / 91.00' S= 0.0500 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Secondary	98.50'	**20.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=1.22 cfs @ 12.30 hrs HW=94.98' (Free Discharge)
└**1=Culvert** (Inlet Controls 1.22 cfs @ 2.09 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=94.50' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 3P: Culvert

Inflow Area = 3.974 ac, 1.01% Impervious, Inflow Depth > 1.10" for 2-yr Storm event
Inflow = 3.75 cfs @ 12.27 hrs, Volume= 0.363 af
Outflow = 3.73 cfs @ 12.29 hrs, Volume= 0.363 af, Atten= 1%, Lag= 1.2 min
Primary = 3.73 cfs @ 12.29 hrs, Volume= 0.363 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 100.90' @ 12.29 hrs Surf.Area= 317 sf Storage= 176 cf

Plug-Flow detention time= 0.5 min calculated for 0.362 af (100% of inflow)
Center-of-Mass det. time= 0.5 min (820.3 - 819.8)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	1,745 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	75	0	0
102.00	613	688	688
103.00	1,500	1,057	1,745

Device	Routing	Invert	Outlet Devices
#1	Primary	99.80'	**18.0" Round Culvert** L= 44.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 99.80' / 99.50' S= 0.0068 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

#2	Secondary	102.80'	**24.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=3.71 cfs @ 12.29 hrs HW=100.90' (Free Discharge)
└─**1=Culvert** (Barrel Controls 3.71 cfs @ 3.74 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=100.00' (Free Discharge)
└─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond CB-1: Catch Basin Southern Parking Lot

Inflow Area =	0.408 ac, 95.90% Impervious, Inflow Depth > 2.59" for 2-yr Storm event			
Inflow =	1.21 cfs @	12.07 hrs, Volume=	0.088 af	
Outflow =	1.21 cfs @	12.07 hrs, Volume=	0.088 af, Atten= 0%, Lag= 0.0 min	
Primary =	1.21 cfs @	12.07 hrs, Volume=	0.088 af	

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 101.36' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	100.70'	**12.0" Round Culvert** L= 44.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 100.70' / 100.00' S= 0.0159 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.17 cfs @ 12.07 hrs HW=101.35' (Free Discharge)
└─**1=Culvert** (Inlet Controls 1.17 cfs @ 2.17 fps)

Summary for Pond RDF-1: Roof Dripline Filter #1

Inflow Area =	0.139 ac,100.00% Impervious, Inflow Depth > 2.68" for 2-yr Storm event			
Inflow =	0.42 cfs @	12.07 hrs, Volume=	0.031 af	
Outflow =	0.22 cfs @	12.21 hrs, Volume=	0.030 af, Atten= 48%, Lag= 8.1 min	
Primary =	0.22 cfs @	12.21 hrs, Volume=	0.030 af	
Secondary =	0.00 cfs @	5.00 hrs, Volume=	0.000 af	

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 105.07' @ 12.21 hrs Surf.Area= 0.025 ac Storage= 0.005 af

Plug-Flow detention time= 24.1 min calculated for 0.030 af (98% of inflow)
Center-of-Mass det. time= 15.6 min (753.7 - 738.1)

Volume	Invert	Avail.Storage	Storage Description
#1	105.75'	0.015 af	**4.00'W x 136.00'L x 3.00'H 36" Reservoir Layer Stone** 0.037 af Overall x 40.0% Voids
#2	104.75'	0.005 af	**4.00'W x 136.00'L x 1.00'H 12" Filter Layer** 0.012 af Overall x 40.0% Voids
#3	104.00'	0.003 af	**3.00'W x 136.00'L x 0.67'H Bottom 4" Pipe Course Gravel** 0.006 af Overall x 40.0% Voids
#4	103.75'	0.000 af	**1.00'W x 136.00'L x 0.33'H Course Gravel** 0.001 af Overall x 40.0% Voids
		0.023 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	104.00'	**4.0" Round Culvert** L= 110.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 104.00' / 103.50' S= 0.0045 '/' Cc= 0.900 n= 0.011 PVC, smooth interior, Flow Area= 0.09 sf
#2	Secondary	107.00'	**136.0' long x 3.0' 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 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=0.22 cfs @ 12.21 hrs HW=105.06' (Free Discharge)
└**1=Culvert** (Barrel Controls 0.22 cfs @ 2.51 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=103.76' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond RDF-2: Roof Dripline Filter #2

Inflow Area = 0.151 ac,100.00% Impervious, Inflow Depth > 2.68" for 2-yr Storm event
Inflow = 0.46 cfs @ 12.07 hrs, Volume= 0.034 af
Outflow = 0.30 cfs @ 12.17 hrs, Volume= 0.033 af, Atten= 35%, Lag= 5.7 min
Primary = 0.30 cfs @ 12.17 hrs, Volume= 0.033 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 104.96' @ 12.17 hrs Surf.Area= 0.026 ac Storage= 0.004 af

Plug-Flow detention time= 23.2 min calculated for 0.033 af (98% of inflow)
Center-of-Mass det. time= 15.3 min (753.4 - 738.1)

Volume	Invert	Avail.Storage	Storage Description
#1	105.75'	0.006 af	**4.00'W x 127.00'L x 1.25'H 36" Reservoir Layer Stone** 0.015 af Overall x 40.0% Voids
#2	104.75'	0.005 af	**4.00'W x 127.00'L x 1.00'H 12" Filter Layer** 0.012 af Overall x 40.0% Voids
#3	104.00'	0.003 af	**4.00'W x 127.00'L x 0.67'H Bottom 4" Pipe Course Gravel** 0.008 af Overall x 40.0% Voids
#4	103.75'	0.000 af	**1.00'W x 127.00'L x 0.33'H Course Gravel** 0.001 af Overall x 40.0% Voids
		0.014 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	104.00'	**4.0" Round Culvert** L= 42.7' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 104.00' / 103.50' S= 0.0117 '/' Cc= 0.900 n= 0.011 PVC, smooth interior, Flow Area= 0.09 sf
#2	Secondary	107.00'	**127.0' long x 4.0' 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 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=0.29 cfs @ 12.17 hrs HW=104.95' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.29 cfs @ 3.37 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=103.76' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond UDSF: UDSF

Inflow Area =	1.408 ac, 42.69% Impervious, Inflow Depth > 1.80" for 2-yr Storm event			
Inflow =	2.04 cfs @	12.11 hrs, Volume=	0.212 af	
Outflow =	0.05 cfs @	19.84 hrs, Volume=	0.038 af, Atten= 97%, Lag= 463.7 min	
Primary =	0.05 cfs @	19.84 hrs, Volume=	0.038 af	
Secondary =	0.00 cfs @	5.00 hrs, Volume=	0.000 af	

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 101.50' @ 19.84 hrs Surf.Area= 6,549 sf Storage= 7,557 cf

Plug-Flow detention time= 302.1 min calculated for 0.038 af (18% of inflow)
Center-of-Mass det. time= 147.4 min (925.7 - 778.3)

Volume	Invert	Avail.Storage	Storage Description
#1	100.00'	11,109 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
100.00	3,546	0.0	0	0
101.50	6,554	100.0	7,575	7,575
102.00	7,581	100.0	3,534	11,109

Device	Routing	Invert	Outlet Devices
#1	Primary	100.00'	**1.6" Round Culvert** L= 42.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 100.00' / 98.00' S= 0.0476 '/' Cc= 0.900 n= 0.011 PVC, smooth interior, Flow Area= 0.01 sf
#2	Secondary	101.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.05 cfs @ 19.84 hrs HW=101.50' (Free Discharge)
└─**1=Culvert** (Barrel Controls 0.05 cfs @ 3.71 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=100.00' (Free Discharge)
└─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link AP-1: Analysis Point #1

Inflow Area = 5.672 ac, 16.42% Impervious, Inflow Depth > 0.98" for 2-yr Storm event
Inflow = 4.23 cfs @ 12.31 hrs, Volume= 0.465 af
Primary = 4.23 cfs @ 12.31 hrs, Volume= 0.465 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link AP-2: Analysis Point #2

Inflow Area = 1.077 ac, 11.26% Impervious, Inflow Depth > 1.34" for 2-yr Storm event
Inflow = 1.22 cfs @ 12.30 hrs, Volume= 0.120 af
Primary = 1.22 cfs @ 12.30 hrs, Volume= 0.120 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 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 SC-1: South of Parcel Runoff Area=173,119 sf 1.01% Impervious Runoff Depth>2.20"
Flow Length=473' Tc=18.8 min CN=78 Runoff=7.62 cfs 0.728 af

Subcatchment SC-2a: West Side Roof Runoff Area=6,051 sf 100.00% Impervious Runoff Depth>4.05"
Tc=5.0 min CN=98 Runoff=0.63 cfs 0.047 af

Subcatchment SC-2b: East Side Roof Runoff Area=6,577 sf 100.00% Impervious Runoff Depth>4.05"
Tc=5.0 min CN=98 Runoff=0.68 cfs 0.051 af

Subcatchment SC-2c: Southern Parking Runoff Area=17,758 sf 95.90% Impervious Runoff Depth>3.97"
Flow Length=261' Tc=5.0 min CN=97 Runoff=1.83 cfs 0.135 af

Subcatchment SC-2d: Northern Parking Runoff Area=43,587 sf 21.01% Impervious Runoff Depth>2.72"
Flow Length=490' Tc=17.2 min CN=84 Runoff=2.43 cfs 0.226 af

Subcatchment SC-2e: Parcel & Northeast Runoff Area=46,920 sf 11.26% Impervious Runoff Depth>2.54"
Flow Length=636' Tc=20.3 min CN=82 Runoff=2.30 cfs 0.228 af

Reach 1R: 4" UD Avg. Flow Depth=0.13' Max Vel=5.39 fps Inflow=0.65 cfs 0.097 af
41.0" Round Pipe n=0.011 L=136.0' S=0.0404 '/' Capacity=224.23 cfs Outflow=0.65 cfs 0.097 af

Reach 2R: Swale Avg. Flow Depth=0.26' Max Vel=3.13 fps Inflow=0.65 cfs 0.097 af
n=0.022 L=29.0' S=0.0345 '/' Capacity=145.32 cfs Outflow=0.65 cfs 0.097 af

Reach 3R: Swale Avg. Flow Depth=0.73' Max Vel=5.12 fps Inflow=8.12 cfs 1.010 af
n=0.022 L=42.0' S=0.0238 '/' Capacity=120.75 cfs Outflow=8.11 cfs 1.010 af

Reach 4R: Swale Avg. Flow Depth=0.79' Max Vel=3.93 fps Inflow=7.41 cfs 0.728 af
n=0.022 L=120.0' S=0.0125 '/' Capacity=87.49 cfs Outflow=7.38 cfs 0.728 af

Pond 1P: Culvert Peak Elev=97.37' Storage=97 cf Inflow=8.11 cfs 1.010 af
Primary=8.09 cfs 1.010 af Secondary=0.00 cfs 0.000 af Outflow=8.09 cfs 1.010 af

Pond 2P: Culvert Peak Elev=95.17' Storage=111 cf Inflow=2.30 cfs 0.228 af
Primary=2.29 cfs 0.227 af Secondary=0.00 cfs 0.000 af Outflow=2.29 cfs 0.227 af

Pond 3P: Culvert Peak Elev=101.77' Storage=552 cf Inflow=7.62 cfs 0.728 af
Primary=7.41 cfs 0.728 af Secondary=0.00 cfs 0.000 af Outflow=7.41 cfs 0.728 af

Pond CB-1: Catch Basin Southern Parking Lot Peak Elev=101.57' Inflow=1.83 cfs 0.135 af
12.0" Round Culvert n=0.010 L=44.0' S=0.0159 '/' Outflow=1.83 cfs 0.135 af

Pond RDF-1: Roof Dripline Filter #1 Peak Elev=105.76' Storage=0.008 af Inflow=0.63 cfs 0.047 af
Primary=0.27 cfs 0.046 af Secondary=0.00 cfs 0.000 af Outflow=0.27 cfs 0.046 af

Pond RDF-2: Roof Dripline Filter #2 Peak Elev=105.56' Storage=0.007 af Inflow=0.68 cfs 0.051 af
Primary=0.37 cfs 0.050 af Secondary=0.00 cfs 0.000 af Outflow=0.37 cfs 0.050 af

Pond UDSF: UDSF Peak Elev=101.64' Storage=8,522 cf Inflow=3.42 cfs 0.361 af
Primary=0.05 cfs 0.042 af Secondary=1.32 cfs 0.144 af Outflow=1.38 cfs 0.186 af

Link AP-1: Analysis Point #1 Inflow=8.09 cfs 1.010 af
Primary=8.09 cfs 1.010 af

Link AP-2: Analysis Point #2 Inflow=2.29 cfs 0.227 af
Primary=2.29 cfs 0.227 af

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 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 SC-1: South of Parcel Runoff Area=173,119 sf 1.01% Impervious Runoff Depth>3.17"
Flow Length=473' Tc=18.8 min CN=78 Runoff=10.94 cfs 1.049 af

Subcatchment SC-2a: West Side Roof Runoff Area=6,051 sf 100.00% Impervious Runoff Depth>5.15"
Tc=5.0 min CN=98 Runoff=0.79 cfs 0.060 af

Subcatchment SC-2b: East Side Roof Runoff Area=6,577 sf 100.00% Impervious Runoff Depth>5.15"
Tc=5.0 min CN=98 Runoff=0.86 cfs 0.065 af

Subcatchment SC-2c: Southern Parking Runoff Area=17,758 sf 95.90% Impervious Runoff Depth>5.07"
Flow Length=261' Tc=5.0 min CN=97 Runoff=2.32 cfs 0.172 af

Subcatchment SC-2d: Northern Parking Runoff Area=43,587 sf 21.01% Impervious Runoff Depth>3.76"
Flow Length=490' Tc=17.2 min CN=84 Runoff=3.32 cfs 0.314 af

Subcatchment SC-2e: Parcel & Northeast Runoff Area=46,920 sf 11.26% Impervious Runoff Depth>3.56"
Flow Length=636' Tc=20.3 min CN=82 Runoff=3.19 cfs 0.319 af

Reach 1R: 4" UD Avg. Flow Depth=0.14' Max Vel=5.64 fps Inflow=0.74 cfs 0.123 af
41.0" Round Pipe n=0.011 L=136.0' S=0.0404 '/' Capacity=224.23 cfs Outflow=0.74 cfs 0.123 af

Reach 2R: Swale Avg. Flow Depth=0.28' Max Vel=3.24 fps Inflow=0.74 cfs 0.123 af
n=0.022 L=29.0' S=0.0345 '/' Capacity=145.32 cfs Outflow=0.74 cfs 0.123 af

Reach 3R: Swale Avg. Flow Depth=0.89' Max Vel=5.86 fps Inflow=13.91 cfs 1.481 af
n=0.022 L=42.0' S=0.0238 '/' Capacity=120.75 cfs Outflow=13.91 cfs 1.480 af

Reach 4R: Swale Avg. Flow Depth=0.89' Max Vel=4.24 fps Inflow=9.95 cfs 1.049 af
n=0.022 L=120.0' S=0.0125 '/' Capacity=87.49 cfs Outflow=9.93 cfs 1.048 af

Pond 1P: Culvert Peak Elev=98.05' Storage=212 cf Inflow=13.91 cfs 1.480 af
Primary=13.66 cfs 1.479 af Secondary=0.22 cfs 0.002 af Outflow=13.88 cfs 1.480 af

Pond 2P: Culvert Peak Elev=95.31' Storage=141 cf Inflow=3.19 cfs 0.319 af
Primary=3.19 cfs 0.319 af Secondary=0.00 cfs 0.000 af Outflow=3.19 cfs 0.319 af

Pond 3P: Culvert Peak Elev=102.75' Storage=1,391 cf Inflow=10.94 cfs 1.049 af
Primary=9.95 cfs 1.049 af Secondary=0.00 cfs 0.000 af Outflow=9.95 cfs 1.049 af

Pond CB-1: Catch Basin Southern Parking Lot Peak Elev=101.80' Inflow=2.32 cfs 0.172 af
12.0" Round Culvert n=0.010 L=44.0' S=0.0159 '/' Outflow=2.32 cfs 0.172 af

Pond RDF-1: Roof Dripline Filter #1 Peak Elev=106.38' Storage=0.011 af Inflow=0.79 cfs 0.060 af
Primary=0.31 cfs 0.059 af Secondary=0.00 cfs 0.000 af Outflow=0.31 cfs 0.059 af

Pond RDF-2: Roof Dripline Filter #2 Peak Elev=106.14' Storage=0.010 af Inflow=0.86 cfs 0.065 af
Primary=0.43 cfs 0.064 af Secondary=0.00 cfs 0.000 af Outflow=0.43 cfs 0.064 af

Pond UDSF: UDSF Peak Elev=101.75' Storage=9,299 cf Inflow=4.51 cfs 0.486 af
Primary=0.05 cfs 0.045 af Secondary=3.20 cfs 0.264 af Outflow=3.25 cfs 0.310 af

Link AP-1: Analysis Point #1 Inflow=13.66 cfs 1.479 af
Primary=13.66 cfs 1.479 af

Link AP-2: Analysis Point #2 Inflow=3.24 cfs 0.320 af
Primary=3.24 cfs 0.320 af

APPENDIX D

BMP TREATMENT SIZING & DEVELOPMENT CALCULATIONS

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STORMWATER TREATMENT SIZING CALCULATIONS

Project Name: Yarmouth Veterinary center
Project Location: US Route 1, Cumberland, ME
Project No: 220039
By: KET
Date: 5/11/2022
Checked By: JTR
Date: 8/5/2022

Stormwater Treatment: Underdrained Soil Filter #1 Parking Area

				DEVELOPED AREA	=	84,546	sf	
				IMPERVIOUS AREAS CAPTURED	=	26,189	sf	
				NON-IMPERVIOUS AREAS CAPTURED	=	35,156	sf	
				TOTAL AREA CAPTURED	=	61,345	sf	
				REQUIRED TREATMENT VOLUME				
(1"/12")	26,189	+	(0.4"/12")	35,156	=	3,354	cf	6,893 cf provided
				CHANNEL PROTECTION VOLUME (DEPTH)	=	1.5	ft	1.5 ft provided
				REQUIRED FILTER SURFACE AREA				
(0.05)	26,189	+	(0.2)	35,156	=	2,013	sf	3,000 sf provided
				SEDIMENT TRAP VOLUME				
(10.00)	0.670		(500 lbs per acre-storm): (90 lb /ft^3)		=	37	cf	
				CUMULATIVE STORAGE	=	6,893	cf	
				FLOW AT UNDERDRAIN OUTLET	=	0.05	cfs	
				DRAIN TIME				
6893	cf	/	0.05	/ 3,600	=	38	hours	

Stormwater Treatment: Roof Dripline Filter #1 East Side of Admin Building

ROOF AREAS CAPTURED	=	6,051	sf
GRASS AREAS CAPTURED	=	N/A	
MINIMUM STORAGE VOLUME			
1 inch x Impervious Area	=	504	cf
PROPOSED FILTER SIZE	=	4 feet wide by 1.25 feet deep by 130 feet long (with 40% voids in stone)	
Storage Volume Provided	=	780	cf

Stormwater Treatment: Roof Dripline Filter #2 West Side of Admin Building

ROOF AREAS CAPTURED	=	6,577	sf
GRASS AREAS CAPTURED	=	N/A	
MINIMUM STORAGE VOLUME			
1 inch x Impervious Area	=	548	cf
PROPOSED FILTER SIZE	=	4 feet wide by 1.25 feet deep by 136 feet long (with 40% voids in stone)	
ACTUAL VOLUME PROPOSED	=	816	cf

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TREATMENT SUMMARY FOR NEW DEVELOPMENT STANDARD
yarmouth vet center

	Subcatchment ID	New Impervious Area (SF)	New Landscaped Area (SF)	New Development Area (SF)
Total Project Areas		40,671	42,440	83,111
Roof Drip Filter #1	SC-2a	6,051		6,051
Roof Drip Filter #2	SC-2b	6,577		6,577
Underdrained Soil Filter #1	SC-2c, SC-2d	26,189	28,008	54,197
Total Area Treated		38,817	28,008	**66,825**
Percent of New Impervious Treated		**95%**		
Percent of New Development Area Treated				**80%**

APPENDIX E

POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN

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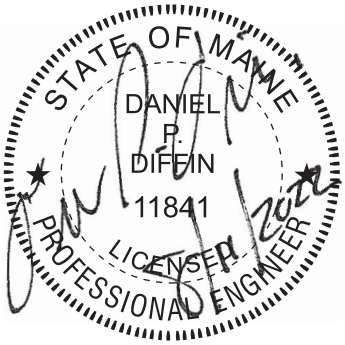
POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN
YARMOUTH VETERINARY CENTER
CUMBERLAND, MAINE

Prepared for

YARMOUTH VETERINARY CENTER

75 Willow Street

Yarmouth, Maine



August 2022

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SME
SEVEE & MAHER ENGINEERS

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TABLE OF CONTENTS

Section No.	Title	Page No.
1.0	**SITE DESCRIPTION**	**1**
2.0	**FACILITY CONTACTS**	**2**
3.0	**POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN OVERVIEW AND OBJECTIVES**	**3**
3.1	Site Management Practices	3
3.2	Inspections	3
3.3	Routine Maintenance and Corrective Actions	5
3.4	MEDEP 5-Year Re-certification	6

LIST OF TABLES

Table No.	Title	Page No.
1	LONG-TERM INSPECTION AND MAINTENANCE PLAN-YARMOUTH VETERINARY CENTER	4

POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN
YARMOUTH VETERINARY CENTER
CUMBERLAND, MAINE

1.0 SITE DESCRIPTION

Yarmouth Veterinary Center (YVC) is proposing the development of a commercial veterinary center and parking area on a parcel of land off Route 1 in Cumberland, Maine. The project will include approximately 0.96 acres of commercial building, outdoor pet relief area, and employee and customer parking. The property was chosen based on its location within the Official Commercial South Zoning District for the Town of Cumberland which allows the use of a veterinary center. See Figure 1, Site Location Map for the site location on a 7.5 Min USGS Topo Quad Map. More details on the project site are shown in the engineering drawing set provided with this application.

The subject property is owned by Yarmouth Veterinary Center, LLC and is identified as Lot 11-4 on the Town of Cumberland Tax Map R01. Currently, the parcel is 2.95 acres of undeveloped woodland. The property is bordered by Route 1 to the east, commercial building to the south, and residential properties and undeveloped forested land to the north and west.

The 12,630-square-foot (0.29 acres) veterinary center will be accessed by a new 24-foot-wide paved access road with a two-way traffic flow entering and exiting off an existing 40-foot-wide access easement on Route 1. The internal road will range between 3 to 5 percent slope. SME evaluated internal circulation of the road to accommodate a WB-67 truck. The road will have access to two parking areas, including 53 regular spaces and four handicap accessible spaces.

Proposed development will result in approximately 2.45 acres of cleared area. There will be approximately 13,000 square feet (0.30 acres) of commercial veterinary facility, 1,280 square feet (0.03 acre) of concrete slabs-on-grade, and 27,800 square feet (0.63 acres) of paved parking and access road. The project will result in approximately 0.96 acres of new impervious area and approximately 2.45 acres of total developed area.

The parcel is part of an existing subdivision, Cumberland Foreside Village, which has been renamed Heritage Village and is regulated by the Maine Department of Environmental Protection (MEDEP) Site Location of Development Act (SLODA) permit. The existing Department Order #L-21578-39-C-N/L-21578-TB-B-N dated February 17, 2004 approved the subdivision of a 51.22-acre parcel of land into 12 commercial/light industrial lots ranging in size from 1.66 acres to approximately 12.99 acres. Several subsequent Department Orders approved other modifications to the development of Cumberland Foreside Village.

The site work will include construction of an underdrained soil filter and roof dripline filter for stormwater treatment of the YVC roof and exterior parking lot runoff. Vegetated developed areas will be stabilized with loam, seed, and mulch. Information about stormwater treatment is included in Section 12 of this application.

2.0 FACILITY CONTACTS

Facility:	Yarmouth Veterinary Center US Route 1 Cumberland, Maine 04011
Owner Representative:	Yarmouth Veterinary Center Zachary Smith 75 Willow Street Yarmouth, ME 04096 207-846-6515 zachsmithyvc@gmail.com
Consultant/Designer:	Sevee & Maher Engineers 4 Blanchard Road Cumberland, Maine 04021 Telephone: 207.829.5016 Jeffrey T. Read, P.E. jtr@smemaine.com

3.0 POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN OVERVIEW AND OBJECTIVES

The Post-Construction Stormwater Management Plan (PSWMP) is an important component of the overall stormwater management system for the site. PSWMP addresses various maintenance activities that should occur after construction and site stabilization. Proper implementation of the PSWMP can minimize pollutant generation and transport and maintain the stormwater treatment system to ensure proper operation. This PSWMP includes three primary components:

1. Site Management Practices
2. Inspections
3. Routine Maintenance and Corrective Actions

3.1 Site Management Practices

Site management practices are aimed at reducing pollutants by minimizing use of certain materials, using alternative materials, or removing pollutants prior to discharge to the stormwater treatment system. These practices shall include:

1. Use slow-release sulfur or plastic-coated ureaform fertilizers (e.g., Nutralene);
2. Do not fertilize vegetated swales once vegetation is established;
3. Minimize use of pesticides by using a sound integrated pest management (IPM) approach to monitor and control the actual pests present;
4. Collect and remove autumn leaves to minimize transport to the stormwater treatment system;
5. Minimize use of de-icing materials and sand;
6. Routine sweeping of parking areas and driveways;
7. Fertilizers, pesticides, and other hazardous materials should be stored in enclosed areas to avoid exposure to precipitation; and
8. Material handling should be conducted to minimize risk of spillage and release to the stormwater treatment system.

