SEBAGO TECHNICS

CIVIL ENGINEERING • SURVEYING • LANDSCAPE ARCHITECTURE

Major Site Plan Application
Town of Raymond

Jordan Bay Marina Expansion
1326 Roosevelt Trail
Raymond, ME

Prepared for:

Port Harbor Holdings I
1 Spring Point Drive
South Portland, Maine

Prepared by:

Sebago Technics, Inc.
75 John Roberts Road, Suite 4A
South Portland, Maine 04106

June 2023

14265-02

June 14, 2023
14265-02

Alex Sirois
Code Enforcement Officer
Town of Raymond
401 Webbs Mills Road
Raymond, ME 04071

Major Site Plan Submission – Jordan Bay Marina
Port Harbor Marine
1326 Roosevelt Trail, Raymond

Dear Mr. Sirois:

On behalf of our client, Port Harbor Holdings I, LLC, we are re-submitting a Major Site Plan Application for a proposed expansion of the landside facilities for Jordan Bay Marina. Based upon the discussion at the Planning Board meeting of November 9, 2022, we have worked with our client to reconfigure the site and reduce impacts within the Shoreland Zone. The use of building has changed from retail/office/maintenance space to indoor boat storage. The building has increased in square footage in conformance with the Shoreland Zone and Commercial Zone restrictions including heights of the structure. This letter repeats the information from the initial submission for the project modified to address the new configuration and changes that occurred through the planning board's previous review.

Port Harbor Marine, Inc., the owners of the marina, have purchased the property at 1326 Roosevelt Trail adjacent to the marina. The marina had previously leased a portion of this property for boat storage. Based upon comments from the planning board from the 11/9/22 meeting the site has been reconfigured to address concerns with development within the shoreland zone.

As with current operations on the existing property, the portion of the property that fronts Roosevelt Trail is within the Commercial Zoning District (C) of the Town with the back portion of the property within the Limited Residential/Recreation 1 Zoning District (LRR1). As the marina had previously done for the property on the east side of Roosevelt Trail, the marina applied for a Conditional Use Approval for Outdoor Sales and Service for the portion of the property with the C Zoning District. The Conditional Use was approved on October 24, 2021 with a condition of approval that excluded outdoor engine repair.

The expansion plans to improve one of the two accesses to 1326 Roosevelt Trail (close the other access) and provide a cross access between the existing marina and expansion adjacent to the Portland Pipeline facilities that cross the property. There is a proposed 19,200 S.F. building that will be used for boat storage. There will be one overhead access door located along the drive aisle connecting the project site to the adjacent lot to the North. Relocated bathrooms for marina patrons will be located at the northeastern corner of the proposed storage building and will be ADA-accessible. Preliminary floor plan and building elevations are currently being completed and will be submitted under separate cover. In addition to boat storage, the site proposes to have a boat display area along the Roosevelt Trail frontage.

Traffic generation rates for marinas use the numbers of berths as a variable (Section 420 of the ITE Traffic Generation Handbook). The expansion will not add additional berths to the marina. Because of the use, it is assumed that the busiest day of the week will be Saturdays in the summer. We would expect a slight increase of up to 10 trips in the peak hour from the increase in patron boat storage and new employees. This increase in peak hour trips is considered to be negligible and does not trigger a Traffic Movement Permit or Driveway/Entrance Determination under the Town of Raymond code. The project will require a traffic entrance permit for the Maine Department of Transportation (MDOT) because of the change in use and modification of the driveway access.

The proposed project has been discussed with MDOT, the Maine Department of Environmental Protection (MDEP), Army Corps of Engineers (ACOE), Portland Water District (PWD) and the Portland Pipeline. Through the pre-application process, MDEP made a determination that the proposed project does not trigger a Site Location of Development Act review and a submission was made under the Maine Stormwater Law and the Natural Resources Protection Act (NRPA). Although, all comments from the MDEP were addresses, we requested to place a hold on the final permit pending the aforementioned changes that have been made to the site layout. MDOT had previously reviewed the proposed driveway location, the proposed utility installation and the addressing the existing buried cross culvert under Roosevelt Trail and the proposed grading for the roadside swale. A driveway entrance permit was issued by the MDOT and forwarded to the town. ACOE had previously reviewed and issued a permit for the proposed impacts to the on-site wetlands; a copy of which was forwarded to the town. In addition, we coordinated with the Portland Pipeline and they provided an email relative to their concurrence on the project which was also forwarded to the town. Lastly, the proposed water main extension was reviewed and approved by PWD; their approval and letter relative to service was forwarded to the town. We will be reaching out to these entities to update their information and modify approvals as necessary.

Based upon the past reviews by these agencies, we assume that their re-evalaution will likely occur in the next 60 – 90 days. Assuming that the Town approval will mirror this time frame, the applicant will obtain final pricing for the work and hopes to begin clearing with three months of approvals. It is anticipated that immediate work after clearing will be mass grading, installation of surface storage areas and accesses, the installation of the paved access drive through the project, installation of the stormwater systems, installation of the new septic tank and subsurface system, installation of street trees and landscaping along Roosevelt Trail and general stabilization of the site. It is assumed that this work will take 4 – 6 months. While the above referenced work is being completed, final design of the building and boat rack system will occur. Installation of those components will be dependent on the installation of the new water line; those details will be worked out with the reviews by MDOT and PWD.