3.2 Inspections

A series of routine inspections shall be completed to allow for the early identification of potential problems and to guide routine maintenance activities. Inspections shall be carried out in accordance with

the Site Inspection Schedule (Table 1). Dates and observations shall be recorded for each inspection on the attached 'Inspection Log'.

TABLE 1

LONG-TERM INSPECTION AND MAINTENANCE PLAN
YARMOUTH VETERINARY CENTER

	Spring	Fall or Yearly	After a Major Storm	Every 2-5 Years
Vegetated Areas				
Inspect all slopes and embankments.	X		X	
Replant bare areas or areas with sparse growth.	X		X	
Armor areas with rill erosion with an appropriate lining or divert the erosive flows to on-site areas able to withstand concentrated flows.	X		X	
Stormwater Channels				
Inspect ditches, swales, and other open stormwater channels.	X	X	X	
Remove any obstructions and accumulated sediments or debris.	X	X		
Control vegetated growth and woody vegetation.		X		
Repair any erosion of the ditch lining.		X		
Mow vegetated ditches.		X		
Remove woody vegetation growing through riprap.		X		
Repair any slumping side slopes.		X		
Replace riprap where underlying filter fabric or underdrain gravel is showing or where stones have dislodged.		X		
Culverts				
Remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit.	X	X	X	
Repair any erosion damage at the culvert's inlet and outlet.	X	X	X	
Catch Basin Systems/Outlet Control Structures				
Remove and legally dispose of accumulated sediments and debris from the bottom of the basin, inlet grates, inflow channels to the basin, and pipes between basins.	X	X		
Remove floating debris and floating oils (using oil absorptive pads) from any trap designed for such and dispose in a legal manner.	X	X		
Driveways and Parking Surfaces				
Clear accumulated winter sand in parking lots and along roadways.	X			
Sweep pavement to remove sediment.	X			
Grade road shoulders and remove excess sand either manually or by front-end loader.	X			
Ensure that stormwater is not impeded by accumulations of material or false ditches in the shoulder.	X			
Rake and replace Superhumus in areas where necessary.				
Roof Dripline Filter				
Inspect drip edge for debris and to ensure proper function.	X	X	X	
Remove accumulated sediment, plants, excessive growth, and weeds.		X		
Grassed Underdrained Soil Filters				
Inspect soil filter to see that collected water drains within 24 hours.	X	X	X	
Rototill top 6" soil, or remove and replace the top 3" to 4" of filter soil with clean soil to the proper specification, when the bed fails to drain dry within 24 to 48 hours.				X
Remove accumulated sediment, dead portions of plants, excessive growth, and weeds.		X		
Mow grass-covered filter bed no shorter than 6", at a frequency of no more than 2 times per growing season, to maintain a high-grass meadow. Do not fertilize unless absolutely needed.	X	X		

3.3 Routine Maintenance and Corrective Actions

Routine maintenance activities are designed to ensure proper function of the stormwater management system and minimize pollutant transport from the site. Routine maintenance activities must be completed according to the schedule (Table 1) provided in this plan. This schedule is the minimum amount of maintenance required; maintenance that is more frequent may be needed when indicated by the inspections. Corrective actions (supplemental maintenance activities or repairs) should be completed within seven days of the inspection identifying the problem. Each maintenance activity will be recorded on the attached 'Maintenance and Repair Log.'

During construction, the Sitework Contractor (not yet selected) shall be responsible for cleaning and maintaining stormwater components on the schedule outlined in Table 1.

Following completion of construction, the Owner will be responsible for cleaning and maintaining stormwater components on the schedule outlined in Table 1.

Place removed sediments in an area of low erosion potential, either on-site or off-site, and seed with erosion control seed mix.

The following describes specific stormwater facilities maintenance requirements and minimum schedule of inspection and maintenance.

1. Open swales and ditches need to be inspected in the spring and fall, or after a major rainfall event, to assure that debris or sediments do not reduce the effectiveness of the system. Debris needs to be removed at that time. Sign of erosion or blockage shall be immediately repaired to assure a vigorous growth of vegetation for the stability of the structure and proper functioning. Swales that show newly formed channels or gullies will be immediately repaired by reseeding/sodding of bare spots, removal of trash, leaves and/or accumulated sediments, and the control of woody or other undesirable vegetation.
2. Vegetated ditches should be mowed at least once during the growing season. Larger brush or trees must not be allowed to become established in the channel. Any areas where the vegetation fails will be subject to erosion and should be repaired and revegetated.
3. If sediment in culverts or piped drainage systems exceeds 20 percent of the diameter of the pipe, it should be removed. This may be accomplished by hydraulic flushing or other mechanical means; however, care should be taken to not flush the sediments into the filter basins or retention/detention pond as it will reduce the pond's capacity and hasten the time when it must be cleaned. Storm pipes should be inspected on an annual basis.

4. Catch basin sumps and the outlet control structures shall be cleaned of debris and sediment at least annually to minimize clogging and transportation of sediment during rainfall events.
5. The Roof Dripline Filter shall be inspected semi-annually and following major storm events. The system should be inspected after every major storm in the first few months to ensure proper function. Debris shall be removed from the reservoir course to ensure proper drainage. The Roof Dripline Filter may not be paved over or altered and a gutter shall not be installed on the roofline.
6. Under-drained Soil Filter Basins shall be inspected after every major storm (2 inches of rainfall in a 24-hour period) during the first 6 months following construction to ensure proper operation. Thereafter, the facilities shall be inspected at least once every six months following significant rainfall to ensure that the facility is draining between 24 and 48 hours. Facilities that do not drain shall be rototilled to a depth of 8 inches. If rototilling does not result in improved drainage, the top several inches of filter bed material shall be removed and properly disposed of. New filter bed material shall be placed in the bed and revegetated.
7. Some erosion may occur at the inflow point of the soil filter basins. This needs to be corrected, as necessary. The surface of the treatment basins may clog with fine sediments over time. Maintenance of good grass cover will minimize this. Grass should be mowed not more than two times per season. Any bare areas should be seeded or sodded, as necessary. Inspect the basin's drainage area semi-annually for eroding soil and other sediment sources. Repair eroding areas using appropriate erosion control BMPs immediately. Control sediment sources, such as stockpiles of winter sand, by removing them from the basin's drainage area or surrounding them with sediment control BMPs. Prohibit vehicle access to all filtration areas. Heavy equipment used to maintain or rehabilitate the basins should work from the basin's perimeter.
8. Paved surfaces shall be swept or vacuumed at least annually in the spring to remove winter sand and periodically during the year on an as-needed basis to minimize the transportation of sediment during rainfall events.

3.4 MEDEP 5-Year Re-certification.

Submit a certification of the following to the Department within three months of the expiration of each five-year interval from the date of issuance of the permit.

a. Identification and repair of erosion problems. All areas of the project site have been inspected for areas of erosion and appropriate steps have been taken to permanently stabilize these areas.
b. Inspection and repair of stormwater control system. All aspects of the stormwater control system have been inspected for damage, wear, and malfunction and appropriate steps have been taken to repair or replace the system, or portions of the system.

c. Maintenance. The erosion and stormwater maintenance plan for the site is being implemented as written, or modifications to the plan have been submitted to and approved by the Department, and the maintenance log is being maintained.

The maintenance needs for most vegetative and stabilization measures may be found in the Maine Erosion and Sediment Control BMPs manual as published in 2016 (or latest version) and/or the Maine Stormwater Best Management Practices Manual.

INSPECTION LOG
YARMOUTH VETERINARY CENTER
CUMBERLAND, MAINE

Date	Device/Area Inspected	Inspected By	Observations, Deficiencies & Recommended Corrective Actions

INSPECTION LOG
YARMOUTH VETERINARY CENTER
CUMBERLAND, MAINE

Date	Device or Area Maintained/ Repaired	Maintenance and/or Repair Completed By	Maintenance Completed/Corrective Actions Taken

APPENDIX F

PWD ABILITY TO SERVE REQUEST LETTER

SME
SEVEE & MAHER
ENGINEERS

From: AMaP MEANS
To: Jeffrey Read
Subject: 387174-US Route 1 (Lot 4), CU - MDEP Capacity Request
Date: Tuesday, August 9, 2022 11:22:30 AM
Attachments: CU - Lot 4 US Route 1 - Water and Sewer Infrastructure Map - 2022.pdf

---

Hello Mr. Read,

This email does not give final approval of the project from PWD, however it can be used to satisfy Site Law Statute §484 - Standards for Development, Site Law Rule Chapter 375(18), and Site Law Rule Chapter 375(6) granted that the applicant meet all applicable standards set forth by DEP. Attached is a copy of PWD's infrastructure map noting the location, type, and size of the public water and wastewater infrastructure near your site, demonstrating a sufficient- and healthful water supply exists, and sewerage facilities may be utilized by the development. Based on the demand provided by the applicant, the district has sufficient supply to serve the proposed project and adequate capacity to ensure satisfactory treatment without an unreasonable adverse impact on the infrastructure shown in the attached Infrastructure Map, as long as the project is designed and installed in accordance with PWD standards. This email shall serve as PWD's acknowledgement of the project and the start of design coordination with the development team; In no way shall this information be interpreted as a determination of PWD's ability to serve the project at this time as this is only a determination of the capacity of the existing system(s) based on the proposed development. As your project progresses, we require that you submit design plans to MEANS for review of the proposed water and wastewater improvements. An Ability to Serve Determination letter is required from the District in order to receive final approval from the District and the municipality having jurisdiction.

Please let me know if you have any questions.

Thanks,
Robert Bartels, PE

Portland Water District
225 Douglass Street, PO Box 3553
Portland, ME 04104
Phone: 207-774-5961 x3199
E-mail: means@pwd.org
http://www.pwd.org

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this message in error. Recipients should be aware that replies to this message may not be considered confidential under
the Maine Freedom of Access law, 1 M.R.S.A. §402, and may therefore be subject to public disclosure upon request.

Please consider the environment before printing this email

Lot 4 US Route 1

Cumberland

PORTLAND WATER DISTRICT
225 Douglass Street
Portland, ME 04104

Scale 0 20 40 80 120 160 Feet — 1 inch = 100 feet

Legend

- Air Valve
- Blow Off
- By Pass
- Distribution
- Transmission
- Connection
- Attribute Change
- Hydrant Control
- Reducer
- Hydrant
- Meter Pits
- Combined Service
- Domestic Service
- Fire Service
- Shallow Water Main
- Deep Water Main
- Proposed Water Main
- Private Hydrants
- Gravity
- Force
- Manhole
- CSO

N S E

Disclaimer: This map is suitable for preliminary study and analysis and is based on PWD record information. PWD is not liable for any damages whatsoever resulting from inaccurate data or from errors made in the location and marking of its infrastructure.

Drawn By: BSJ

Scale: As Noted

Date: August 9, 2022

APPENDIX G

WASTEWATER CAPACITY REQUEST

SME
SEVEE & MAHER
ENGINEERS

SME
SEVEE & MAHER
ENGINEERS

4 Blanchard Road, P.O. Box 85A
Cumberland, ME 04021
Tel: 207.829.5016 • Fax: 207.829.5692
info@smemaine.com
smemaine.com

August 5, 2022

VIA E-MAIL
Mr. William Shane, P.E.
Town of Cumberland
290 Tuttle Road
Cumberland, ME 04021

Subject: Yarmouth Veterinary Center
Route 1, Cumberland, Maine

Dear Bill:

On behalf of Yarmouth Veterinary Center, Sevee & Maher Engineers, Inc. (SME) is requesting a letter from the Town Wastewater Department to verify their capacity to serve a serve new Veterinary Center on US Route 1 in Cumberland.

Proposed project includes a Veterinary Center building with parking for staff and visitors.

The total anticipated water demand for the property provided by the architectural calculations is 82 gallons/minute and the daily water usage to be 3,225 gallons per day. The calculations are based off the number of fixtures, employees, and operations of the facility.

Please feel free to contact me at 207.829.5016 or jtr@smemaine.com if you have any questions or need additional information.

Sincerely,

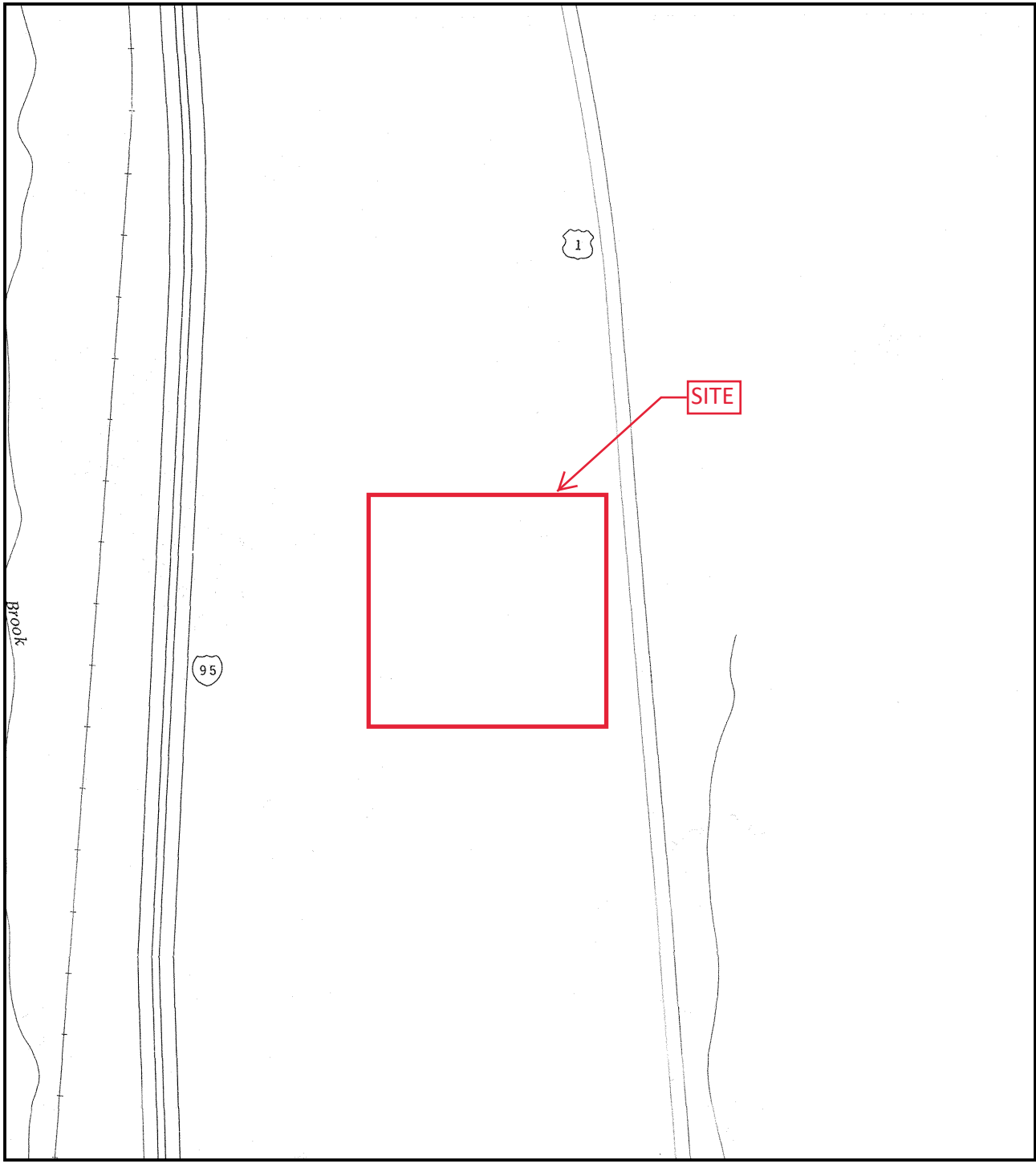
SEVEE & MAHER ENGINEERS, INC.

Jeffrey Read, P.E.
Project Manager

APPENDIX H

FEMA FIRM MAP

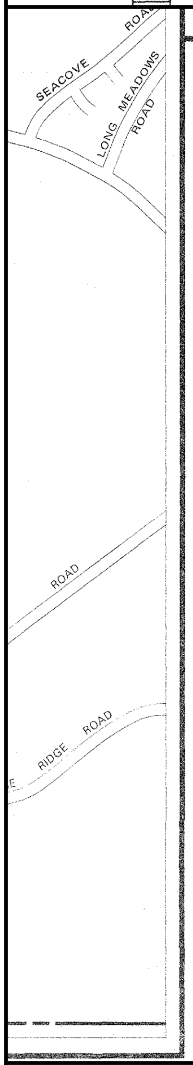
SME
SEVEE & MAHER
ENGINEERS



contact your insurance agent, or call the National Flood Insurance Program, at (800) 638-6620.

APPROXIMATE SCALE

400 0 400 FEET



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

TOWN OF
CUMBERLAND, MAINE
CUMBERLAND COUNTY

PANEL 18 OF 25
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
230162 0018 C

MAP REVISED:
OCTOBER 15, 1985

Federal Emergency Management Agency

This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at https://msc.fema.gov.

APPENDIX I

LIST OF ABUTTERS

SME
SEVEE & MAHER
ENGINEERS

List of Abutters – Yarmouth Veterinary Center

Map/Lot	Name & Address	Location
R1/11-3	Lola In Pearls, LLC 12 Railroad St Newport, ME 04953	6 Environmental Dr
R1/11-5	Belted Cow Realty, LLC 42 US Route 1 Cumberland Foreside, ME 04110	42 US Route 1
R1/11-7	Heritage Village Development Group, LLC The Swanson Group Westbrook, ME 04092	Sky View Dr
R1/7 (OPEN SPACE)	Cumberland Foreside Village Homeowners Association 190 US Route 1, PMB 3197 Falmouth, ME 04105	Nautical Dr
R1/7J	Nathan M. & Ariel H. Thompson 16 Nautical Dr Cumberland Foreside, ME 04110	16 Nautical Dr
R1/7K	Elizabeth R. Ives 18 Nautical Dr Cumberland Foreside, ME 04110	18 Nautical Dr
R1/7L	Ronnie-Lynn & Terry S. Bell, Jr 20 Nautical Drive Cumberland Foreside, ME 04110	20 Nautical Dr
U4/8B-1	Elizabeth Rosquete 4 Eagles Way Cumberland Foreside, ME 04110	5 Eagles Way
U4/8B-2	Loralane R. Garon & Timothy K. Cloudman 7 Eagles Way Cumberland Foreside, ME 04110	7 Eagles Way
U4/8B-3	Jennifer L. & Bruce R. Cassidy 34 Tortoise Lane Tequesta, FL 33469	12 Eagles Way
U4/8B-4	Joan E. & Robert C. Walsh 10 Eagles Way Cumberland Foreside, ME 04110	10 Eagles Way
U4/8B-5	Teri & Stephen Goble 12411 Verandah Blvd Fort Myers, FL 33905	6 Eagles Way
U4/8B-6	Robert & Judith A. Knupp 4 Eagles Way Cumberland Foreside, ME 04110	4 Eagles Way
U4/8B-7	Timothy J. & Ellen Jane Nastro 15 Falcon Dr Cumberland Foreside, ME 04110	15 Falcon Dr

U4/8B-8	Thomas & Elizabeth Griffin 17 Falcon Dr Cumberland Foreside, ME 04110	17 Falcon Dr
U4/8B-9	Robert W. & Barbara W. Hintze – Trustees 337 Marsh Creek Road Venice, FL 34292	21 Falcon Dr
U4/8B-10	Gail J. Volk – Trustee Gail Janis Volk Trust 1997 23 Falcon Dr Cumberland Foreside, ME 04110	23 Falcon Dr
U4/8B-11	John H. & Susan L. Berger 2/3 INT 27 Falcon Dr Cumberland Foreside, ME 04110	27 Falcon Dr
U4/8B-12	Emile Paul Gauthier – Trustee Emile Paul Gauthier Revocable Trust 29 Falcon Dr Cumberland Foreside, ME 04110	29 Falcon Dr
U4/8B-13	Charles C. Thomas Jr. P.O. Box 616 Bar Harbor, ME 04609	29 Falcon Dr
U4/8B-14	Mary Ann McLean 22 Falcon Dr Cumberland Foreside, ME 04110	22 Falcon Dr

APPENDIX J

CIVIL PLAN SET

(A COPY OF THE CIVIL PLAN SET IS ATTACHED TO THIS APPLICATION)

SME
SEVEE & MAHER
ENGINEERS

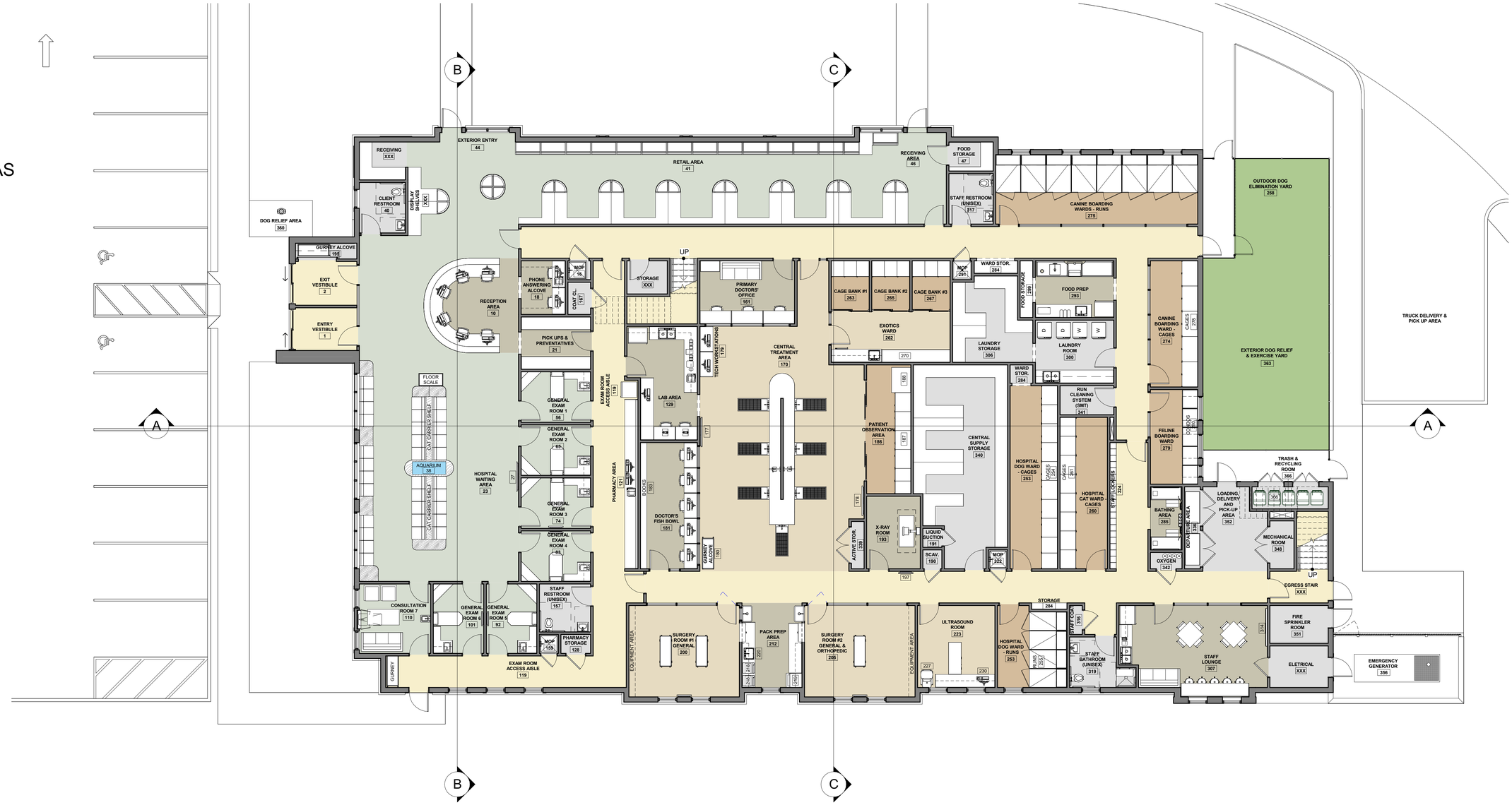
APPENDIX K

ARCHITECTURAL DRAWINGS

SME
SEVEE & MAHER
ENGINEERS

ROOM LEGEND

- OUTPATIENT AREAS
- INPATIENT AREAS
- ANIMAL HOUSING
- STAFF AREAS
- SUPPORT
- CIRCULATION
- K-9 GRASS



SCALE: 1/8" = 1' - 0"

0' 2' 4' 10' 20'
1' 3' 5' 15' 25'

PROJECT AREAS

	PROGRAMMED	SCHEMATIC
FIRST FLOOR	13,027 SQ FT	12,754 SQ FT
SECOND FLOOR	0 SQ FT	2,608 SQ FT
TOTAL AREA	13,027 SQ FT	14,662 SQ FT

FIRST FLOOR PLAN

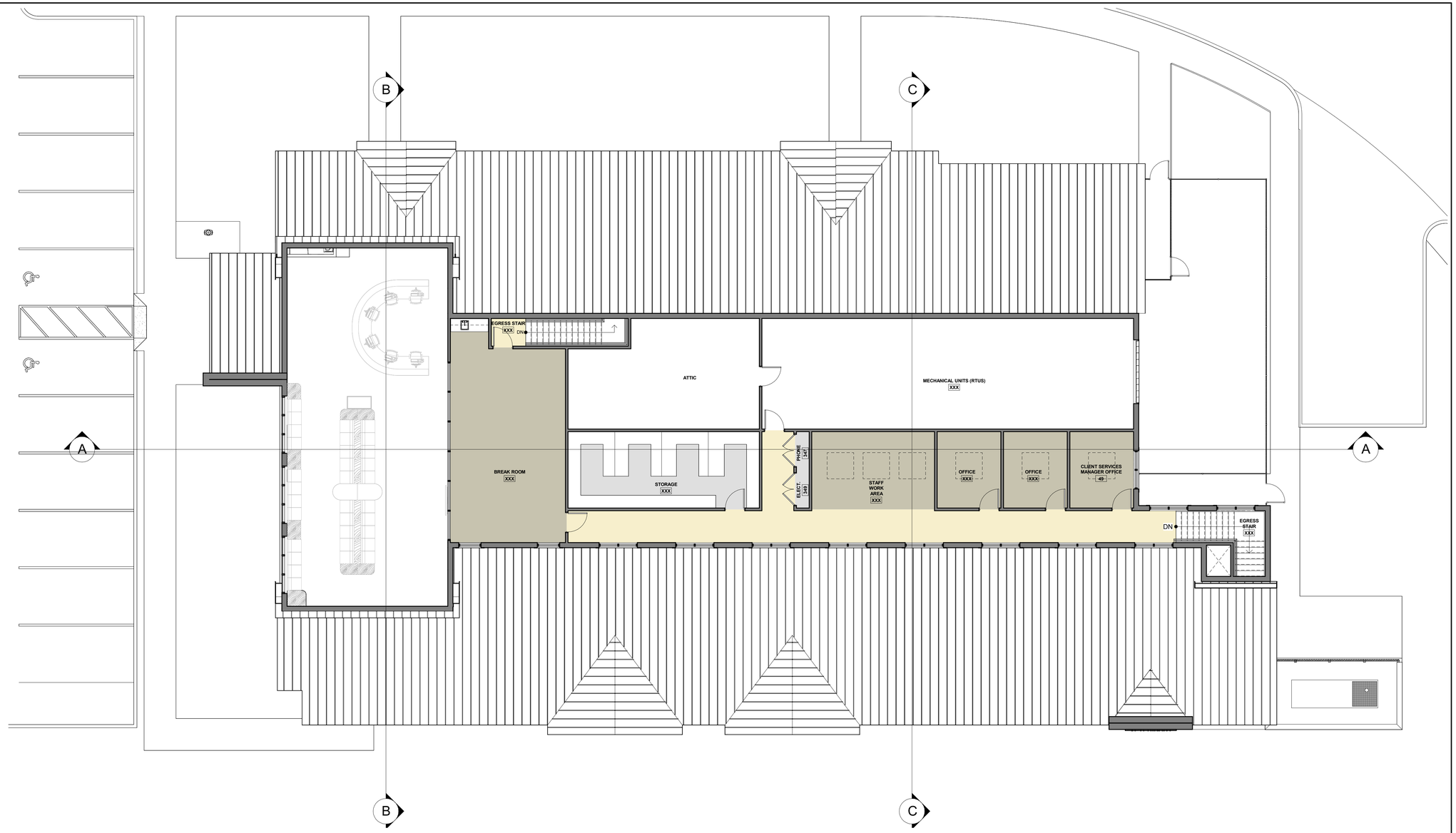
N
W E
S

YARMOUTH VETERINARY CENTER

ARCHITECT: RAUHAUS FREEDENFELD & ASSOCIATES © 2022 RFA PROJECT # 2113 BOSTON, MA & LAGUNA HILLS, CA 18 AUG 2022

ROOM LEGEND

- OUTPATIENT AREAS
- INPATIENT AREAS
- ANIMAL HOUSING
- STAFF AREAS
- SUPPORT
- CIRCULATION
- K-9 GRASS



SCALE: 1/8" = 1' - 0"

0' 2' 4' 10' 20'
1' 3' 5' 15' 25'

PROJECT AREAS

	PROGRAMMED	SCHEMATIC
FIRST FLOOR	13,027 SQ FT	12,754 SQ FT
SECOND FLOOR	0 SQ FT	2,608 SQ FT
TOTAL AREA	13,027 SQ FT	14,662 SQ FT

SECOND FLOOR PLAN

N
W
E
S

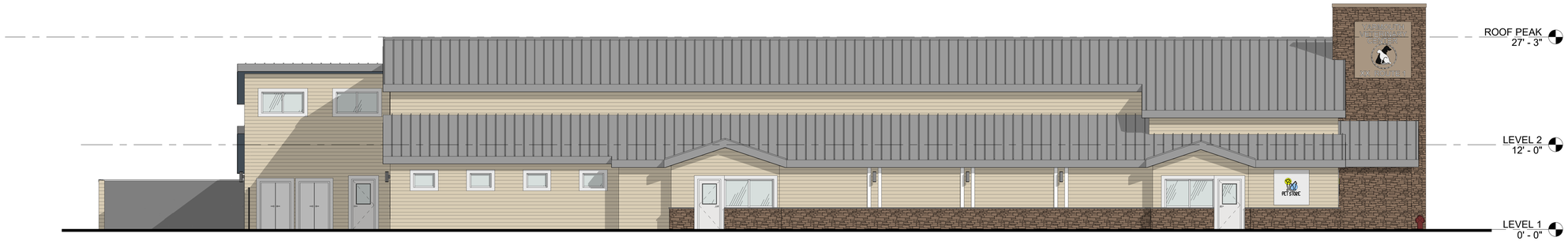
YARMOUTH VETERINARY CENTER

ARCHITECT: RAUHAUS FREEDENFELD & ASSOCIATES © 2022

RFA PROJECT # 2113

BOSTON, MA & LAGUNA HILLS, CA

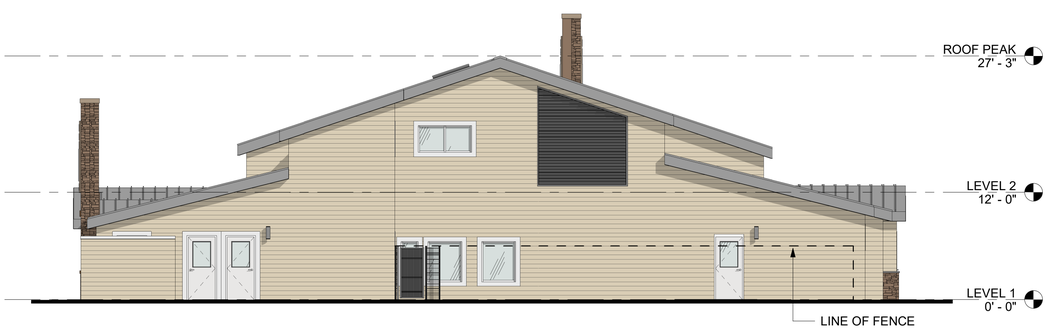
18 AUG 2022



NORTH ELEVATION

SOUTH ELEVATION

WEST ELEVATION



EAST ELEVATION

SCALE: 1/8" = 1' - 0"

0' 2' 4' 10' 20'
1' 3' 5' 15' 25'

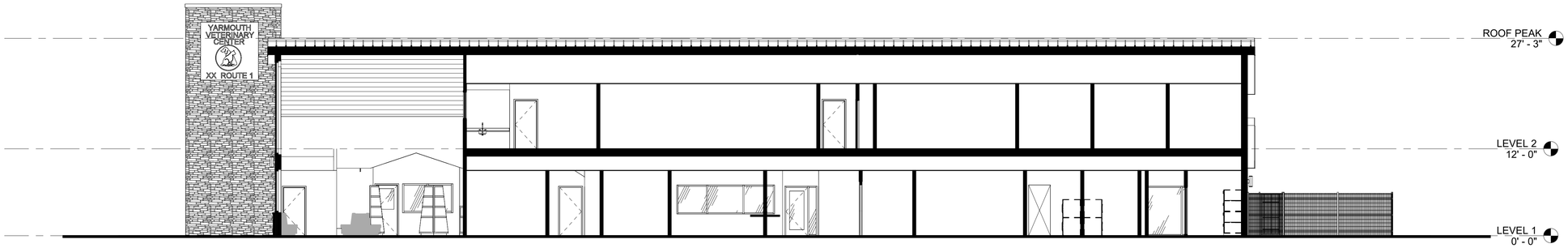
YARMOUTH VETERINARY CENTER

ARCHITECT: RAUHAUS FREEDENFELD & ASSOCIATES © 2022

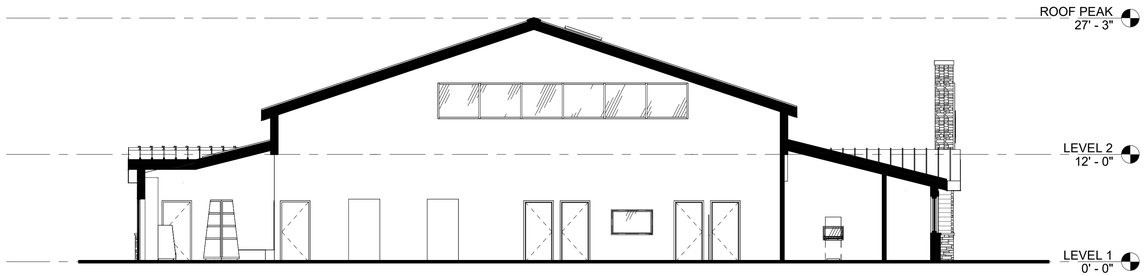
RFA PROJECT # 2113

BOSTON, MA & LAGUNA HILLS, CA

18 AUG 2022



SECTION A



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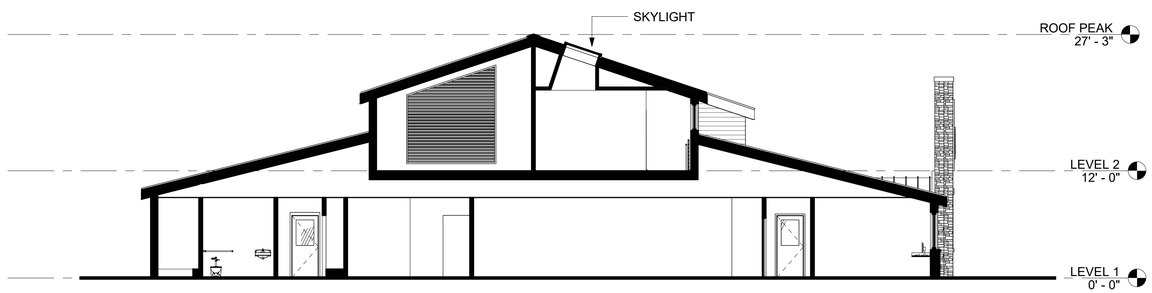

SECTION C

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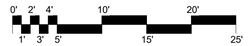


YARMOUTH VETERINARY CENTER

APPENDIX L

SITE LIGHTING CUT SHEETS

SME
SEVEE & MAHER
ENGINEERS

D-Series Size 0
LED Area Luminaire

Buy American

Catalog Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

EPA: 0.95 ft² (.09 m²)

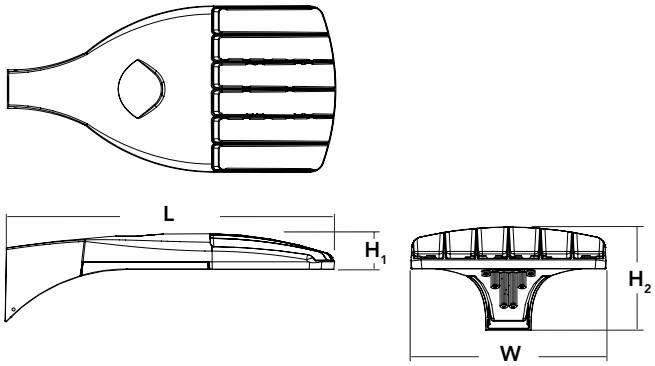
Length: 26" (66.0 cm)

Width: 13" (33.0 cm)

Height$_1$: 3" (7.62 cm)

Height$_2$: 7" (17.8 cm)

Weight (max): 16 lbs (7.25 kg)



Introduction

The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment. The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. It is ideal for replacing up to 400W metal halide with typical energy savings of 70% and expected service life of over 100,000 hours.

Ordering Information

EXAMPLE: DSX0 LED P6 40K T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

DSX0 LED

Series	LEDs	Color temperature	Distribution		Voltage	Mounting
DSX0 LED	**Forward optics** P1 P5 P2 P6 P3 P7[1] P4[1] **Rotated optics** P10[2] P12[2] P11[2] P13[1,2]	30K 3000 K 40K 4000 K 50K 5000 K	T1S Type I short (Automotive) T2S Type II short T2M Type II medium T3S Type III short T3M Type III medium T4M Type IV medium TFTM Forward throw medium T5VS Type V very short[3]	T5S Type V short[3] T5M Type V medium[3] T5W Type V wide[3] BLC Backlight control[4] LCCO Left corner cutoff[4] RCCO Right corner cutoff[4]	MVOLT (120V-277V)[5,6] XVOLT (277V-480V)[7,8,9] 120[6] 208[6] 240[6] 277[6] 347[6] 480[6]	**Shipped included** SPA Square pole mounting RPA Round pole mounting[10] WBA Wall bracket[3] SPUMBA Square pole universal mounting adaptor[11] RPUMBA Round pole universal mounting adaptor[11] **Shipped separately** KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish)[12]

Control options		Other options	Finish *(required)*
Shipped installed NLTAIR2 nLight AIR generation 2 enabled[13,14] PIRHN Network, high/low motion/ambient sensor[15] PER NEMA twist-lock receptacle only (control ordered separate)[16] PER5 Five-pin receptacle only (control ordered separate)[16,17] PER7 Seven-pin receptacle only (leads exit fixture) (control ordered separate)[16,17] DMG 0-10V dimming extend out back of housing for external control (control ordered separate)[18] PIR High/low, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 5fc[19,20] PIRH High/low, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 5fc[19,20] PIR1FC3V High/low, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc[19,20] PIRH1FC3V High/low, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc[19,20] FAO Field adjustable output[21]		**Shipped installed** HS House-side shield[22] SF Single fuse (120, 277, 347V)[6] DF Double fuse (208, 240, 480V)[6] L90 Left rotated optics[2] R90 Right rotated optics[2] DDL Diffused drop lens[22] HA 50°C ambient operations[1] BAA Buy America(n) Act Compliant **Shipped separately** BS Bird spikes[23] EGS External glare shield	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white

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Ordering Information

Accessories

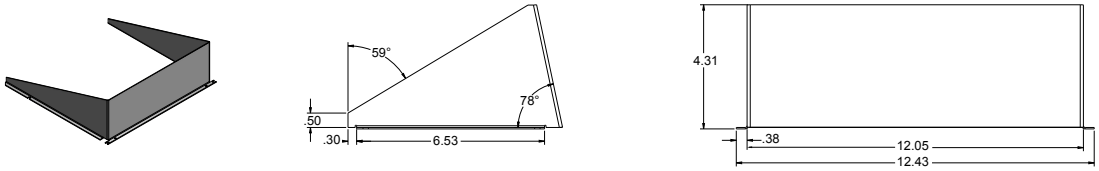
Ordered and shipped separately.

DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) [24]
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) [24]
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) [24]
DSHORT SBK U	Shorting cap [24]
DSX0HS 20C U	House-side shield for P1,P2,P3 and P4 [22]
DSX0HS 30C U	House-side shield for P10,P11,P12 and P13 [22]
DSX0HS 40C U	House-side shield for P5,P6 and P7 [22]
DSX0DDL U	Diffused drop lens (polycarbonate) [22]
PUMBA DDBXD U*	Square and round pole universal mounting bracket adaptor (specify finish) [25]
KMA8 DDBXD U	Mast arm mounting bracket adaptor (specify finish) [12]
DSX0EGS (FINISH) U	External glare shield

For more control options, visit DTL and ROAM online. Link to nLight Air 2

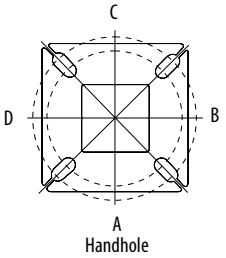
NOTES
1 HA not available with P4, P7, and P13.
2 P10, P11, P12 and P13 and rotated options (L90 or R90) only available together.
3 Any Type 5 distribution with photocell, is not available with WBA.
4 Not available with HS or DDL.
5 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
6 Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V. XVOLT not available with fusing (SF or DF).
7 XVOLT only suitable for use with P4, P7 and P13.
8 XVOLT operates with any voltage between 277V and 480V.
9 XVOLT not available with fusing (SF or DF) and not available with PIR, PIRH, PIR1FC3V, PIRH1FC3V.
10 Suitable for mounting to round poles between 3.5" and 12" diameter.
11 Universal mounting brackets intended for retrofit on existing pre-drilled poles only. 1.5 G vibration load rating per ANCI C136.31. Only usable when pole's drill pattern is NOT Lithonia template #8.
12 Must order fixture with SPA mounting. Must be ordered as a separate accessory; see Accessories information. For use with 2-3/8" diameter mast arm (not included).
13 Must be ordered with PIRHN.
14 Sensor cover available only in dark bronze, black, white and natural aluminum colors.
15 Must be ordered with NLTAIR2. For more information on nLight Air 2 visit this link
16 Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting Cap included.
17 If ROAM® node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Shorting Cap included.
18 DMG not available with PIRHN, PER5, PER7, PIR, PIRH, PIR1FC3V or PIRH1FC3V, FAO.
19 Reference Controls Options table on page 4.
20 Reference Motion Sensor Default Table on page 4 to see functionality.
21 Not available with other dimming controls options.
22 Not available with BLC, LCCO and RCCO distribution.
23 Must be ordered with fixture for factory pre-drilling.
24 Requires luminaire to be specified with PER, PER5 or PER7 option. See Controls Table on page 4.
25 For retrofit use only. Only usable when pole's drill pattern is NOT Lithonia template #8

EGS – External Glare Shield

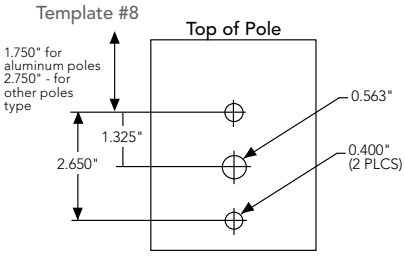


Drilling

HANDHOLE ORIENTATION
(from top of pole)



Template #8



Tenon Mounting Slipfitter

Tenon O.D.	Mounting	Single Unit	2 @ 180	2 @ 90	3 @ 90	3 @120	4 @ 90
2-3/8"	RPA	AS3-5 190	AS3-5 280	AS3-5 290	AS3-5 390	AS3-5 320	AS3-5 490
2-7/8"	RPA	AST25-190	AST25-280	AST25-290	AST25-390	AST25-320	AST25-490
4"	RPA	AST35-190	AST35-280	AST35-290	AST35-390	AST35-320	AST35-490

Mounting Option	**Drilling Template**	**Single**	**2 @ 180**	**2 @ 90**	**3 @ 90**	**3 @ 120**	**4 @ 90**
Head Location		Side B	Side B & D	Side B & C	Side B, C & D	Round Pole Only	Side A, B, C & D
Drill Nomenclature	#8	DM19AS	DM28AS	DM29AS	DM39AS	DM32AS	DM49AS
		Minimum Acceptable Outside Pole Dimension					
SPA	#8	2-7/8"	2-7/8"	3.5"	3.5"		3.5"
RPA	#8	2-7/8"	2-7/8"	3.5"	3.5"	3"	3.5"
SPUMBA	#5	2-7/8"	3"	4"	4"		4"
RPUMBA	#5	2-7/8"	3.5"	5"	5"	3.5"	5"

DSX0 Area Luminaire - EPA

*Includes luminaire and integral mounting arm. Other tenons, arms, brackets or other accessories are not included in this EPA data.

Fixture Quantity & Mounting Configuration	Single DM19	2 @ 180 DM28	2 @ 90 DM29	3 @ 90 DM39	3 @ 120 DM32	4 @ 90 DM49
Mounting Type						
DSX0 LED	0.950	1.900	1.830	2.850	2.850	3.544

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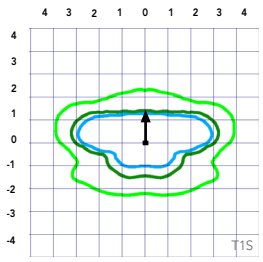
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's D-Series Area Size 0 homepage.

Isofootcandle plots for the DSX0 LED 40C 1000 40K. Distances are in units of mounting height (20').

LEGEND

- 0.1 fc
- 0.5 fc
- 1.0 fc



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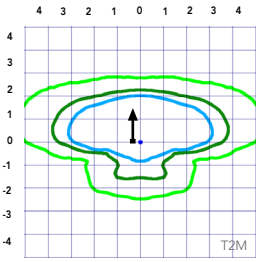

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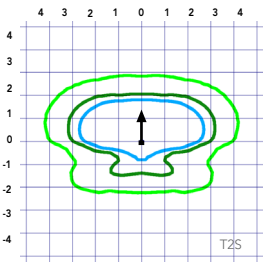
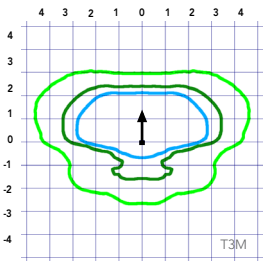
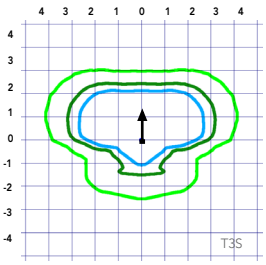


Test No. LTL23457P25 tested in accordance with IESNA LM-79-08.



Test No. LTL23457P25 tested in accordance with IESNA LM-79-08.



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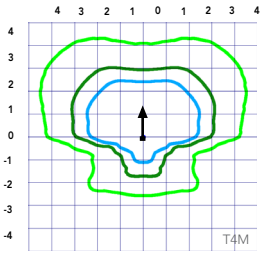

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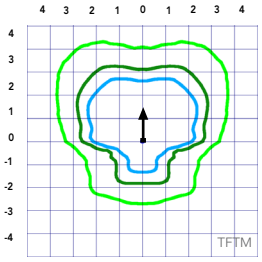

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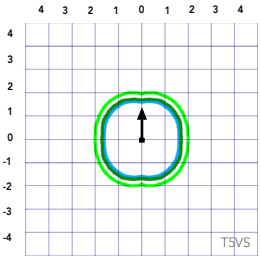

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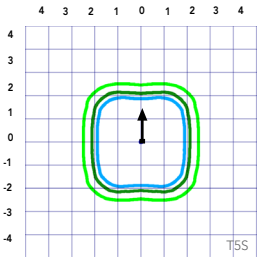

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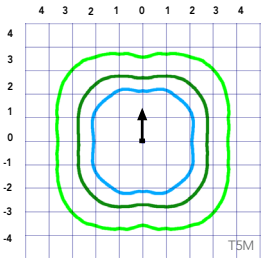

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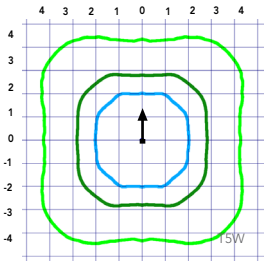
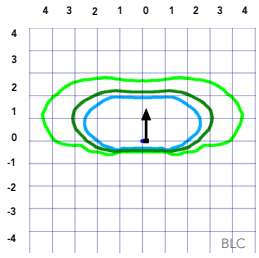


Test No. LTL23451P25 tested in accordance with IESNA LM-79-08.



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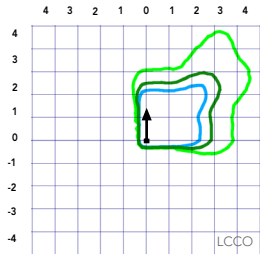

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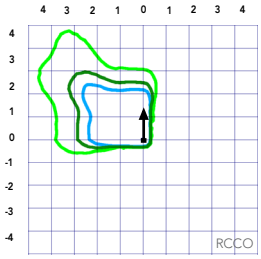

Test No.

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Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.04
5°C	41°F	1.04
10°C	50°F	1.03
15°C	50°F	1.02
20°C	68°F	1.01
25°C	**77°C**	**1.00**
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	Lumen Maintenance Factor
25,000	0.96
50,000	0.92
100,000	0.85

Motion Sensor Default Settings						
Option	Dimmed State	High Level (when triggered)	Phototcell Operation	Dwell Time	Ramp-up Time	Ramp-down Time
PIR or PIRH	3V (37%) Output	10V (100%) Output	Enabled @ 5FC	5 min	3 sec	5 min
*PIR1FC3V or PIRH1FC3V	3V (37%) Output	10V (100%) Output	Enabled @ 1FC	5 min	3 sec	5 min
*for use when motion sensor is used as dusk to dawn control.						

Electrical Load

					Current (A)					
	Performance Package	LED Count	Drive Current	Wattage	120	208	240	277	347	480
Forward Optics (Non-Rotated)	P1	20	530	38	0.32	0.18	0.15	0.15	0.10	0.08
	P2	20	700	49	0.41	0.23	0.20	0.19	0.14	0.11
	P3	20	1050	71	0.60	0.37	0.32	0.27	0.21	0.15
	P4	20	1400	92	0.77	0.45	0.39	0.35	0.28	0.20
	P5	40	700	89	0.74	0.43	0.38	0.34	0.26	0.20
	P6	40	1050	134	1.13	0.65	0.55	0.48	0.39	0.29
	P7	40	1300	166	1.38	0.80	0.69	0.60	0.50	0.37
Rotated Optics (Requires L90 or R90)	P10	30	530	53	0.45	0.26	0.23	0.21	0.16	0.12
	P11	30	700	72	0.60	0.35	0.30	0.27	0.20	0.16
	P12	30	1050	104	0.88	0.50	0.44	0.39	0.31	0.23
	P13	30	1300	128	1.08	0.62	0.54	0.48	0.37	0.27

Controls Options

Nomenclature	Description	Functionality	Primary control device	Notes
FAO	Field adjustable output device installed inside the luminaire; wired to the driver dimming leads.	Allows the luminaire to be manually dimmed, effectively trimming the light output.	FAO device	Cannot be used with other controls options that need the 0-10V leads
DS	Drivers wired independently for 50/50 luminaire operation	The luminaire is wired to two separate circuits, allowing for 50/50 operation.	Independently wired drivers	Requires two separately switched circuits. Consider nLight AIR as a more cost effective alternative.
PER5 or PER7	Twist-lock photocell receptacle	Compatible with standard twist-lock photocells for dusk to dawn operation, or advanced control nodes that provide 0-10V dimming signals.	Twist-lock photocells such as DLL Elite or advanced control nodes such as ROAM.	Pins 4 & 5 to dimming leads on driver, Pins 6 & 7 are capped inside luminaire
PIR or PIRH	Motion sensors with integral photocell. PIR for 8-15' mounting; PIRH for 15-30' mounting	Luminaires dim when no occupancy is detected.	Acuity Controls SBGR	Also available with PIRH1FC3V when the sensor photocell is used for dusk-to-dawn operation.
NLTAIR2 PIRHN	nLight AIR enabled luminaire for motion sensing, photocell and wireless communication.	Motion and ambient light sensing with group response. Scheduled dimming with motion sensor over-ride when wirelessly connected to the nLight Eclypse.	nLight Air rSDGR	nLight AIR sensors can be programmed and commissioned from the ground using the CIAIRity Pro app.

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Performance Data

Lumen Output

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Forward Optics

Power Package	LED Count	Drive Current	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P1	20	530	38W	T1S	4,369	1	0	1	115	4,706	1	0	1	124	4,766	1	0	1	125
				T2S	4,364	1	0	1	115	4,701	1	0	1	124	4,761	1	0	1	125
				T2M	4,387	1	0	1	115	4,726	1	0	1	124	4,785	1	0	1	126
				T3S	4,248	1	0	1	112	4,577	1	0	1	120	4,634	1	0	1	122
				T3M	4,376	1	0	1	115	4,714	1	0	1	124	4,774	1	0	1	126
				T4M	4,281	1	0	1	113	4,612	1	0	2	121	4,670	1	0	2	123
				TFTM	4,373	1	0	1	115	4,711	1	0	2	124	4,771	1	0	2	126
				T5VS	4,548	2	0	0	120	4,900	2	0	0	129	4,962	2	0	0	131
				T5S	4,552	2	0	0	120	4,904	2	0	0	129	4,966	2	0	0	131
				T5M	4,541	3	0	1	120	4,891	3	0	1	129	4,953	3	0	1	130
				T5W	4,576	3	0	2	120	4,929	3	0	2	130	4,992	3	0	2	131
				BLC	3,586	1	0	1	94	3,863	1	0	1	102	3,912	1	0	1	103
				LCCO	2,668	1	0	1	70	2,874	1	0	2	76	2,911	1	0	2	77
				RCCO	2,668	1	0	1	70	2,874	1	0	2	76	2,911	1	0	2	77
P2	20	700	49W	T1S	5,570	1	0	1	114	6,001	1	0	1	122	6,077	2	0	2	124
				T2S	5,564	1	0	2	114	5,994	1	0	2	122	6,070	2	0	2	124
				T2M	5,593	1	0	1	114	6,025	1	0	1	123	6,102	1	0	1	125
				T3S	5,417	1	0	2	111	5,835	1	0	2	119	5,909	2	0	2	121
				T3M	5,580	1	0	2	114	6,011	1	0	2	123	6,087	1	0	2	124
				T4M	5,458	1	0	2	111	5,880	1	0	2	120	5,955	1	0	2	122
				TFTM	5,576	1	0	2	114	6,007	1	0	2	123	6,083	1	0	2	124
				T5VS	5,799	2	0	0	118	6,247	2	0	0	127	6,327	2	0	0	129
				T5S	5,804	2	0	0	118	6,252	2	0	0	128	6,332	2	0	1	129
				T5M	5,789	3	0	1	118	6,237	3	0	1	127	6,316	3	0	1	129
				T5W	5,834	3	0	2	119	6,285	3	0	2	128	6,364	3	0	2	130
				BLC	4,572	1	0	1	93	4,925	1	0	1	101	4,987	1	0	1	102
				LCCO	3,402	1	0	2	69	3,665	1	0	2	75	3,711	1	0	2	76
				RCCO	3,402	1	0	2	69	3,665	1	0	2	75	3,711	1	0	2	76
P3	20	1050	71W	T1S	7,833	2	0	2	110	8,438	2	0	2	119	8,545	2	0	2	120
				T2S	7,825	2	0	2	110	8,429	2	0	2	119	8,536	2	0	2	120
				T2M	7,865	2	0	2	111	8,473	2	0	2	119	8,580	2	0	2	121
				T3S	7,617	2	0	2	107	8,205	2	0	2	116	8,309	2	0	2	117
				T3M	7,846	2	0	2	111	8,452	2	0	2	119	8,559	2	0	2	121
				T4M	7,675	2	0	2	108	8,269	2	0	2	116	8,373	2	0	2	118
				TFTM	7,841	2	0	2	110	8,447	2	0	2	119	8,554	2	0	2	120
				T5VS	8,155	3	0	0	115	8,785	3	0	0	124	8,896	3	0	0	125
				T5S	8,162	3	0	1	115	8,792	3	0	1	124	8,904	3	0	1	125
				T5M	8,141	3	0	2	115	8,770	3	0	2	124	8,881	3	0	2	125
				T5W	8,204	3	0	2	116	8,838	4	0	2	124	8,950	4	0	2	126
				BLC	6,429	1	0	2	91	6,926	1	0	2	98	7,013	1	0	2	99
				LCCO	4,784	1	0	2	67	5,153	1	0	2	73	5,218	1	0	2	73
				RCCO	4,784	1	0	2	67	5,153	1	0	2	73	5,218	1	0	2	73
P4	20	1400	92W	T1S	9,791	2	0	2	106	10,547	2	0	2	115	10,681	2	0	2	116
				T2S	9,780	2	0	2	106	10,536	2	0	2	115	10,669	2	0	2	116
				T2M	9,831	2	0	2	107	10,590	2	0	2	115	10,724	2	0	2	117
				T3S	9,521	2	0	2	103	10,256	2	0	2	111	10,386	2	0	2	113
				T3M	9,807	2	0	2	107	10,565	2	0	2	115	10,698	2	0	2	116
				T4M	9,594	2	0	2	104	10,335	2	0	3	112	10,466	2	0	3	114
				TFTM	9,801	2	0	2	107	10,558	2	0	2	115	10,692	2	0	2	116
				T5VS	10,193	3	0	1	111	10,981	3	0	1	119	11,120	3	0	1	121
				T5S	10,201	3	0	1	111	10,990	3	0	1	119	11,129	3	0	1	121
				T5M	10,176	4	0	2	111	10,962	4	0	2	119	11,101	4	0	2	121
				T5W	10,254	4	0	3	111	11,047	4	0	3	120	11,186	4	0	3	122
				BLC	8,036	1	0	2	87	8,656	1	0	2	94	8,766	1	0	2	95
				LCCO	5,979	1	0	2	65	6,441	1	0	2	70	6,523	1	0	3	71
				RCCO	5,979	1	0	2	65	6,441	1	0	2	70	6,523	1	0	3	71

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Performance Data

Lumen Output

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Forward Optics

Power Package	LED Count	Drive Current	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P5	40	700	89W	T1S	10,831	2	0	2	122	11,668	2	0	2	131	11,816	2	0	2	133
				T2S	10,820	2	0	2	122	11,656	2	0	2	131	11,803	2	0	2	133
				T2M	10,876	2	0	2	122	11,716	2	0	2	132	11,864	2	0	2	133
				T3S	10,532	2	0	2	118	11,346	2	0	2	127	11,490	2	0	2	129
				T3M	10,849	2	0	2	122	11,687	2	0	2	131	11,835	2	0	2	133
				T4M	10,613	2	0	3	119	11,434	2	0	3	128	11,578	2	0	3	130
				TFTM	10,842	2	0	2	122	11,680	2	0	2	131	11,828	2	0	2	133
				T5VS	11,276	3	0	1	127	12,148	3	0	1	136	12,302	3	0	1	138
				T5S	11,286	3	0	1	127	12,158	3	0	1	137	12,312	3	0	1	138
				T5M	11,257	4	0	2	126	12,127	4	0	2	136	12,280	4	0	2	138
				T5W	11,344	4	0	3	127	12,221	4	0	3	137	12,375	4	0	3	139
				BLC	8,890	1	0	2	100	9,576	1	0	2	108	9,698	1	0	2	109
				LCCO	6,615	1	0	3	74	7,126	1	0	3	80	7,216	1	0	3	81
				RCCO	6,615	1	0	3	74	7,126	1	0	3	80	7,216	1	0	3	81
P6	40	1050	134W	T1S	14,805	3	0	3	110	15,949	3	0	3	119	16,151	3	0	3	121
				T2S	14,789	3	0	3	110	15,932	3	0	3	119	16,134	3	0	3	120
				T2M	14,865	3	0	3	111	16,014	3	0	3	120	16,217	3	0	3	121
				T3S	14,396	3	0	3	107	15,509	3	0	3	116	15,705	3	0	3	117
				T3M	14,829	2	0	3	111	15,975	3	0	3	119	16,177	3	0	3	121
				T4M	14,507	2	0	3	108	15,628	3	0	3	117	15,826	3	0	3	118
				TFTM	14,820	2	0	3	111	15,965	3	0	3	119	16,167	3	0	3	121
				T5VS	15,413	4	0	1	115	16,604	4	0	1	124	16,815	4	0	1	125
				T5S	15,426	3	0	1	115	16,618	4	0	1	124	16,828	4	0	1	126
				T5M	15,387	4	0	2	115	16,576	4	0	2	124	16,786	4	0	2	125
				T5W	15,506	4	0	3	116	16,704	4	0	3	125	16,915	4	0	3	126
				BLC	12,151	1	0	2	91	13,090	1	0	2	98	13,255	1	0	2	99
				LCCO	9,041	1	0	3	67	9,740	1	0	3	73	9,863	1	0	3	74
				RCCO	9,041	1	0	3	67	9,740	1	0	3	73	9,863	1	0	3	74
P7	40	1300	166W	T1S	17,023	3	0	3	103	18,338	3	0	3	110	18,570	3	0	3	112
				T2S	17,005	3	0	3	102	18,319	3	0	3	110	18,551	3	0	3	112
				T2M	17,092	3	0	3	103	18,413	3	0	3	111	18,646	3	0	3	112
				T3S	16,553	3	0	3	100	17,832	3	0	3	107	18,058	3	0	3	109
				T3M	17,051	3	0	3	103	18,369	3	0	3	111	18,601	3	0	3	112
				T4M	16,681	3	0	3	100	17,969	3	0	3	108	18,197	3	0	3	110
				TFTM	17,040	3	0	3	103	18,357	3	0	4	111	18,590	3	0	4	112
				T5VS	17,723	4	0	1	107	19,092	4	0	1	115	19,334	4	0	1	116
				T5S	17,737	4	0	2	107	19,108	4	0	2	115	19,349	4	0	2	117
				T5M	17,692	4	0	2	107	19,059	4	0	2	115	19,301	4	0	2	116
				T5W	17,829	5	0	3	107	19,207	5	0	3	116	19,450	5	0	3	117
				BLC	13,971	2	0	2	84	15,051	2	0	2	91	15,241	2	0	2	92
				LCCO	10,396	1	0	3	63	11,199	1	0	3	67	11,341	1	0	3	68
				RCCO	10,396	1	0	3	63	11,199	1	0	3	67	11,341	1	0	3	68

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Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Rotated Optics

Power Package	LED Count	Drive Current	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P10	30	530	53W	T1S	6,727	2	0	2	127	7,247	3	0	3	137	7,339	3	0	3	138
				T2S	6,689	3	0	3	126	7,205	3	0	3	136	7,297	3	0	3	138
				T2M	6,809	3	0	3	128	7,336	3	0	3	138	7,428	3	0	3	140
				T3S	6,585	3	0	3	124	7,094	3	0	3	134	7,183	3	0	3	136
				T3M	6,805	3	0	3	128	7,331	3	0	3	138	7,424	3	0	3	140
				T4M	6,677	3	0	3	126	7,193	3	0	3	136	7,284	3	0	3	137
				TFTM	6,850	3	0	3	129	7,379	3	0	3	139	7,472	3	0	3	141
				T5VS	6,898	3	0	0	130	7,431	3	0	0	140	7,525	3	0	0	142
				T5S	6,840	2	0	1	129	7,368	2	0	1	139	7,461	2	0	1	141
				T5M	6,838	3	0	1	129	7,366	3	0	2	139	7,460	3	0	2	141
				T5W	6,777	3	0	2	128	7,300	3	0	2	138	7,393	3	0	2	139
				BLC	5,626	2	0	2	106	6,060	2	0	2	114	6,137	2	0	2	116
				LCCO	4,018	1	0	2	76	4,328	1	0	2	82	4,383	1	0	2	83
				RCCO	4,013	3	0	3	76	4,323	3	0	3	82	4,377	3	0	3	83
P11	30	700	72W	T1S	8,594	3	0	3	119	9,258	3	0	3	129	9,376	3	0	3	130
				T2S	8,545	3	0	3	119	9,205	3	0	3	128	9,322	3	0	3	129
				T2M	8,699	3	0	3	121	9,371	3	0	3	130	9,490	3	0	3	132
				T3S	8,412	3	0	3	117	9,062	3	0	3	126	9,177	3	0	3	127
				T3M	8,694	3	0	3	121	9,366	3	0	3	130	9,484	3	0	3	132
				T4M	8,530	3	0	3	118	9,189	3	0	3	128	9,305	3	0	3	129
				TFTM	8,750	3	0	3	122	9,427	3	0	3	131	9,546	3	0	3	133
				T5VS	8,812	3	0	0	122	9,493	3	0	0	132	9,613	3	0	0	134
				T5S	8,738	3	0	1	121	9,413	3	0	1	131	9,532	3	0	1	132
				T5M	8,736	3	0	2	121	9,411	3	0	2	131	9,530	3	0	2	132
				T5W	8,657	4	0	2	120	9,326	4	0	2	130	9,444	4	0	2	131
				BLC	7,187	3	0	3	100	7,742	3	0	3	108	7,840	3	0	3	109
				LCCO	5,133	1	0	2	71	5,529	1	0	2	77	5,599	1	0	2	78
				RCCO	5,126	3	0	3	71	5,522	3	0	3	77	5,592	3	0	3	78
P12	30	1050	104W	T1S	12,149	3	0	3	117	13,088	3	0	3	126	13,253	3	0	3	127
				T2S	12,079	4	0	4	116	13,012	4	0	4	125	13,177	4	0	4	127
				T2M	12,297	3	0	3	118	13,247	3	0	3	127	13,415	3	0	3	129
				T3S	11,891	4	0	4	114	12,810	4	0	4	123	12,972	4	0	4	125
				T3M	12,290	3	0	3	118	13,239	4	0	4	127	13,407	4	0	4	129
				T4M	12,058	4	0	4	116	12,990	4	0	4	125	13,154	4	0	4	126
				TFTM	12,369	4	0	4	119	13,325	4	0	4	128	13,494	4	0	4	130
				T5VS	12,456	3	0	1	120	13,419	3	0	1	129	13,589	4	0	1	131
				T5S	12,351	3	0	1	119	13,306	3	0	1	128	13,474	3	0	1	130
				T5M	12,349	4	0	2	119	13,303	4	0	2	128	13,471	4	0	2	130
				T5W	12,238	4	0	3	118	13,183	4	0	3	127	13,350	4	0	3	128
				BLC	10,159	3	0	3	98	10,944	3	0	3	105	11,083	3	0	3	107
				LCCO	7,256	1	0	3	70	7,816	1	0	3	75	7,915	1	0	3	76
				RCCO	7,246	3	0	3	70	7,806	4	0	4	75	7,905	4	0	4	76
P13	30	1300	128W	T1S	14,438	3	0	3	113	15,554	3	0	3	122	15,751	3	0	3	123
				T2S	14,355	4	0	4	112	15,465	4	0	4	121	15,660	4	0	4	122
				T2M	14,614	3	0	3	114	15,744	4	0	4	123	15,943	4	0	4	125
				T3S	14,132	4	0	4	110	15,224	4	0	4	119	15,417	4	0	4	120
				T3M	14,606	4	0	4	114	15,735	4	0	4	123	15,934	4	0	4	124
				T4M	14,330	4	0	4	112	15,438	4	0	4	121	15,633	4	0	4	122
				TFTM	14,701	4	0	4	115	15,836	4	0	4	124	16,037	4	0	4	125
				T5VS	14,804	4	0	1	116	15,948	4	0	1	125	16,150	4	0	1	126
				T5S	14,679	3	0	1	115	15,814	3	0	1	124	16,014	3	0	1	125
				T5M	14,676	4	0	2	115	15,810	4	0	2	124	16,010	4	0	2	125
				T5W	14,544	4	0	3	114	15,668	4	0	3	122	15,866	4	0	3	124
				BLC	7919	3	0	3	62	8531	3	0	3	67	8639	3	0	3	67
				LCCO	5145	1	0	2	40	5543	1	0	2	43	5613	1	0	2	44
				RCCO	5139	3	0	3	40	5536	3	0	3	43	5606	3	0	3	44

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FEATURES & SPECIFICATIONS

INTENDED USE
The sleek design of the D-Series Size 0 reflects the embedded high performance LED technology. It is ideal for many commercial and municipal applications, such as parking lots, plazas, campuses, and pedestrian areas.

CONSTRUCTION
Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED driver is mounted in direct contact with the casting to promote low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65). Low EPA (0.95 ft^2) for optimized pole wind loading.

FINISH
Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

OPTICS
Precision-molded proprietary acrylic lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in 3000 K, 4000 K or 5000 K (70 CRI) configurations. The D-Series Size 0 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL
Light engine(s) configurations consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L85/100,000 hours at 25°C). Class 1 electronic drivers are designed to have a power factor >90%, THD <20%, and an expected life of 100,000 hours with <1% failure rate. Easily serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

STANDARD CONTROLS
The DSX0 LED area luminaire has a number of control options. DSX Size 0, comes standard with 0-10V dimming driver. Dusk to dawn controls can be utilized via optional NEMA twist-lock photocell receptacles. Integrated motion sensors with on-board photocells feature field-adjustable programing and are suitable for mounting heights up to 30 feet.

nLIGHT AIR CONTROLS
The DSX0 LED area luminaire is also available with nLight® AIR for the ultimate in wireless control. This powerful controls platform provides out-of-the-box basic motion sensing and photocontrol functionality and is suitable for mounting heights up to 40 feet. Once commissioned using a smartphone and the easy-to-use CLAIRITY app, nLight AIR equipped luminaries can be grouped, resulting in motion sensor and photocell group response without the need for additional equipment. Scheduled dimming with motion sensor over-ride can be achieved when used with the nLight Eclypse. Additional information about nLight Air can be found here.

INSTALLATION
Included mounting block and integral arm facilitate quick and easy installation. Stainless steel bolts fasten the mounting block securely to poles and walls, enabling the D-Series Size 0 to withstand up to a 3.0 G vibration load rating per ANSI C136.31. The D-Series Size 0 utilizes the AERIS™ series pole drilling pattern (template #8). Optional terminal block and NEMA photocontrol receptacle are also available.

LISTINGS
UL listed to meet U.S. and Canadian standards. UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP65 rated. Rated for -40°C to 50°C ambient with HA option. U.S. Patent No. D672,492 S. International patent pending.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only.

BUY AMERICAN
Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT. Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY
5-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/support/customer-support/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

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APPENDIX M

ARCHITECTURAL DESIGN NARRATIVE

SME
SEVEE & MAHER
ENGINEERS

rauhaus freedenfeld & associates

East Coast Office
97 Broadway, Boston, MA 02116
T 617.338.0050 | F 617.426.2557

West Coast Office
23101 Moulton Pkwy #106, Laguna Hills, CA 92653
T 949.716.8899 | F 949.716.9959

29 August 2022

Carla Nixon, Town Planner
Town of Cumberland
Cumberland, Maine 04021

Architectural Design Narrative: Yarmouth Veterinary Center

On behalf of the project Owners, our architectural team is pleased to submit for approval the Architectural Schematic Design for this project to the Town of Cumberland Planning Office. We have been able to incorporate the guidelines of the Route One Design Ordinance to create a design that reinforces a New England architectural vernacular.

The exterior of the building has the following components and characteristics:

1 - The exterior is a combination of wood siding and a stone veneer
2 - The roofs are sloped with standing seem metal
3 - All facades are broken up and articulated in accordance with the Route One Design Ordinances
4 - All exterior signage is in accordance with the Ordinance.
5 - The exterior colors are intended to be warm and inviting.
6 - All exterior windows are fixed and framed with wood trim.

If there are any improvements that the Planning Board would like to see, we would be happy to provide them.

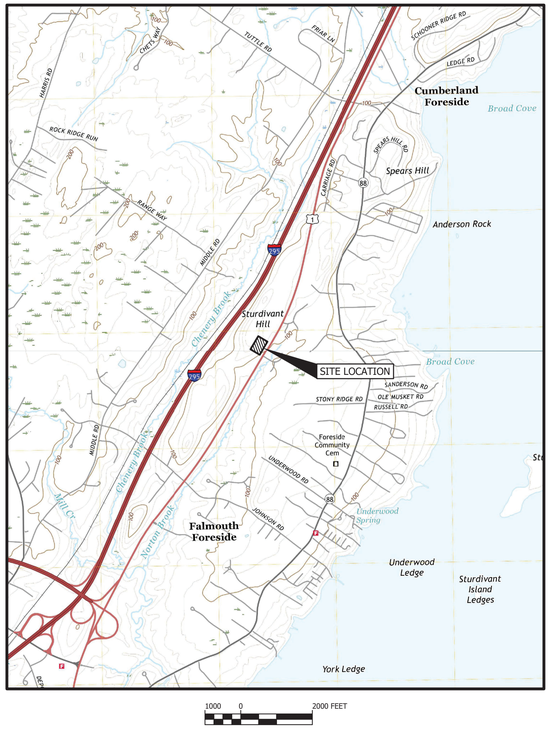
Sincerely,

Warren Freedenfeld, AIA
Principal

YARMOUTH VETERINARY CENTER
U.S. ROUTE 1
CUMBERLAND, MAINE

TITLE	DWG NO
COVER SHEET	
GENERAL NOTES, LEGEND, AND ABBREVIATIONS	C-100
EXISTING CONDITIONS AND CLEARING PLAN	C-101
SITE LAYOUT PLAN	C-102
SITE UTILITIES PLAN	C-103
SITE GRADING, DRAINAGE, AND EROSION CONTROL PLAN	C-104
UNDERDRAINED SOIL FILTER PLAN AND SECTION	C-200
EROSION CONTROL NOTES AND DETAILS	C-300
SECTIONS AND DETAILS	C-301
SECTIONS AND DETAILS	C-302
SECTIONS AND DETAILS	C-303
STORMWATER MANAGEMENT PLAN - PRE-DEVELOPMENT CONDITIONS	D-100
STORMWATER MANAGEMENT PLAN - POST-DEVELOPMENT CONDITIONS	D-101
FOURTH AMENDED SUBDIVISION PLAN - CUMBERLAND FORESIDE VILLAGE	1-SD
PLANTING PLAN	S1
PLANTING PLAN	S2
PHOTOMETRIC PLAN	1 OF 1

LOCATION MAP



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

STATE OF MAINE
DANIEL H. GRIFFIN
11841
LICENSED
PROFESSIONAL ENGINEER

GENERAL SITE NOTES:

1. BASE MAP FROM CADD DRAWING PROVIDED BY OWEN HASKELL, INC., DATED JANUARY 12, 2022.
   HORIZONTAL DATUM: MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE, NAD83.
   VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
2. CONDITIONS SHOWN ON EAST ABUTTING PROPERTY ARE PROPOSED FROM PLAN TITLED "COMMERCIAL/OFFICE BUILDING, ROUTE 1 CUMBERLAND, MAINE" BY SITELINES OF BRUNSWICK, MAINE, DATED 3/8/2021.
3. WETLANDS DELINEATED BY ALBERT FRICK ASSOCIATES, INC, DATED APRIL 2022.
4. 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. RESPREAD EXCESS MATERIAL OVER SITE.
5. CULVERT LOCATIONS IN U.S. ROUTE 1 FROM DRAWING D1.0 "DRAINAGE ANALYSIS EXISTING CONDITIONS", BY PINKHAM & GREER, DATED 6/2/18.
6. STANDARD PRACTICE DICTATES THAT PLANS COMPILED IN THIS MANNER SHOULD BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO ENGINEER. 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.

GRADING NOTES:

1. PROVIDE EROSION CONTROL MESH ON ALL SLOPES 6:1 OR STEEPER, AND ALONG DITCH CHANNELS.
2. GRADE SURFACES TO DRAIN AWAY FROM BUILDINGS AND STRUCTURES. PUDDLING OF WATER IN PAVED OR UNPAVED AREAS WILL NOT BE ACCEPTABLE, EXCEPT FOR AREAS DESIGNATED AS PONDS.
3. MAINTAIN TEMPORARY EROSION CONTROL MEASURES FOR THE FULL DURATION OF CONSTRUCTION. INSPECT WEEKLY AND AFTER EACH STORM AND REPAIR AS NEEDED. PLACE IN AREA OF LOW EROSION POTENTIAL, AND STABILIZE WITH SEED AND MULCH. REMOVE SEDIMENTS FROM THE SITE.
4. PLACE TEMPORARY SOIL STABILIZATION WITHIN 7 DAYS OF INITIAL DISTURBANCE. PLACE PERMANENT SOIL STABIILIZATION 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. PLACE 4 FOOT WIDE BY 2 INCH THICK TRENCH INSULATION OVER SEWER LINES WHERE DEPTH OF COVER OVER TOP OF PIPE IS LESS THAN 5 FEET.
3. COORDINATE WORK ON UTILITY LINES OR WITHIN ROAD RIGHT-OF-WAY WITH THE UTILITY COMPANIES AND TOWN ROAD DEPARTMENT AND STATE MDOT.
4. SLOPE CONDUITS AWAY FROM BUILDING TO HANDHOLE OR UTILITY POLE TO AVOID GROUND WATER SEEPAGE INTO BUILDING.
5. CONSTRUCT WATER MAINS AND SERVICES IN ACCORDANCE WITH PORTLAND WATER DISTRICT STANDARD SPECIFICIATIONS.
6. ALL PIPING AND DRAINAGE STRUCTURES SHALL BE INSTALLED IN ACCORDANCE WITH THE TOWN OF CUMBERLAND AND MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION STANDARDS.

SURVEY NOTES:

1. OWNERS OF RECORD:
   CUMBERLAND FORESIDE VILLAGE, LLC, 50 GRAY ROAD, FALMOUTH, MAINE
   BOOK 23549, PAGE 231
   BOOK 23628, PAGE 23
   BOOK 29433, PAGE 72
   BOOK 31615, PAGE 105
   BOOK 32477, PAGE 266
   BOOK 32827, PAGE 24
2. MARKERS TO BE SET AT ALL CORNERS.
3. THE APPROVAL OF THIS PLAN BY THE PLANNING BOARD DOES NOT CONSTITUTE ACCEPTANCE BY THE TOWN OF ANY STREET, EASEMENT, OPEN SPACE AREA, PARK, PLAYGROUND, OR OTHER RECREATION AREA THEREON.
4. PROJECT HAS AN APPROVED DEPARTMENT OF ENVIRONMENTAL PROTECTION PERMIT. PERMIT NO. L-21578-39-L-A.
5. PROJECT HAS AN APPROVED MAINE DEPARTMENT OF TRANSPORTATION PERMIT. PERMIT ID NO. 01-00070-A-M.

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 YOUR 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 PUBLIC UTILITIES COMMISSION (PUC) AT 1-800-452-4699 OR VISIT WWW.STATE.ME.US/MPUC
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 PUC FOR AN INCIDENT REPORT FORM VISIT WWW.STATE.ME.US/MPUC OR CALL THE PUC AT 1-800-452-4699.

APPROVAL NOTES:

CONTRACTOR SHALL REVIEW ALL CONDITIONS OF THE FOLLOWING PERMITS AND MAINTAIN COPIES ON SITE FOR REFERENCES:

1. MAINE DEP SLODA MINOR AMENDMENT
2. TOWN OF CUMBERLAND SITE PLAN APPLICATION

ZONING NOTES:

1. PROPERTY OWNER:
   WILLOW STREET REALTY, LLC
2. APPLICANT:
   YARMOUTH VETERINARY CENTER
3. PROPOSED USE:
   VETERINARY CENTER
4. LOT INFORMATION:
   TAX MAP R01 LOT 11-4
   PARCEL ID: 0R01 0011 0004
5. ZONING DISTRICT: OFFICE COMMERCIAL SOUTH (OC-S)
6. ZONING REQUIREMENTS: DIMENSIONAL STANDARDS TO BE IN ACCORDANCE WITH THE APPROVED CONTRACT ZONE FOR COMMERCIAL CONSTRUCTION AS SHOWN BELOW:

	REQUIRED	PROVIDED
MINIMUM LOT SIZE	1 ACRE	2.95 ACRES
MINIMUM STREET FRONTAGE	150 FEET	427 FEET
MINIMUM FRONT YARD SETBACK	25 FEET*	>25 FEET
MINIMUM SIDE SETBACK	20 FEET	>20 FEET
MINIMUM REAR SETBACK	40 FEET	>65 FEET
MAXIMUM BUILDING HEIGHT	40 FEET	<40 FEET
OPEN SPACE	10%	75%

* THE FOURTH AMENDED SUBDIVISION PLAN SHOWS A 65' U.S. ROUTE 1 BUFFER STRIP.

7. PROPOSED IMPERVIOUS AREA: 41,964 SF (0.96 ACRES)
8. SITE UTILITIES WILL BE PROVIDED AS FOLLOWS:

ELECTRIC:	CENTRAL MAINE POWER (CMP)
WATER SUPPLY:	PORTLAND WATER DISTRICT
SEWER SERVICE:	PUBLIC (TOWN OF CUMBERLAND)
NATURAL GAS:	SUMMIT NATURAL GAS

9. THE PROPERTY IS NOT WITHIN A FLOODPLAIN PER FEMA COMMUNITY PANEL 230162 0018 C, REVISED OCTOBER 15, 1985.
10. PARKING SUMMARY: 1 SPACE FOR EACH 250 SQUARE FEET OF GROSS LEASABLE AREA. REQUIRED: 52 SPACES / PROVIDED: 57 SPACES.

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
DRAINAGE EASEMENT		
BUILDING		
EDGE OF PAVEMENT		
EDGE OF GRAVEL		
CONTOUR	100	100
SPOT GRADE		114.23
SEWER MANHOLE		
CATCHBASIN		
SEWER LINE	SS	SS
WATER LINE	W	W
STORM DRAIN	SD	SD
UNDERDRAIN	UD	UD
LIGHT POLE		
UTILITY POLE		
OVERHEAD UTILITIES	OHU	OHU
UNDERGROUND UTILITIES	UGU	UGU
CHAIN LINK FENCE		
CONCRETE		
SILT FENCE		SF SF
WETLANDS		
TREELINE		
CLEARING LIMIT		CLL
GRAVEL FOREBAY		
RIPRAP		
STONE CHECK DAM		
SILT SACK CATCH BASIN PROTECTION		
STABILIZED CONSTRUCTION ENTRANCE		

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

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STATE OF MAINE
DANIEL F. DIFFIN
11841
LICENSED
PROFESSIONAL ENGINEER
8/26/22

YARMOUTH VETERINARY CENTER
U.S. ROUTE 1
CUMBERLAND, MAINE

GENERAL NOTES, LEGEND, AND ABBREVIATIONS

SME
SEVEE & MAHER ENGINEERS
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
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DESIGN BY: JTR
DRAWN BY: BWB
DATE: 8/2022
CHECKED BY: DPD
LMN: EXCON
CTB: SME-STD

JOB NO. 220154.04 DWG FILE BASE

C-100

N/F
HERITAGE VILLAGE DEVELOPMENT GROUP, LLC
MAP R01, LOT 11-7
34376/332

N/F
CUMBERLAND FORESIDE
VILLAGE HOMEOWNERS ASSOCIATION
MAP R01, LOT 7O3
BK 36040, PG 267

EASEMENT
TO CUMBERLAND FORESIDE
VILLAGE HOMEOWNERS
ASSOCIATION CCRD 36040/271
25,360± S.F.

N/F
RONNIE-LYNN BELL
TERRY S BELL, JR
MAP R01, LOT 7L
BK 33833, PG 263

N/F
ELIZABETH R IVES
MAP R01, LOT 7K
BK 33238, PG 195

N/F
LOLA IN PEARLS, LLC
MAP R01, LOT 11-3
BK 38469, PG 167

N/F
ELIKRIS REALTY, LLC
MAP R01, LOT 11-4
BK 36453, PG 164

N/F
BELTED COW REALTY LLC
34767/170

901.55'
N30°44'43"E
369.74'
427.77'
381.38'
50'-WIDE DRAINAGE EASEMENT
40' REAR SETBACK
1414.15'
S30°44'43"W
COMMON ACCESS EASEMENT
PROPOSED CLEARING LIMIT
EXISTING TREE LINE
430.50'
S36°44'43"W
EXISTING CATCH BASIN (CB) (TYP)
TO BE INSTALLED BY OTHERS
WITH DEVELOPMENT ON LOT 3
S59°15'17"E
300.00'
807.35'
S30°44'43"W
EXISTING STORM DRAIN (TYP)
TO BE INSTALLED BY OTHERS
WITH DEVELOPMENT ON LOT 3
S59°15'17"E
175.00'
S59°15'17"E
175.00'
S59°15'17"E
300.00'
EXISTING SMH #2
TO BE INSTALLED BY OTHERS
WITH DEVELOPMENT ON LOT 3
20' SIDE SETBACK
EXISTING 8" DIA SANITARY SEWER (TYP)
TO BE INSTALLED BY OTHERS
WITH DEVELOPMENT ON LOT 3
20' SIDE SETBACK
40'-WIDE ACCESS EASEMENT
65' U.S. ROUTE 1 BUFFER STRIP PER
FOURTH AMENDED SUBDIVISION PLAN
677.67'
409.22'
100.42'
N02°19'04"W
86.26'
334.54'
INV IN 88.23
369.74'
S30°44'43"W
INV IN 94.46
INV OUT 94.5
24" DIA HDPE
25'-WIDE BUFFER/
FRONT SETBACK
427.77'
INV IN 93.02
INV IN 91.80
INV IN 96.0
84.16'
86.37'
S36°58'14"W
L=339.52'
R=7092.03
12" DIA CULVERT
INV OUT 87.94
DRAINAGE EASEMENT
24" DIA CULVERT
INV OUT 91.00
8" DIA CULVERT
EXISTING 12" DIA CULVERT REMOVED BY
OTHERS WITH DEVELOPMENT ON LOT 3
WALKING PATH
INV OUT 93.74
INV IN 94.5
INV IN 102.9
24" DIA HDPE CULVERT
INV OUT 91.0
INV OUT 92.46
INV IN 90.02
U.S. ROUTE 1
EXISTING SEWER MANHOLE (TYP)
SMH#1
APPROXIMATE EDGE OF PAVEMENT (TYP)
24" DIA CULVERT
18" DIA CULVERT
EXISTING 8" DIA DI WATER LINE (TYP)
EXISTING UTILITY POLE (TYP)
INV OUT 100.30
INV OUT 85.59
FALCON DR

NOTE:
SEE DRAWING C-100 FOR GENERAL SITE NOTES AND PLAN REFERENCES.

15 0 30 60 FEET

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STATE OF MAINE
DANIEL F. DIFFIN
11841
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PROFESSIONAL ENGINEER
8/30/2022

YARMOUTH VETERINARY CENTER
U.S. ROUTE 1
CUMBERLAND, MAINE

EXISTING CONDITIONS AND CLEARING PLAN

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DATE:	8/2022
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LMN:	EXCON
CTB:	SME-STD

JOB NO. 220154.04 DWG FILE BASE

C-101

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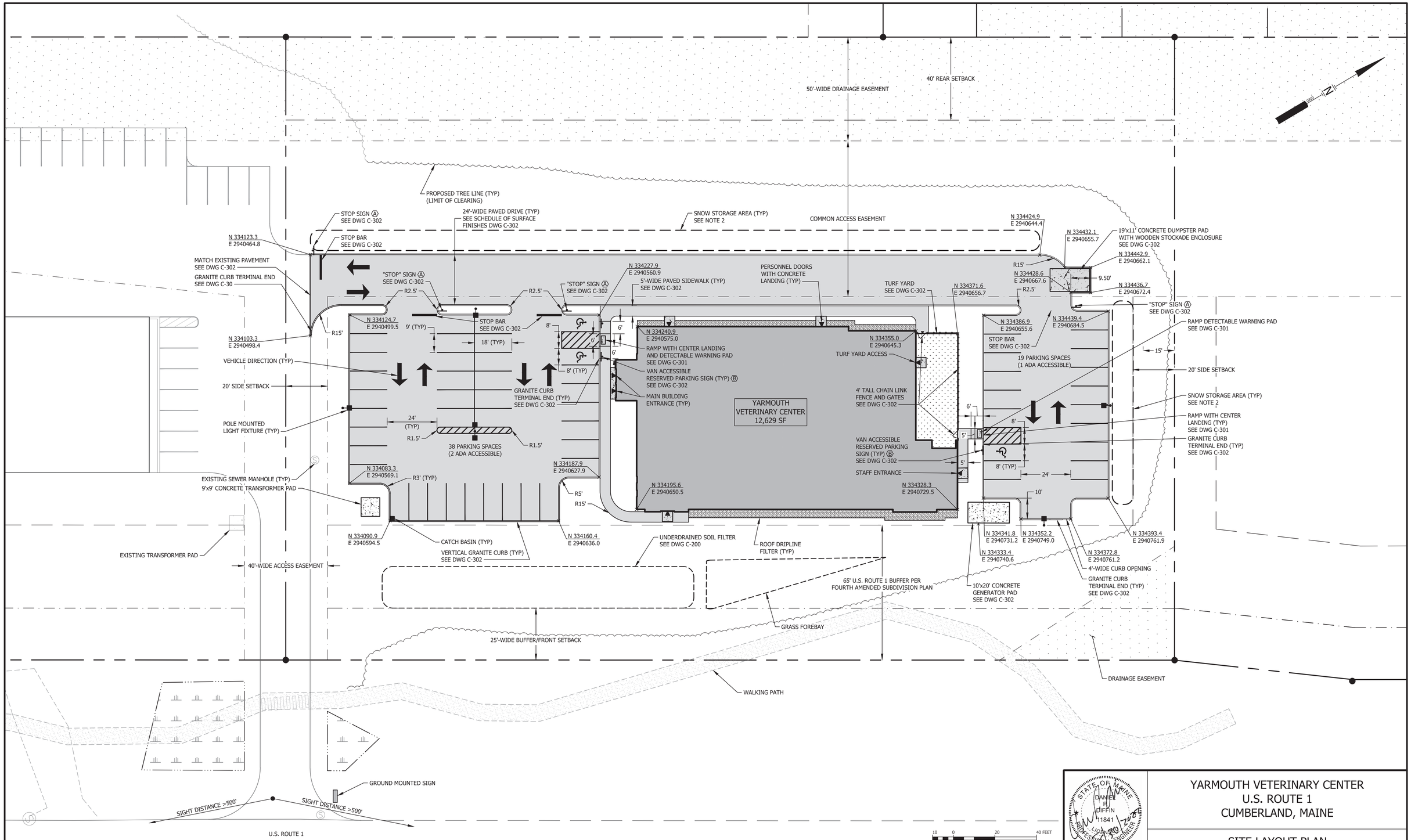

NOTES:
1. SEE DRAWING C-100 FOR GENERAL SITE NOTES AND PLAN REFERENCES.
2. SNOW SHALL BE REMOVED FROM STORAGE AREAS WHEN CAPACITY IS EXCEEDED.

REV.	BY	DATE	STATUS
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STATE OF MAINE
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YARMOUTH VETERINARY CENTER
U.S. ROUTE 1
CUMBERLAND, MAINE

SITE LAYOUT PLAN

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DATE:	8/2022
CHECKED BY:	DPD
LMN:	SITE
CTB:	SME-STD

JOB NO. 220154.04 DWG FILE BASE

C-102

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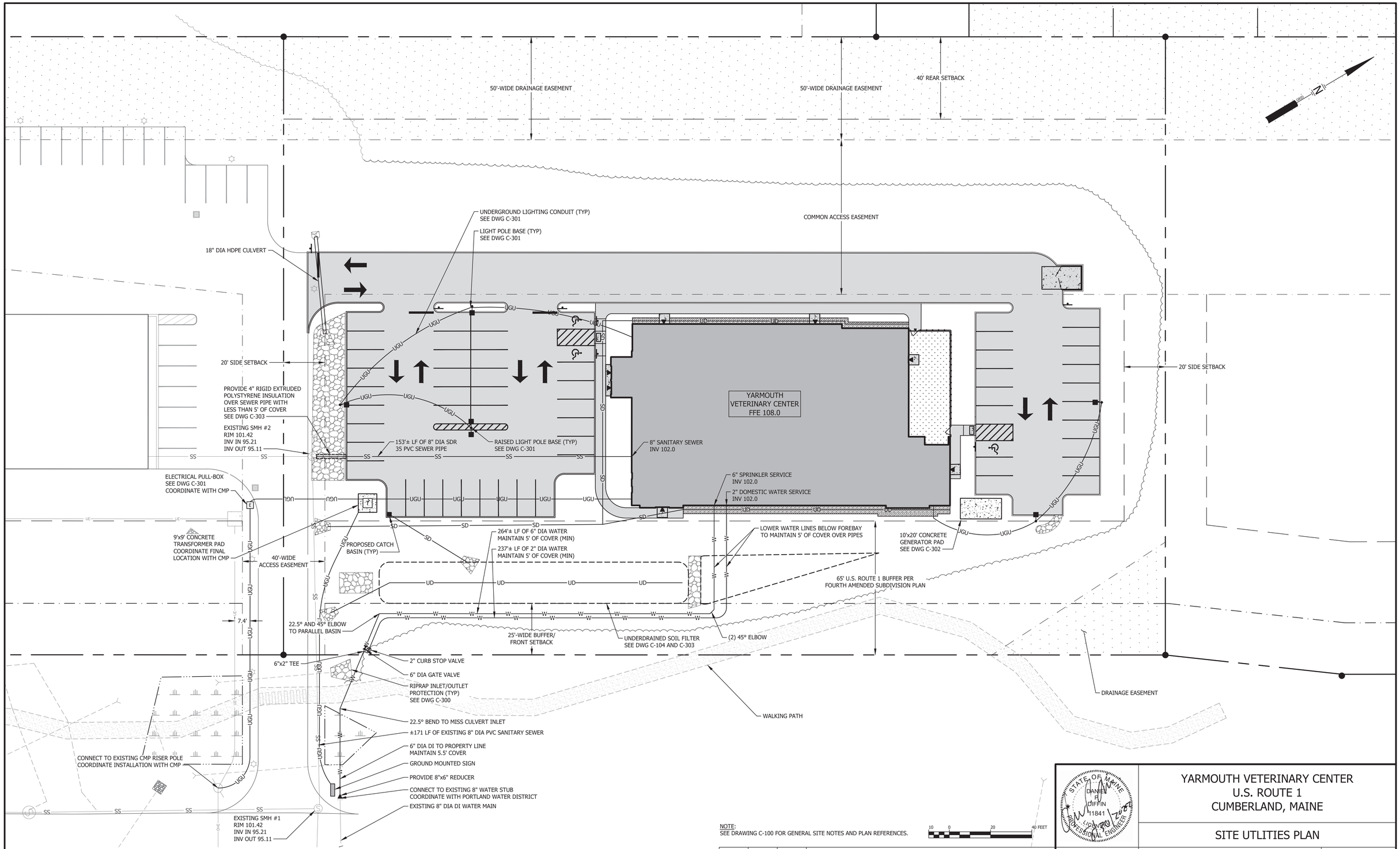

NOTE:
SEE DRAWING C-100 FOR GENERAL SITE NOTES AND PLAN REFERENCES.

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STATE OF MAINE
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11841
LICENSED
PROFESSIONAL ENGINEER
8/30/22

YARMOUTH VETERINARY CENTER
U.S. ROUTE 1
CUMBERLAND, MAINE

SITE UTLITIES PLAN

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LMN:	UTIL
CTB:	SME-STD

JOB NO. 220154.04 DWG FILE BASE

C-103

NOTE:
SEE DRAWING C-100 FOR GENERAL SITE NOTES AND PLAN REFERENCES.

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STATE OF MAINE — DANIEL P. DIFFIN — 11841 — LICENSED PROFESSIONAL ENGINEER

YARMOUTH VETERINARY CENTER
U.S. ROUTE 1
CUMBERLAND, MAINE

SITE GRADING, DRAINAGE, AND EROSION CONTROL PLAN

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LMN:	GRAD
CTB:	SME-STD

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C-104

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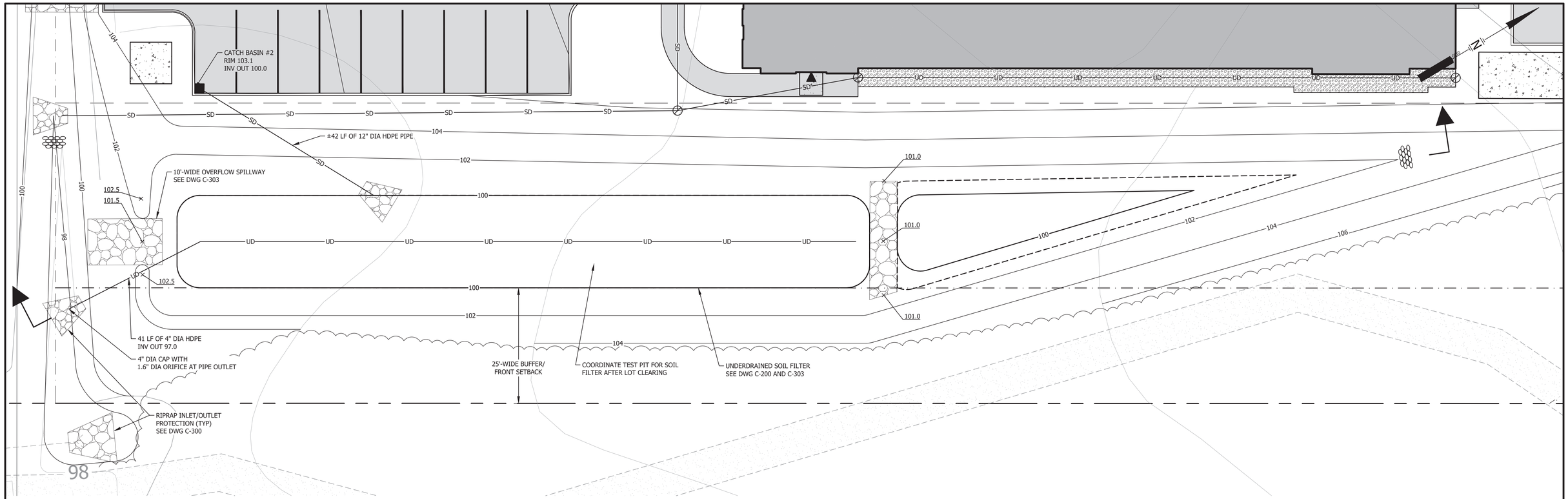
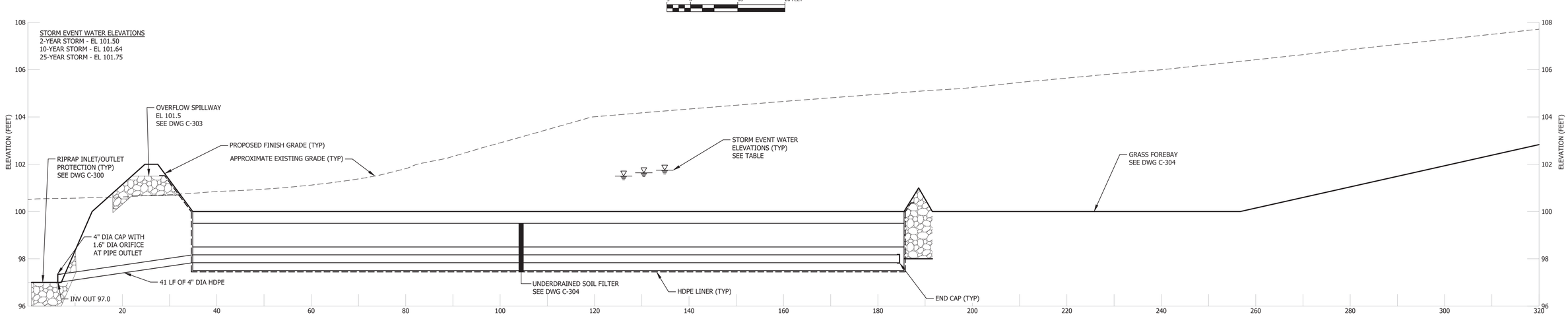


UNDERDRAINED SOIL FILTER PLAN

5 0 10 20 FEET



UNDERDRAINED SOIL FILTER SECTION

5 0 10 20 FEET (HORZ)
1 0 2 4 FEET (VERT)

NOTE:
SEE DRAWING C-100 FOR GENERAL SITE NOTES AND PLAN REFERENCES.

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STATE OF MAINE
DANIEL F. DIFFIN
11841
LICENSED
PROFESSIONAL ENGINEER

YARMOUTH VETERINARY CENTER
U.S. ROUTE 1
CUMBERLAND, MAINE

UNDERDRAINED SOIL FILTER
PLAN AND SECTION

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C-200

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 should be installed before runoff is directed to the swale. 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. It may be necessary to cut, pack down, or remove tall grasses, brush, or woody vegetation to avoid voids and bridges that allow the washing away of fine soil particles.

   b. 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:
      - 2-inches thick for slopes flatter than 3H:1V;
      - 4-inches thick for slopes greater than 3H:1V;
      - 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 length;
      - 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 15th to November 1st) 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 (November 1st to April 15th) 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 OUTSIDE OF SOLAR ARRAY FOOTPRINT

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. Provide New England Meadow mix seed in areas of solar array

   c. Mulch in accordance with specifications for temporary mulching.

   d. 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. Sediment barriers should be installed downgradient of stockpiles. Stormwater shall be directed away from stockpiles.

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.
   d. Slopes steeper than 1.5:1 are prohibited.

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 section I3;

(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 section I5);

(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 section I6. 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 Spring 2023 and end in 2024.
   - Mobilization
   - Install temporary erosion control measures
   - Clearing and grubbing
   - Site Grading
   - Install gravel access road
   - Install site utilities and solar panels
   - Site stabilization, loam and seed, and landscaping

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.

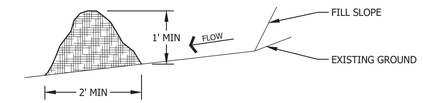
5. THE EROSION CONTROL MIX BARRIERS SHOULD BE INSPECTED REGULARLY AND AFTER EACH LARGE RAINFALL. REPAIR ALL DAMAGED SECTIONS OF BERM IMMEDIATELY BY REPLACING OR ADDING ADDITIONAL MATERIAL PLACED ON THE BERM TO THE DESIRED HEIGHT AND WIDTH.

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.

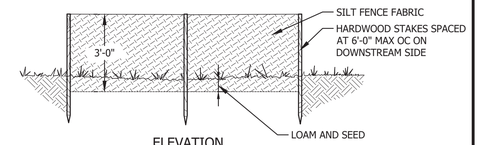
7. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.

8. REPLACE SECTIONS OF BERM THAT DECOMPOSE, BECOME CLOGGED WITH SEDIMENT OR OTHERWISE BECOME INEFFECTIVE. THE BARRIER SHOULD BE RESHAPED AS NEEDED.

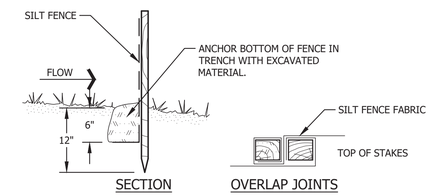
9. EROSION CONTROL MIX BARRIERS CAN BE LEFT IN PLACE AFTER CONSTRUCTION. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER BARRIER IS NO LONGER REQUIRED SHOULD BE SPREAD TO CONFORM TO THE EXISTING GRADE AND BE SEEDED AND MULCHED. WOODY VEGETATION CAN BE PLANTED INTO THE BARRIERS, OR THEY CAN BE OVER-SEEDED WITH LEGUMES. IF THE BARRIER NEEDS TO BE REMOVED, IT CAN BE SPREAD OUT INTO THE LANDSCAPE.



EROSION CONTROL MIX SEDIMENT BARRIER



ELEVATION



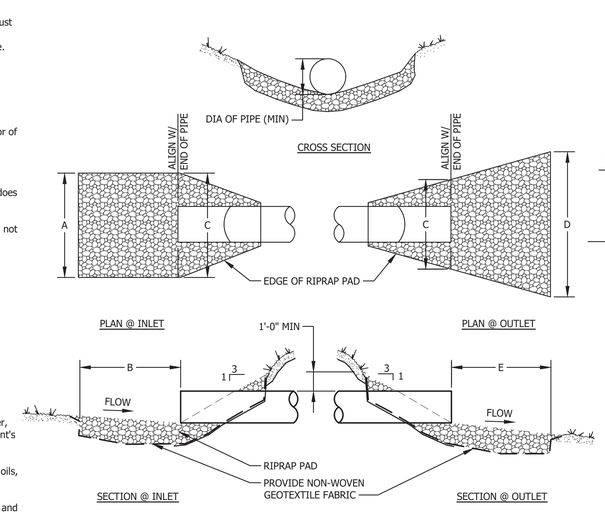
SECTION OVERLAP JOINTS

SILT FENCE

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

SURFACE DRAINAGE SEDIMENT CONTROL

NTS

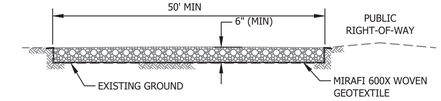


RIPRAP PAD MUST BE INSTALLED WITHIN 48 HOURS OF INSTALLING NEW PIPE OR CULVERT.

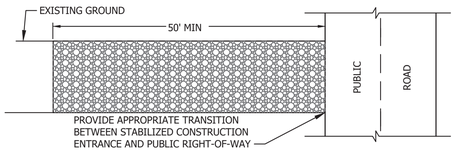
PIPE DIA	A	B	C	D	E	PAD DEPTH	D_{50}
12" OR LESS	3 FT.	2 FT.	3 FT.	4 FT.	6 FT.	10"	5"
15"	3.75 FT.	2.5 FT.	3.75 FT.	5 FT.	8 FT.	16"	8"
18"	4.5 FT	3 FT	4.5 FT	8 FT	10 FT	16"	8"

RIPRAP INLET/OUTLET PROTECTION

NTS



PROFILE



PLAN

CONSTRUCTION SPECIFICATIONS

NOTES:
1. STONE SIZE - 2" TO 3" STONE OR RECLAIMED OR RECYCLED CONCRETE, OR EQUIVALENT.
3. LENGTH - AS EFFECTIVE, BUT NOT LESS THAN 50 FEET.
4. THICKNESS - NOT LESS THAN SIX (6) INCHES.
5. WIDTH - 10 FEET MINIMUM, OR NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
6. 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

NTS

REV.	BY	DATE	STATUS
	DPD	8/2022	ISSUED FOR PERMIT REVIEW

STATE OF MAINE DANIEL F. DIFFIN 11841 LICENSED PROFESSIONAL ENGINEER

YARMOUTH VETERINARY CENTER
U.S. ROUTE 1
CUMBERLAND, MAINE

EROSION CONTROL NOTES AND DETAILS

SME SEVEE & MAHER ENGINEERS
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
4 Blanchard Road, PO Box 85A, Cumberland, Maine 04021
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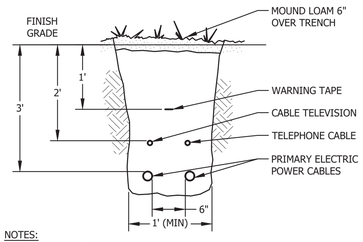
DESIGN BY:	JTR
DRAWN BY:	BWB
DATE:	8/2022
CHECKED BY:	DPD
LMN:	NONE
CTB:	SME-STD

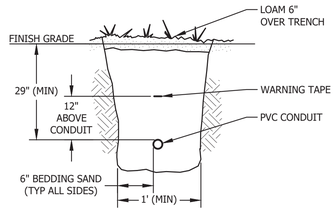
JOB NO. 220154.04 DWG FILE DETAILS

C-300

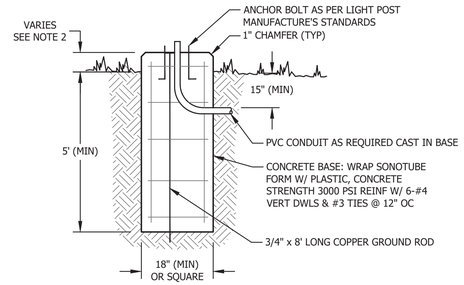


NOTES:
1. SEE CMP CO. STANDARD TRENCH FOR BACKFILL MATERIAL REQUIREMENTS.
2. DIRECT BURY CABLES EXCEPT UNDER PAVED AREAS. PROVIDE SCH. 40 PVC CONDUIT UNDER PAVED AREAS, EXTEND CONDUIT 5' BEYOND EDGE OF PAVEMENT.
3. COORDINATE FINAL CONDUIT SIZING AND QUANTITY WITH ELECTRICAL DRAWINGS.

UNDERGROUND UTILITY TRENCH
NTS

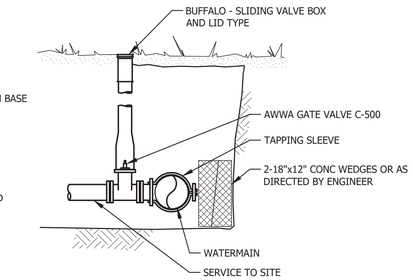


UNDERGROUND LIGHTING CONDUIT
NTS

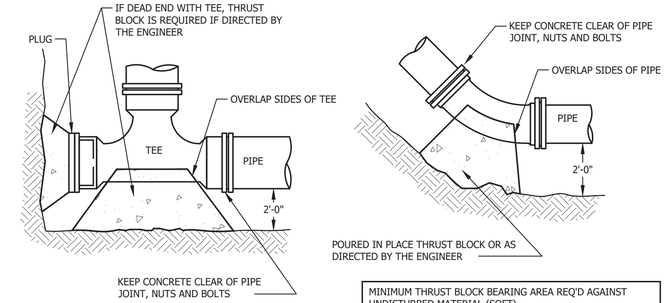


NOTES:
1. SEE ELECTRICAL SITE PLAN DETAIL DWG E-002.
2. REVEAL SHALL BE 6" FOR INSTALLATION IN LANDSCAPED AREAS OR RAISED ISLANDS. FOR INSTALLATION IN PAVED AREAS REVEAL SHALL BE 2'-6".

LIGHT POLE BASE
NTS



TYPICAL TAPPING SLEEVE AND GATE VALVE
NTS

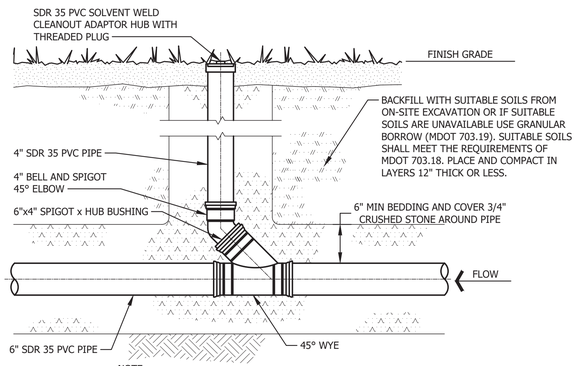


THRUST AT FITTINGS IN Lbs. AT 100 Lbs PER SQUARE INCH WATER PRESSURE			
PIPE SIZE IN	90° ELBOW	45° ELBOW	VALVES, TEES AND DEAD ENDS
4"	2,600	1,420	1,850
6"	5,400	2,900	3,800
8"	9,300	5,000	6,500
10"	13,900	7,550	10,850
12"	19,700	10,800	13,900

MINIMUM THRUST BLOCK BEARING AREA REQ'D AGAINST UNDISTURBED MATERIAL (SQFT)					
PIPE SIZE	90° BEND	TEE	PLUG	45° BEND	22 1/2° AND SMALLER
16"	28	22	20	15	8
12"	16	14	11	9	4
8"	7	6	5	4	2
6"	5	4	3	2	2

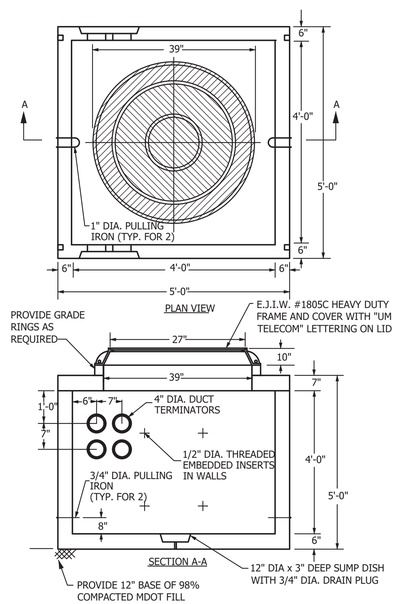
1. SIZE OF THRUST BLOCK MAY BE INCREASED BY THE ENGINEER TO MEET SOIL CONDITIONS FOUND DURING CONSTRUCTION.
2. FOR PIPES 4" OR SMALLER USE THRUST BLOCK FOR 4" PIPE.

THRUST BLOCK DETAIL
NTS



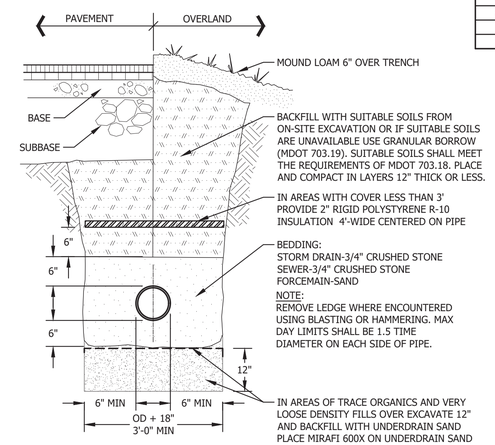
NOTE:
PLACE CAP @ GRADE OR 6" BELOW AS DIRECTED BY ENGINEER.

TYPICAL CLEANOUT
NTS



CONCRETE: 5000 P.S.I. @ 28 DAYS
REINF: HS-20 HIGHWAY LOADING GRADE
60 REBAR SPREAD BARS @ ALL OPENINGS

ELECTRICAL PULL BOX
NTS



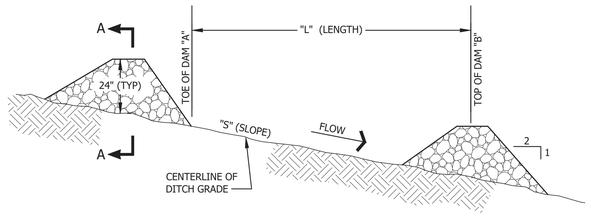
TYPICAL TRENCH SECTION
NTS

NOTES:
1. WHILE THIS PRACTICE IS NOT INTENDED TO BE USED PRIMARILY FOR SEDIMENT TRAPPING, SOME SEDIMENT WILL ACCUMULATE BEHIND DAMS. SEDIMENT SHOULD BE REMOVED FROM BEHIND DAMS WHEN IT HAS ACCUMULATED TO ONE HALF THE ORIGINAL HEIGHT OF THE DAM.
2. STONE: 1"-6" WELL GRADED CRUSHED STONE

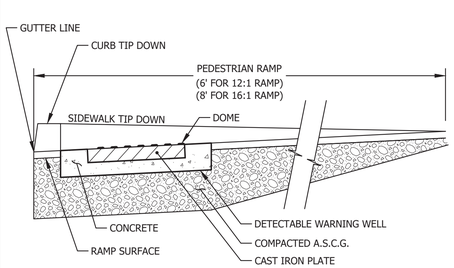
SLOPE & LENGTH TABLE

"S" (SLOPE) FT/FT	"L" (LENGTH) FT
0.020	100
0.030	66
0.040	50
0.050	40
0.080	25
0.100	20
0.120	17
0.150	13

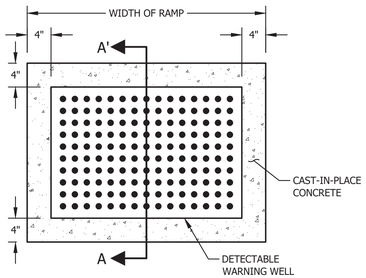
L= THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION



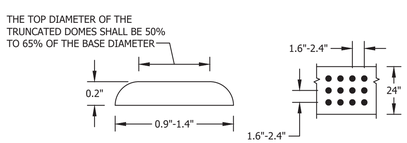
ELEVATION VIEW



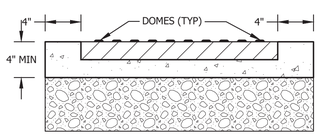
SIDE SECTION VIEW OF DETECTABLE WARNING, WELL, CURB AND GUTTER



PLAN VIEW OF DETECTABLE WARNING AND WELL

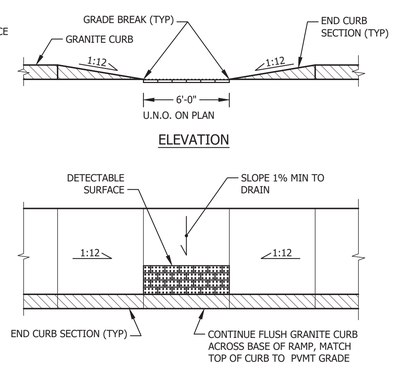


DOME AND DETECTABLE WARNING DETAILS

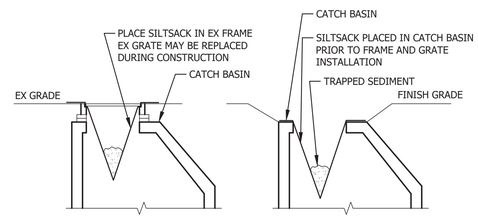


SECTION A-A'

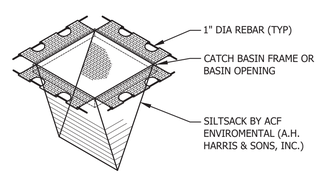
DETECTABLE WARNING PAD
NTS



RAMP WITH CENTER LANDING
NTS

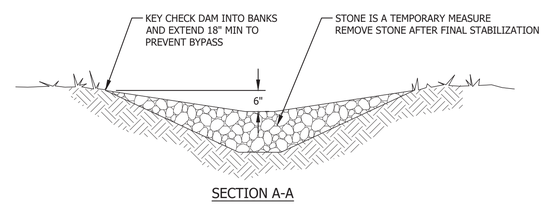


EXISTING BASIN NEW INSTALLATION



SILTSACK

CATCH BASIN PROTECTION
NTS



SECTION A-A

STONE CHECK DAM
NTS

REV.	BY	DATE	STATUS
	DPD	8/2022	ISSUED FOR PERMIT REVIEW

STATE OF MAINE DANIEL F. DIFFIN 11841 LICENSED PROFESSIONAL ENGINEER 8/30/2022

YARMOUTH VETERINARY CENTER
U.S. ROUTE 1
CUMBERLAND, MAINE

SECTIONS AND DETAILS

SME SEVEE & MAHER ENGINEERS
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
4 Blanchard Road, PO Box 85A, Cumberland, Maine 04021
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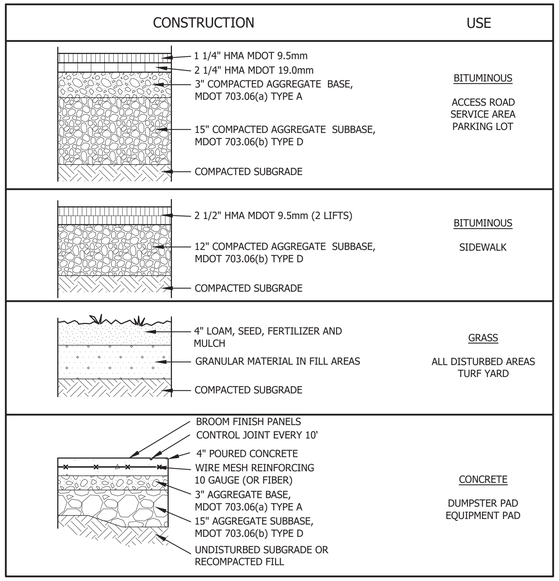
DESIGN BY: JTR
DRAWN BY: BWB
DATE: 8/2022
CHECKED BY: DPD
LMN: NONE
CTB: SME-STD

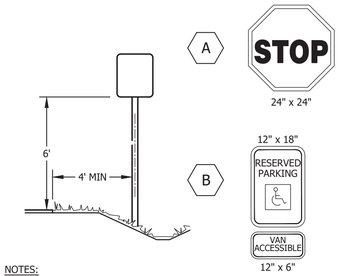
JOB NO. 220154.04 DWG FILE DETAILS

C-301



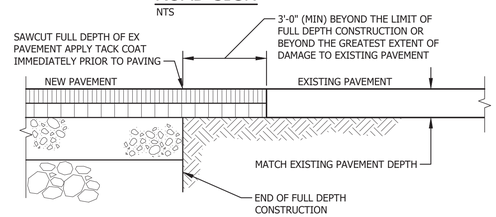
NOTES:
1. HMA = HOT MIX ASPHALT.
   MDOT = MAINE DEPARTMENT OF TRANSPORTATION.
2. ALL COURSE THICKNESS AFTER FINAL COMPACTION.

SCHEDULE OF SURFACE FINISHES
NTS

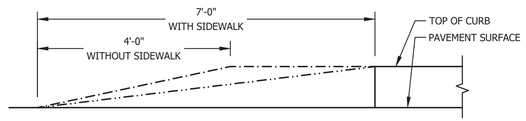


NOTES:
1. SIGNS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, HIGHWAYS AND BRIDGES REVISION OF DECEMBER 2002, SECTION 645.
2. ALL PERMANENT SIGNS ON THIS PROJECT ARE CLASSIFIED UNDER SECTION 645.03(b) TYPE 1 REGULATORY WARNING AND ROUTE 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.

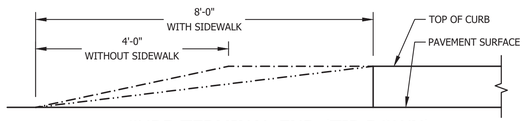
ROAD SIGN
NTS



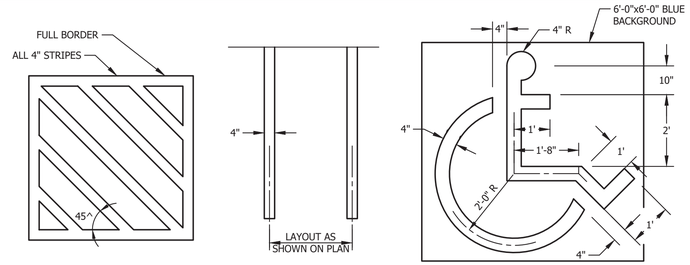
PAVEMENT CUTTING AND MATCHING SECTION
NTS



GRANITE CURB TERMINAL END
NTS

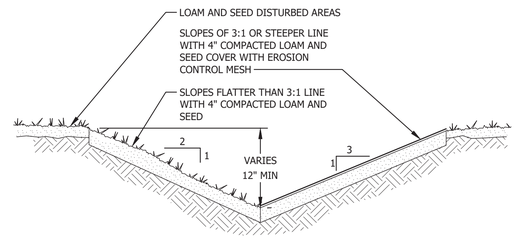


CURB TERMINAL END (TIP DOWN)
NTS

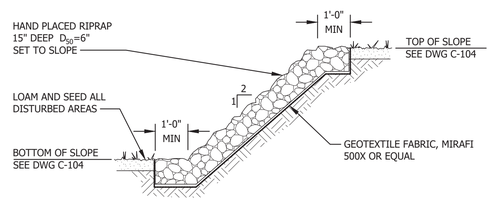


NO PARKING | PARKING SPACE | ADA ACCESSIBLE PARKING

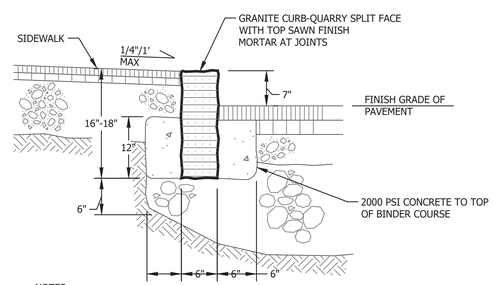
STRIPING
NTS



GRASS DITCH SECTION
NTS

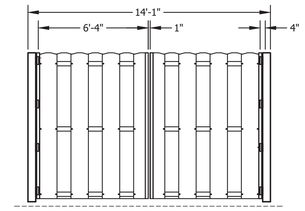


RIPRAP EMBANKMENT STABILIZATION
NTS

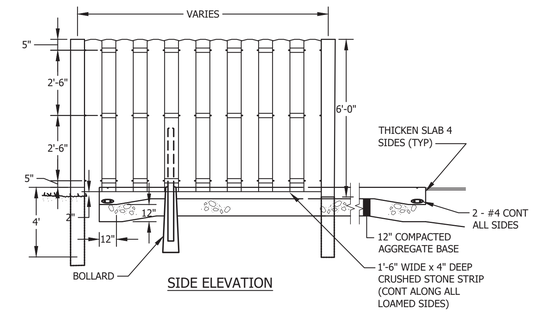


NOTES:
1. MINIMUM LENGTH OF THE CURB SECTIONS SHALL BE 3'-0"
2. FOR ALL CURBS WITH RADIUS LESS THAN 15' INSTALL STONES CUT TO THE RADIUS REQUIRED (NOT STRAIGHT SECTIONS)

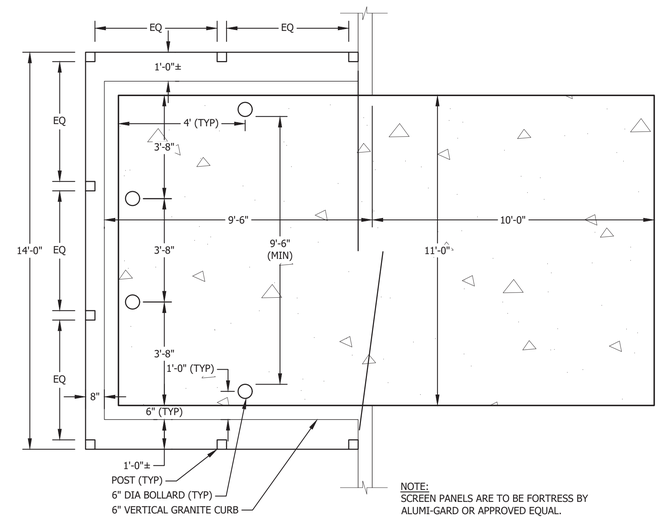
VERTICAL GRANITE CURB
NTS



GATE DETAIL

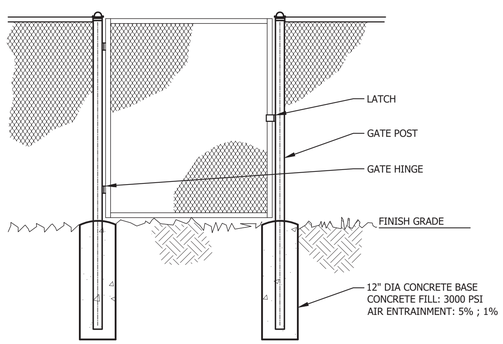


SIDE ELEVATION

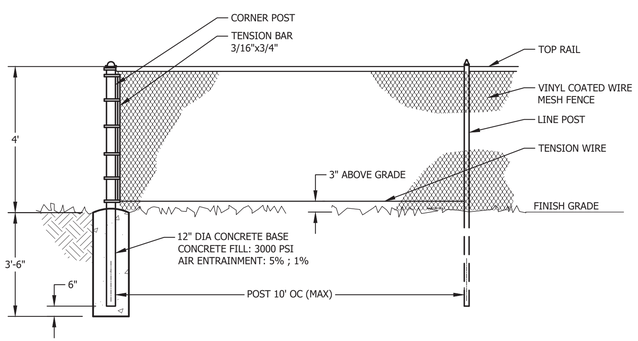


NOTE:
SCREEN PANELS ARE TO BE FORTRESS BY ALUMI-GARD OR APPROVED EQUAL.

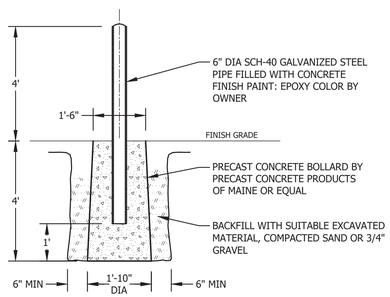
DUMPSTER PAD AND ENCLOSURE
NTS



CHAINLINK FENCE SINGLE LEAF GATE
NTS



CHAINLINK FENCE CORNER AND STRAIGHT SECTIONS
NTS



PRECAST STEEL BOLLARD
NTS

REV.	BY	DATE	STATUS
	DPD	8/2022	ISSUED FOR PERMIT REVIEW

STATE OF MAINE
DANIEL F. DIFFIN
11841
LICENSED
PROFESSIONAL ENGINEER
8/30/2022

YARMOUTH VETERINARY CENTER
U.S. ROUTE 1
CUMBERLAND, 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:	BWB
DATE:	8/2022
CHECKED BY:	DPD
LMN:	NONE
CTB:	SME-STD

JOB NO. 220154.04 DWG FILE DETAILS

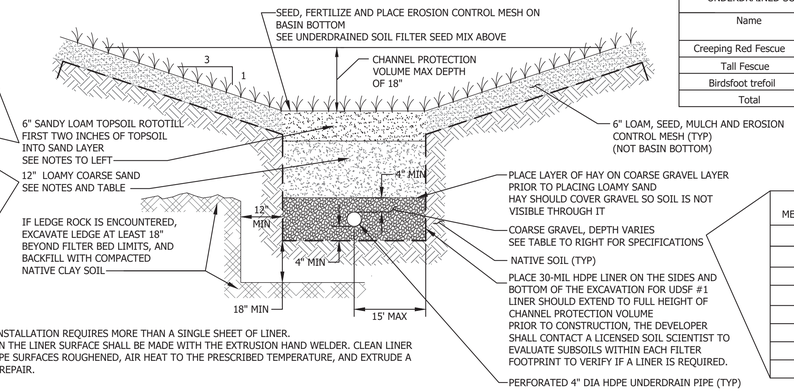
C-302

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.

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



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

COARSE GRAVEL MEDOT SPECIFICATIONS FOR UNDERDRAINS (MEDOT #703.22)	
SIEVE SIZE	% PASSING BY WEIGHT
UNDERDRAIN TYPE B	
1"	95-100
3/4"	75-100
#4	50-100
#20	15-80
#50	0-15
#200	0-5

LINER INSTALLATION NOTES:

1. PROVIDE WELDED SEAMS PER MANUFACTURER'S RECOMMENDATION WHEN INSTALLATION REQUIRES MORE THAN A SINGLE SHEET OF LINER.
2. REPAIR ALL SCRATCHES >5% OF THE SHEET THICKNESS AND SMALL HOLES IN THE LINER SURFACE SHALL BE MADE WITH THE EXTRUSION HAND WELDER. CLEAN LINER MATERIAL OF ALL DIRT, DUST, AND OTHER FOREIGN MATERIAL, SMOOTH HDPE SURFACES ROUGHENED, AIR HEAT TO THE PRESCRIBED TEMPERATURE, AND EXTRUDE A STRIP OF HDPE RESIN OVER THE HOLE TO PRODUCE AN EXTRUDED WELDED REPAIR.

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.

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. A HYDROMETER TEST WILL BE REQUIRED TO CONFIRM CLAY CONTENT OF THE SANDY LOAM TOPSOIL.

TYPICAL UNDERDRAINED SOIL FILTER DETAIL

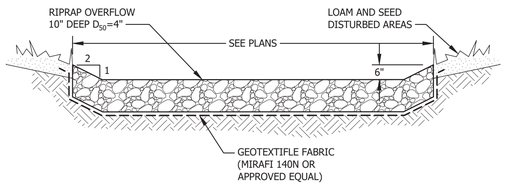
NTS

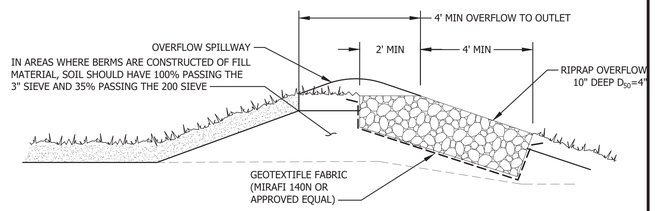
INSPECTION BY A PROFESSIONAL ENGINEER WILL OCCUR AT A MINIMUM:

- 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 LABORATORY APPROVED BY THE ENGINEER TO SHOW THAT THEY ARE PASSING SPECIFICATIONS.

CONSTRUCTION OVERSIGHT NOTES: ALL BMPS

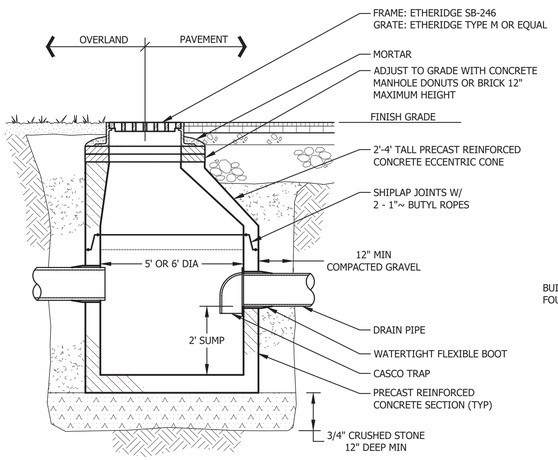
NTS





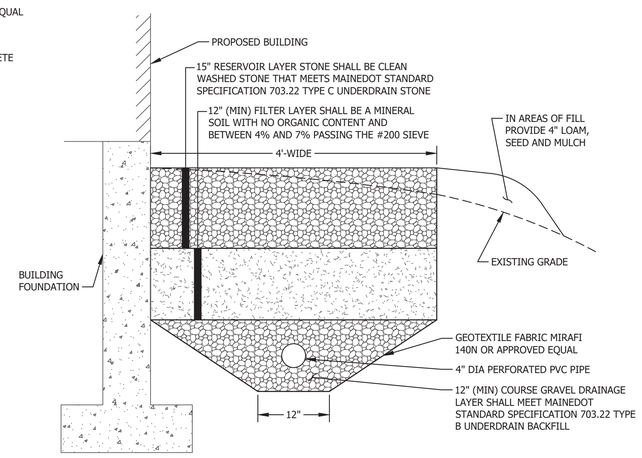
OVERFLOW SPILLWAY SECTIONS

NTS



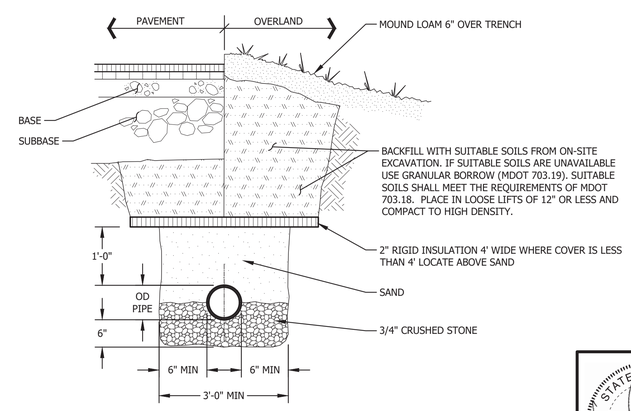
TYPICAL CATCH BASIN SECTION

NTS



ROOF DRIPLINE FILTER

NTS



SEWER PIPE W/ INSULATION

NTS

REV.	BY	DATE	STATUS
	DPD	8/2022	ISSUED FOR PERMIT REVIEW

STATE OF MAINE
DANIEL F. DIFFIN
11841
LICENSED
PROFESSIONAL ENGINEER

YARMOUTH VETERINARY CENTER
U.S. ROUTE 1
CUMBERLAND, 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:	BWB
DATE:	8/2022
CHECKED BY:	DPD
LMN:	NONE
CTB:	SME-STD

JOB NO. 220154.04 DWG FILE DETAILS C-303

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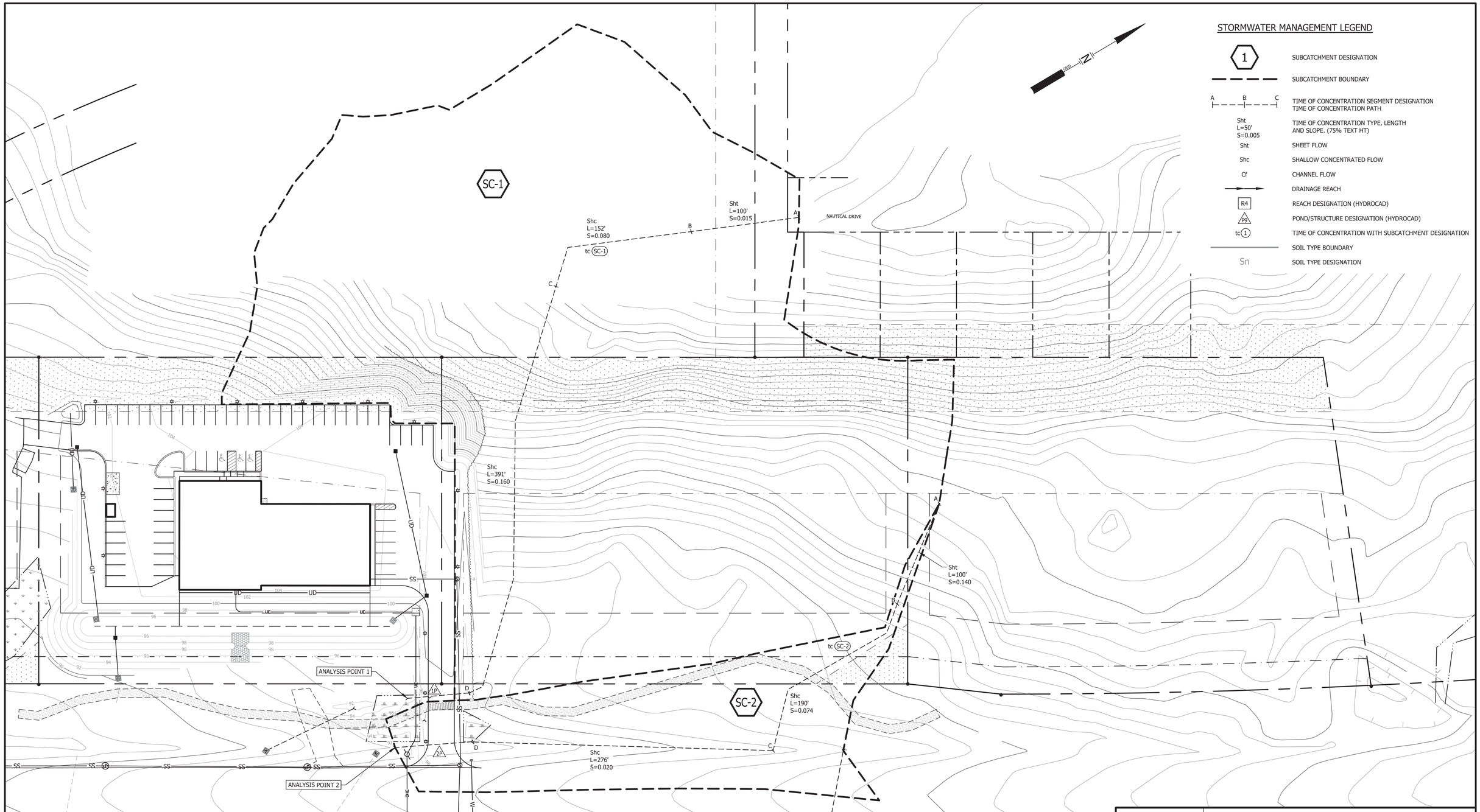

STORMWATER MANAGEMENT LEGEND

1	SUBCATCHMENT DESIGNATION
	SUBCATCHMENT BOUNDARY
A B C	TIME OF CONCENTRATION SEGMENT DESIGNATION TIME OF CONCENTRATION PATH
Sht L=50' S=0.005	TIME OF CONCENTRATION TYPE, LENGTH AND SLOPE. (75% TEXT HT)
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
	SOIL TYPE BOUNDARY
Sn	SOIL TYPE DESIGNATION

NOTE:
SEE DRAWING C-100 FOR GENERAL SITE NOTES AND PLAN REFERENCES.

20 0 40 80 FEET

STATE OF MAINE
DANIEL F. DIFFIN
11841
LICENSED
PROFESSIONAL ENGINEER
8/30/2022

YARMOUTH VETERINARY CENTER
U.S. ROUTE 1
CUMBERLAND, MAINE

STORMWATER MANAGEMENT PLAN
PRE-DEVELOPMENT CONDITIONS

REV.	BY	DATE	STATUS
	DPD	8/2022	ISSUED FOR PERMIT REVIEW

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Phone 207.829.5016 • Fax 207.829.5692 • sme-engineers.com

DESIGN BY:	JTR
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CTB:	SME-STD

JOB NO. 220154.04 DWG FILE BASE

D-100

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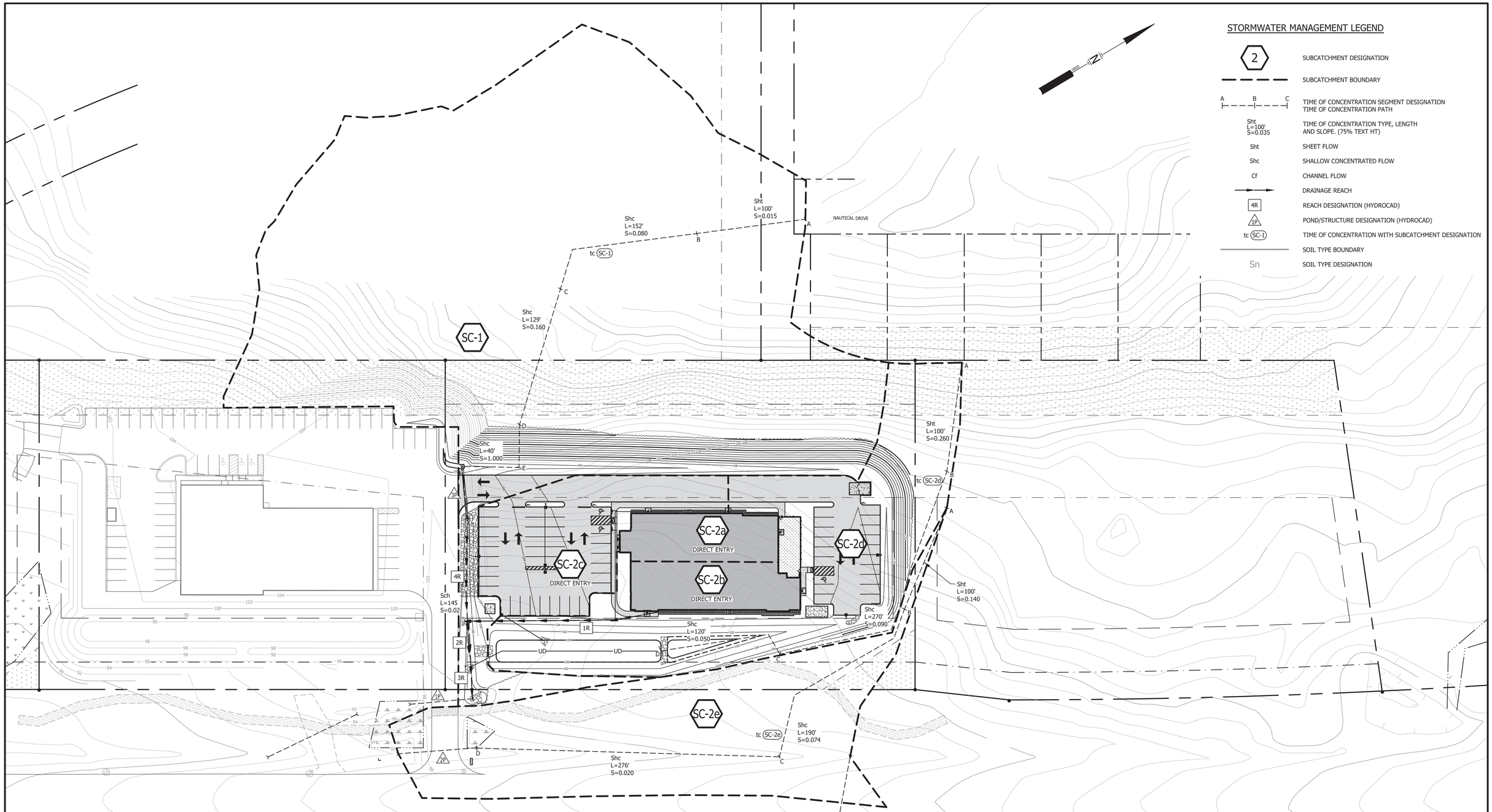

NOTE:
SEE DRAWING C-100 FOR GENERAL SITE NOTES AND PLAN REFERENCES.

REV.	BY	DATE	STATUS
	DPD	8/2022	ISSUED FOR PERMIT REVIEW

STATE OF MAINE
DANIEL F. DIFFIN
11841
LICENSED
PROFESSIONAL ENGINEER

YARMOUTH VETERINARY CENTER
U.S. ROUTE 1
CUMBERLAND, MAINE

STORMWATER MANAGEMENT PLAN
POST-DEVELOPMENT CONDITIONS

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CTB:	SME-STD

JOB NO. 220154.04 DWG FILE BASE

D-101

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EASEMENT TABLE

LINE	LENGTH	BEARING
E-L1	49.98	N84°10'10"E
E-L2	27.06	S59°15'17"E
E-L3	50.00	S30°44'43"W
E-L4	37.57'	S84°10'10"W
E-L5	33.91'	S84°10'10"W
E-L6	32.03'	S30°44'33"W
E-L7	60.00'	N31°42'16"W
E-L8	60.00'	S80°06'31"W
E-L9	60.00'	N58°40'48"W
E-L10	40.00'	N48°11'29"W
E-L11	32.00'	N08°03'52"W
E-L12	30.00'	N48°15'26"E
E-L13	37.86'	N44°53'07"E

CURVE	LENGTH	RADIUS
E-C1	89.81'	1501.00
E-C2	44.89'	166.00
E-C3	99.96'	166.00
E-C4	120.04'	356.00
E-C5	39.62'	1691.00

LOT LINE TABLE

LINE	LENGTH	BEARING
L2	50.00	N85°14'51"E
L3	27.06	S59°15'17"E
L4	27.06	N59°15'17"W

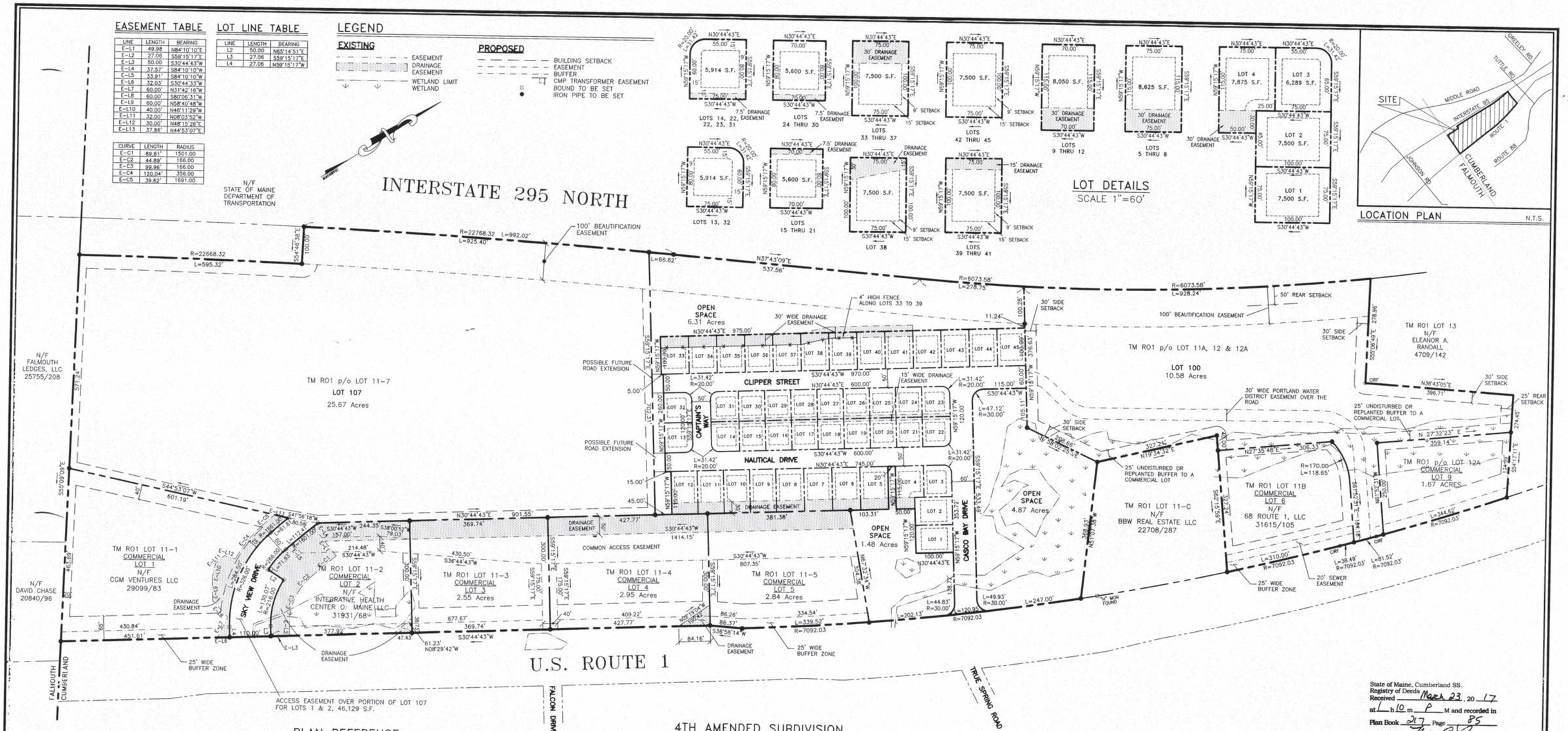
LEGEND

EXISTING

- EASEMENT
- DRAINAGE EASEMENT
- WETLAND LIMIT WETLAND

PROPOSED

- BUILDING SETBACK
- EASEMENT
- BUFFER
- CMP TRANSFORMER EASEMENT BOUND TO BE SET
- IRON PIPE TO BE SET



LOT DETAILS

SCALE 1"=60'

LOCATION PLAN N.T.S.

PLAN REFERENCE

BOUNDARY INFORMATION TAKEN FROM "BOUNDARY PLAN, CUMBERLAND FORESIDE VILLAGE, U.S. ROUTE ONE, CUMBERLAND MAINE, MADE FOR CUMBERLAND FORESIDE VILLAGE, LLC 50 GRAY ROAD, FALMOUTH, MAINE" BY OWEN HASKELL, INC., 16 CASCO STREET, PORTLAND, ME 04101, JUNE 07, 2006, REV. 3 01-08-07.

ZONE INFORMATION

CUMBERLAND: CONTRACT ZONE

SPACE STANDARDS:	CONTRACT ZONE RESIDENTIAL	CONTRACT ZONE COMMERCIAL	CONTRACT ZONE ASSISTED LIVING	CONTRACT ZONE WAREHOUSE	CONTRACT ZONE MULTI FAMILY
MINIMUM LOT SIZE:	5,000 S.F.				
MINIMUM FRONTAGE:	50 FEET	150 FEET	150 FEET	150 FEET	
MINIMUM FRONT SETBACK:	15 FEET	25 FEET	50 FEET	25 FEET	50 FEET
MINIMUM SIDE SETBACK:	9 FEET	20 FEET	30 FEET	25 FEET	30 FEET
MINIMUM REAR SETBACK:	15 FEET	40 FEET	50 FEET	25 FEET	50 FEET
DRIVEWAY SETBACK:	5 FEET	10 FEET			5 FEET

NOTE:
REFER TO AMENDED AND RESTATED CONTRACT ZONING AGREEMENT BY AND BETWEEN THE TOWN OF CUMBERLAND AND CUMBERLAND FORESIDE VILLAGE, LLC TO BE RECORDED FOR FURTHER INFORMATION.

IF AN ASSISTED LIVING FACILITY, DUPLEX OR MULTIPLEX DWELLING IS ADJACENT TO A COMMERCIAL LOT, THERE SHALL BE A 25 FOOT BUFFER OF UNDISTURBED OR REPLANTED VEGETATION. THE DEVELOPER SHALL PROVIDE FOR ADDITIONAL PLANTINGS, AS APPROVED BY THE PLANNING BOARD, WITHIN THE 25 FOOT UNDISTURBED BUFFER WHERE EXISTING CONDITIONS DO NOT PROVIDE ADEQUATE SCREENING BETWEEN THE PROPERTIES.

ANY BUILDING THAT IS CONSTRUCTED FOR THE SOLE PURPOSE OF AND USED EXCLUSIVELY IN CONNECTION WITH THE DEVELOPMENT OF MULTIPLEX DWELLINGS AND LOCATED ON THE SAME LOT AS THE MULTIPLEX DWELLINGS, SUCH AS A COMMUNITY CENTER OR RENTAL OFFICE, SHALL BE SUBJECT TO THE SETBACK REQUIREMENTS OF THIS SECTION; PROVIDED, HOWEVER, THAT THE REAR SETBACK FOR SUCH BUILDING SHALL BE NOT LESS THAN 25 FEET.

4TH AMENDED SUBDIVISION CONDITIONS OF APPROVAL

1. BETTER DEMARCATION OF DRAINAGE EASEMENTS INCLUDING THE 30' EASEMENT BEHIND LOTS 33-41, THE 15' EASEMENT BETWEEN THE DOUBLE ROW OF HOUSES AND THE ORIGINAL EASEMENT NEAR ROUTE 1 ARE NEEDED ON THE PLAN.

2. IDENTIFICATION OF THE FENCING IS NEEDED ON THE PLAN.

WAIVERS GRANTED

1. SCALE OF SUBDIVISION PLAT

NOTES

1. OWNERS OF RECORD:
   CUMBERLAND FORESIDE VILLAGE, LLC, 50 GRAY ROAD, FALMOUTH, MAINE
   BOOK 23549, PAGE 231
   BOOK 23628, PAGE 23
   BOOK 29433, PAGE 72
   BOOK 31615, PAGE 105
   BOOK 32477, PAGE 266
   BOOK 32827, PAGE 24

2. MARKERS TO BE SET AT ALL CORNERS.

3. THE APPROVAL OF THIS PLAN BY THE PLANNING BOARD DOES NOT CONSTITUTE ACCEPTANCE BY THE TOWN OF ANY STREET, EASEMENT, OPEN SPACE AREA, PARK, PLAYGROUND, OR OTHER RECREATION AREA THEREON.

4. PROJECT HAS AN APPROVED DEPARTMENT OF ENVIRONMENTAL PROTECTION PERMIT. PERMIT NO. L-21578-39-L-A.

5. PROJECT HAS AN APPROVED MAINE DEPARTMENT OF TRANSPORTATION PERMIT. PERMIT ID NO. 01-00070-A-M.

CERTIFICATION

OWEN HASKELL, INC. HEREBY CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE.

JAN. 26, 2017
DATE

JOHN W. SWAN, PLS NO. 1038

STATE OF MAINE
JOHN W. SWAN
1038
PROFESSIONAL LAND SURVEYOR

State of Maine, Cumberland SS.
Registry of Deeds
Received March 23, 20 17
at 1 h 10 m P M and recorded in
Plan Book 217 Page 85
Attest: Register

THIS PLAN AMENDS THE PREVIOUSLY APPROVED THIRD AMENDED FINAL SUBDIVISION PLAN RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 216, PAGE 335, AUGUST 18, 2016

AMENDED SUBDIVISION PLAN, APPROVED BY THE TOWN OF CUMBERLAND PLANNING BOARD

3/21/17
DATE

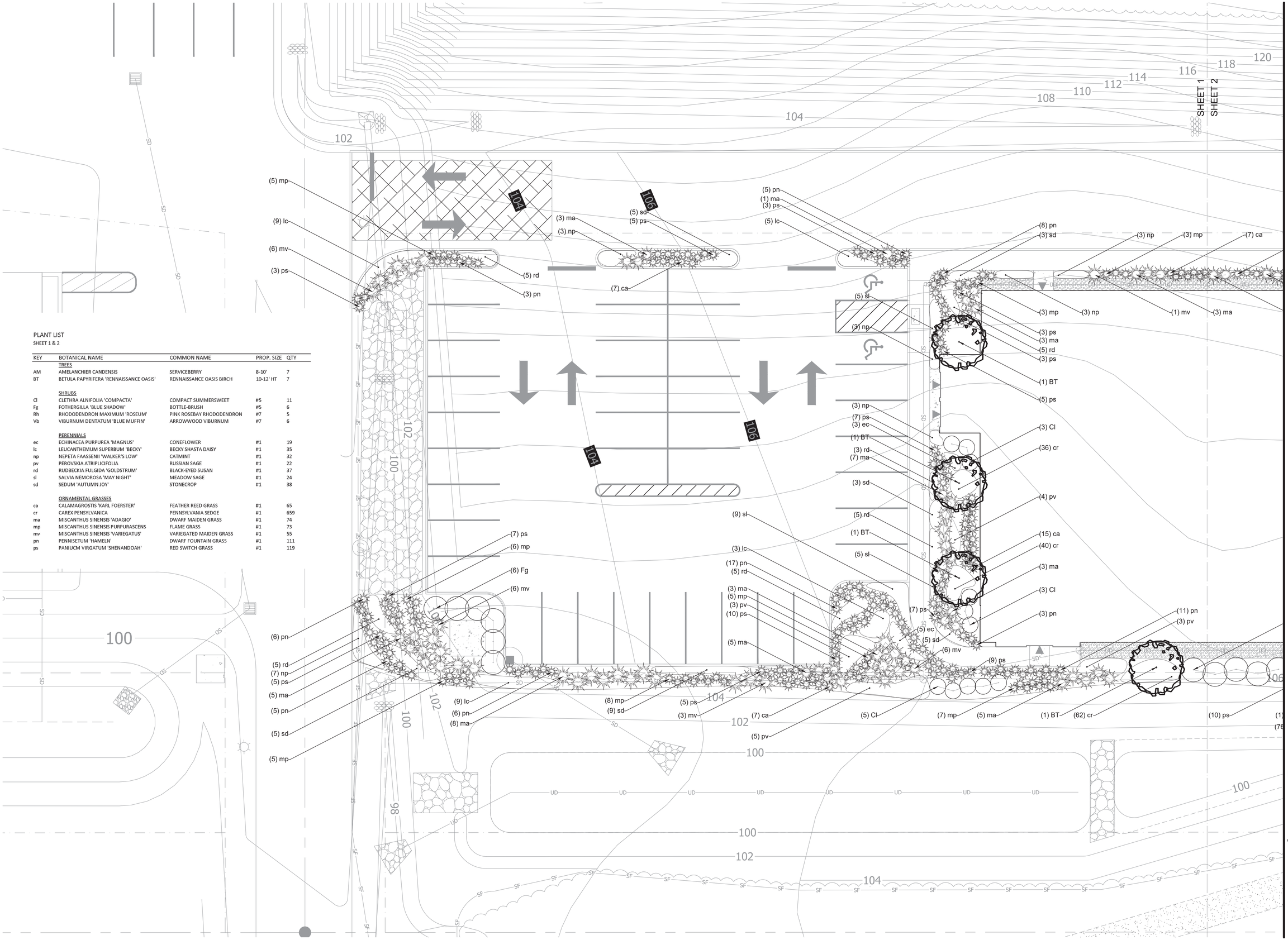
SCALE : 1" = 120'
0' 60' 120' 240'

FOURTH AMENDED SUBDIVISION PLAN
CUMBERLAND FORESIDE VILLAGE

U.S ROUTE ONE, CUMBERLAND, MAINE
MADE FOR OWNER OF RECORD
CUMBERLAND FORESIDE VILLAGE, LLC
50 GRAY ROAD, FALMOUTH, MAINE

OWEN HASKELL, INC.
390 U.S. ROUTE ONE, FALMOUTH, ME 04105 (207) 774-0424
PROFESSIONAL LAND SURVEYORS

Drwn By	RWC	Date	Job No.
Trace By	RWC	JANUARY 26, 2017	2001-219 C
Check By	JWS	Scale	Drwg. No.
Book No.	FILE	1" = 120'	1-SD



PLANT LIST

SHEET 1 & 2

KEY	BOTANICAL NAME	COMMON NAME	PROP. SIZE	QTY
	TREES			
AM	AMELANCHIER CANDENSIS	SERVICEBERRY	8-10'	7
BT	BETULA PAPYRIFERA 'RENNAISSANCE OASIS'	RENNAISSANCE OASIS BIRCH	10-12' HT	7
	SHRUBS			
Cl	CLETHRA ALNIFOLIA 'COMPACTA'	COMPACT SUMMERSWEET	#5	11
Fg	FOTHERGILLA 'BLUE SHADOW'	BOTTLE-BRUSH	#5	6
Rh	RHODODENDRON MAXIMUM 'ROSEUM'	PINK ROSEBAY RHODODENDRON	#7	5
Vb	VIBURNUM DENTATUM 'BLUE MUFFIN'	ARROWWOOD VIBURNUM	#7	6
	PERENNIALS			
ec	ECHINACEA PURPUREA 'MAGNUS'	CONEFLOWER	#1	19
lc	LEUCANTHEMUM SUPERBUM 'BECKY'	BECKY SHASTA DAISY	#1	35
np	NEPETA FAASSENII 'WALKER'S LOW'	CATMINT	#1	32
pv	PEROVSKIA ATRIPLICIFOLIA	RUSSIAN SAGE	#1	22
rd	RUDBECKIA FULGIDA 'GOLDSTRUM'	BLACK-EYED SUSAN	#1	37
sl	SALVIA NEMOROSA 'MAY NIGHT'	MEADOW SAGE	#1	24
sd	SEDUM 'AUTUMN JOY'	STONECROP	#1	38
	ORNAMENTAL GRASSES			
ca	CALAMAGROSTIS 'KARL FOERSTER'	FEATHER REED GRASS	#1	65
cr	CAREX PENSYLVANICA	PENNSYLVANIA SEDGE	#1	659
ma	MISCANTHUS SINENSIS 'ADAGIO'	DWARF MAIDEN GRASS	#1	74
mp	MISCANTHUS SINENSIS PURPURASCENS	FLAME GRASS	#1	73
mv	MISCANTHUS SINENSIS 'VARIEGATUS'	VARIEGATED MAIDEN GRASS	#1	55
pn	PENNISETUM 'HAMELN'	DWARF FOUNTAIN GRASS	#1	111
ps	PANIUCM VIRGATUM 'SHENANDOAH'	RED SWITCH GRASS	#1	119

tjd&a

Landscape Architects + Planners

121 West Main Street

Yarmouth ME, 04096

207-846-0757

LICENSED LANDSCAPE ARCHITECT
STEPHEN P. THOMPSON
No. 4773
STATE OF MAINE

2022.08.29

YARMOUTH VETERINARY CENTER

Revisions

PLANTING PLAN

N

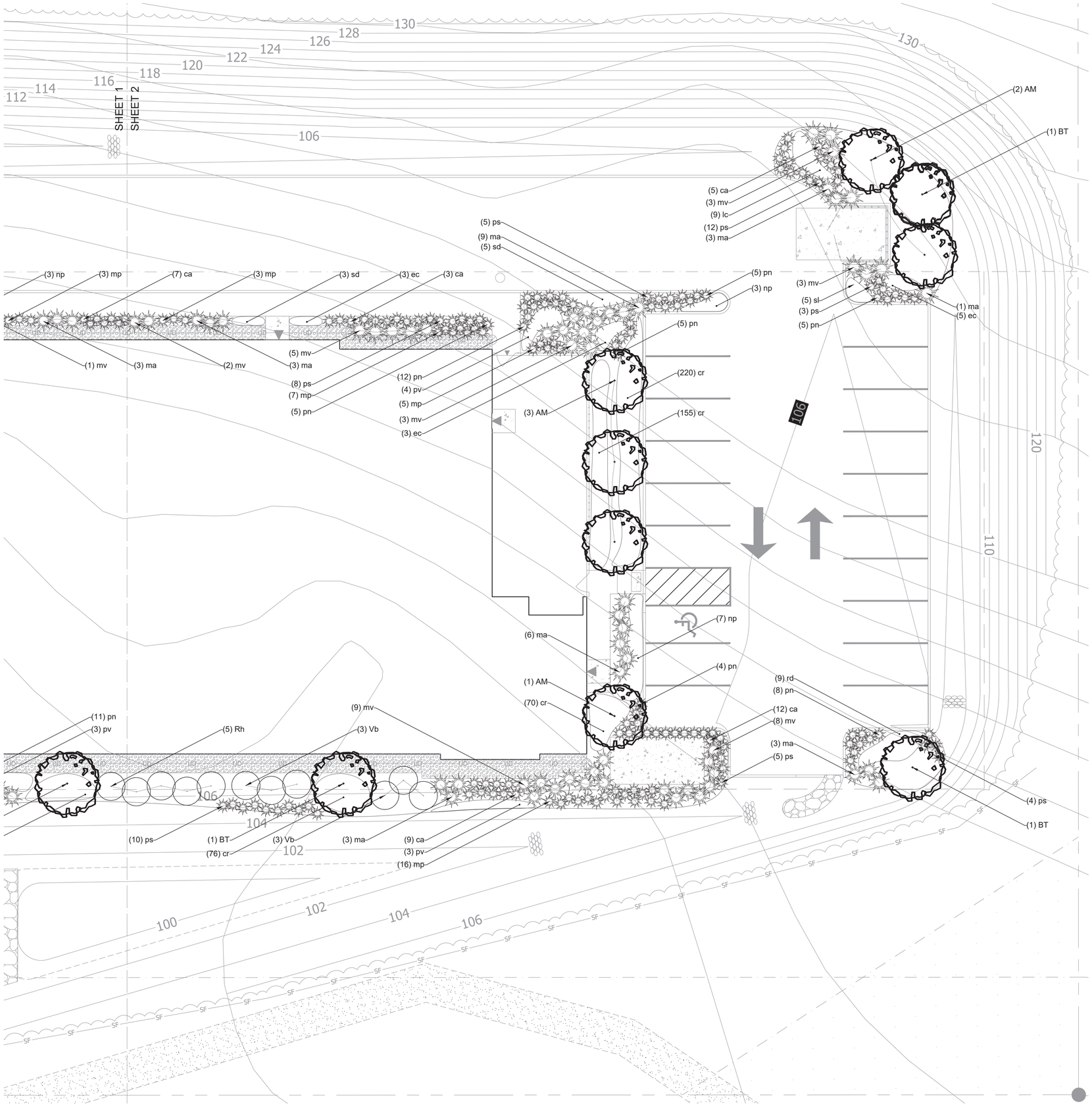
0' 5' 10' 20'

1"=10'-0"

DRAWN	SLP
CHECKED	SPT
DATE	2022.08.29

SHEET

S1



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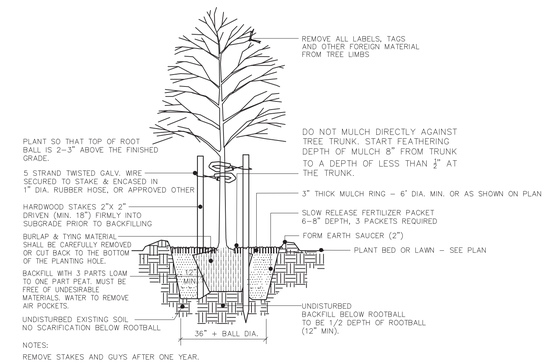
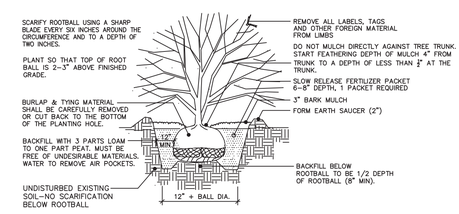


NOTES:
REMOVE STAKES AND GUYS AFTER ONE YEAR.

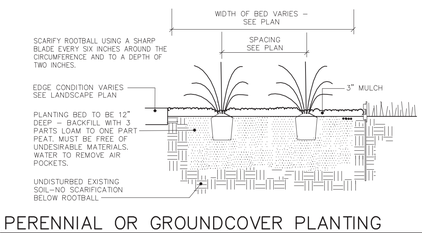
1 DECIDUOUS TREE PLANTING & STAKING

NOT TO SCALE



2 SHRUB PLANTING

NOT TO SCALE



3 PERENNIAL OR GROUNDCOVER PLANTING

NOT TO SCALE

tjd&a

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STATE OF MAINE

2022.08.29

YARMOUTH VETERINARY CENTER

Revisions

PLANTING PLAN

N

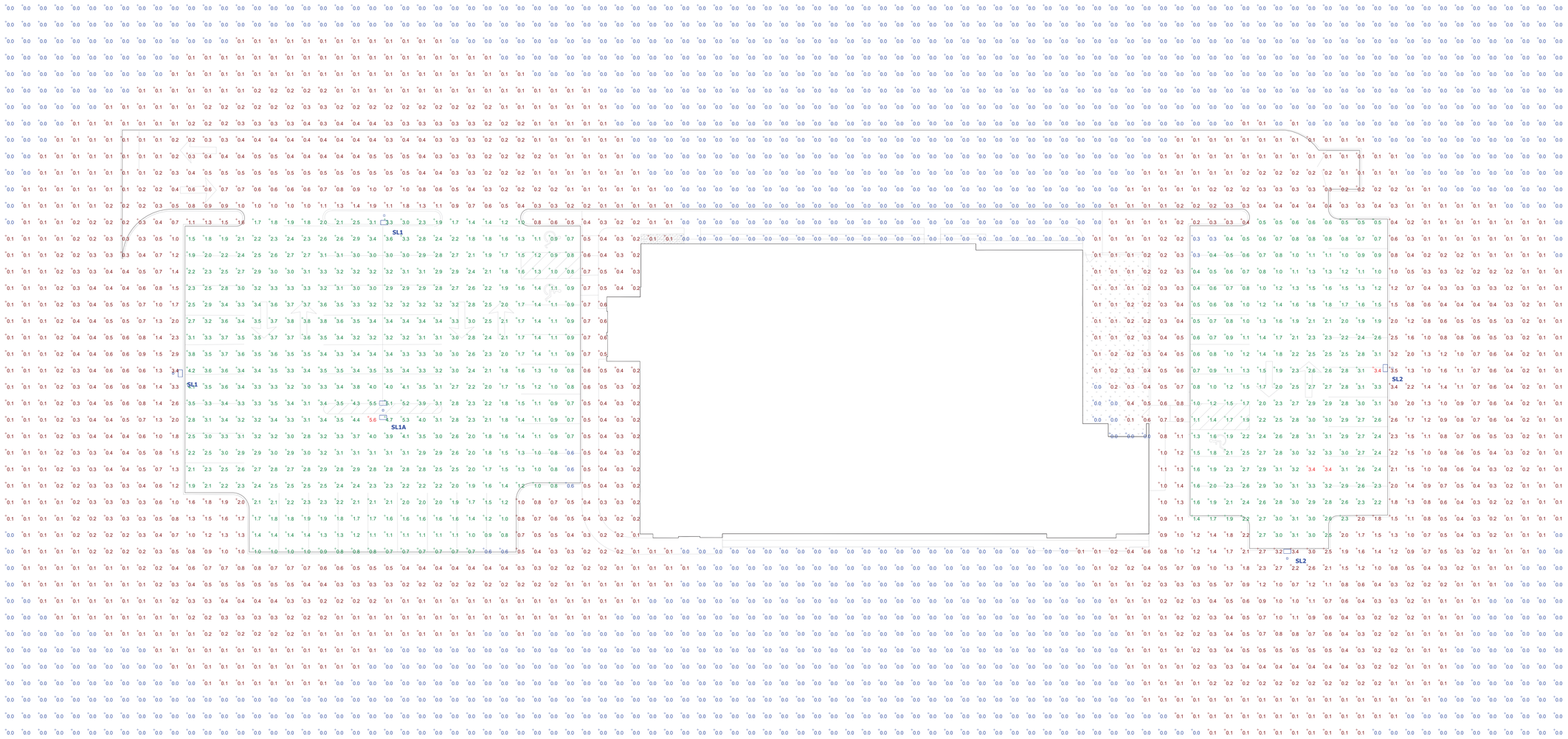
0' 5' 10' 20'

1"=10'-0"

DRAWN	SLP
CHECKED	SPT
DATE	2022.08.29

SHEET

S2



Plan View
Scale - 1" = 12ft

NOTES:

-REFLECTANCES ASSUMED:
GROUND: 20

- MOUNTING HEIGHTS: 20'-0" AFG

- TASK HEIGHT: AFG
- CALCULATION POINT SPACING: 5'X5' OC

DISCLAIMER:

-THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION. VALUES REPRESENTED ARE AN APPROXIMATION GENERATED FROM MANUFACTURERS PHOTOMETRIC IN-HOUSE OR INDEPENDANT LAB TEST WITH DATA SUPPLIED BY LAMP MANUFACTURERS.

SCHEDULE

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Light Loss Factor	Wattage
	SL1	2	Lithonia Lighting	DSX0 LED P5 30K T3M VOLTAGE MOUNTING XX XX FINISH *Single Head Pole Mounted @ 25'*	DSX0 LED P5 30K T3M VOLTAGE MOUNTING XX XX FINISH *Single Head Pole Mounted @ 25'*	0.9	89
	SL1A	1	Lithonia Lighting	DSX0 LED P5 30K T3M VOLTAGE MOUNTING XX XX FINISH *Twin Head Pole Mounted @ 25'*	DSX0 LED P5 30K T3M VOLTAGE MOUNTING XX XX FINISH *Twin Head Pole Mounted @ 25'*	0.9	178
	SL2	2	Lithonia Lighting	DSX0 LED P5 30K TFTM VOLTAGE MOUNTING XX XX FINISH *Single Head Pole Mounted @ 25'*	DSX0 LED P5 30K TFTM VOLTAGE MOUNTING XX XX FINISH *Single Head Pole Mounted @ 25'*	0.9	89

STATISTICS

DESCRIPTION	SYMBOL	AVG.	MAX	MIN.	MAX/MIN	AVG/MIN
Calc Zone #1	+	0.6 fc	5.6 fc	0.0 fc	N/A	N/A
Left Parking Area	+	2.5 fc	5.6 fc	0.6 fc	9.3:1	4.2:1
Right Parking Area	+	1.8 fc	3.4 fc	0.3 fc	11.3:1	6.0:1

Yarmouth Veterinary Center
08-29-2022

Designer
Benjamin P. Rowe
Date
08/29/2022
Scale
Not to Scale
Drawing No.

Job No.