The applicant has not decided whether to self-fund the project's improvements from held capital or obtain financing through a construction loan. A decision will be made prior to the project's approval and the appropriate information submitted for the Town's records.

The following information applies to the proposed site improvements for this project. Any sections or subsections of Articles 9 and 10 that have been left out shall be considered not applicable.

Site Plan Application (Town of Raymond Land Use Ordinance – Article 10)
Section E – Criterial and Standards

a. Preservation of Landscape.

The proposed project will preserve natural areas along the southern boundary for the purpose of buffering the project with Indian Trails development to the south. The project does not propose to impact the undeveloped areas to the west of the cleared Portland Pipeline easement, retaining the area for buffing of the adjacent development and Sebago Lake. Furthermore, additional area within the Shoreland Zone is being preserved between the part of the site to be developed and the summer residences in Indain Trails. All trees on the property, 4" and larger at 4 ½ feet from ground level have been located. In accordance with the Shoreland Zoning Ordinance, no more than 40% (11.50% proposed) of these trees are proposed for clearing for the project. The site is not a ridge that provides a scenic vista of surrounding areas.

Please see Attachment 8 for correspondence with the Maine State Historical Preservation Commission.

b. Relation of Buildings to the Environment.

The building will be a high one-story structure that will take advantage of the slope of the property to minimize the height of the structure from Roosevelt Trail. The proposed boat storage building will be an enclosed building surrounded by proposed landscaping. The height of the building will be below the trees to the west of the building and not be visible from Sebago Lake. Please see the plan set for more information. As stated above, the building will meet the height restriction in applicable zoning districts (35 feet to the peak of the roof in the Shoreland Zone and 2.5 stories, 25 feet, in the Commercial Zone).

c. Vehicular Access.

The existing improvements on the property include two accesses to Roosevelt Trail. One of these accesses will be closed and the other used to access the site and parking in front of the new building. This access will loop around the new building and connect to the existing vehicular access for the existing marina to provide cross-access without the use of Roosevelt Trail. In addition, the proposed on-site storage will replace existing off-site storage leasing and will reduce/eliminate off-site trips pre- and post-season.

Please see the plan set for more information.

d. Parking and Circulation.

There is parking adjacent to the proposed building for those patrons who visit the marina or staff of the marina. Members or patrons who rent boats typically relocate down adjacent to the docks' area after visiting the existing retail building. Based upon information submitted as a condition of approval, the project has demonstrated there is sufficient parking for the dock usage.

The proposed parking adjacent to the new building will include 8 new parking spaces. The Land Use Ordinance does not specify a required amount for storage building use; however, based upon past history and marina use of the site, the proposed amount of parking is adequate. Per the initial submission of the project, we are requesting a waiver to address additional parking; the planning board previously indicated an acceptance to this waiver request.

The layout has been designed to allow better access for deliveries and large trucks transporting boats; these vehicles will now be able to loop through the site in lieu of having to make the difficult maneuvers to turn around to exit. In addition, the layout will provide for better emergency vehicle access and for cross access with the existing marina property such that all traffic between the parcels stays internal to the marina. The proposed traffic areas are located away from the existing adjacent residential uses.

Please see the plan set for more information.

e. Surface Water Drainage

Stormwater on-site currently drains from the frontage along Roosevelt Trail easterly/northeasterly down slope towards Sebago Lake. The proposed project will mimic this drainage pattern slopping towards the lake into under drained soil filters that will collect and treat stormwater and discharge into the uplands adjacent to the wetlands. These wetlands are on the lower part of the property and have historically received this stormwater prior to discharge to Sebago Lake. The under drained soil filters are designed to meet the requirements of the MDEP Stormwater Law and provide for the required treatment for the lake.

Please see Attachment 6 for more information.

f. Utilities

Existing power and telecommunication utilities are located along the frontage of the Roosevelt Trail. A 16" water main parallels the property on the far side of the roadway. This main will be tapped to provide for domestic water, fire line service and fire hydrant and easement requested by the fire department. In addition, turning movement diagrams are provided for site access by the town's emergency vehicles.

As part of the proposed project, test pits have been excavated and evaluated for a new subsurface system for the facilities. The sizing for the disposal field has been designed based upon all existing and projected flows from the marina. The existing bathhouse facilities are proposed to be relocated to the new building; a meter has been placed on this building per a pervious condition of approval and the data has been used to create a new flow for these facilities. The design of the new subsurface system will be based upon doubling the recorded flows of the bathhouse in addition to other flows based upon the number of employees plus an additional flat rate for the marina.

g. Special Features

A minimum 30-foot natural buffer is being provided between the project and the adjacent residential zoning district. This buffer is substantially wider adjacent to any of the residential lots that abut the west property line of the project.

Please see the plan set for more information.

h. Exterior Lighting

Wall pack lighting will be provided on the proposed building and full cutoff lighting will be provided for security and access purposes as indicated on the Site Plan. The proposed sight lighting mirrors that of the prior configuration for the site; the lighting lighted mainly the access drive, the parking that fronts Roosevelt Trail with additional wall packs on the building. The planning board previously indicated that the lighting for sufficient for the project.

i. Emergency Vehicle Access

As stated above, the project will improve one of the existing accesses to Roosevelt Trail and provide a cross access with the existing marina. There will be a loop driveway through the project that connects the two accesses thereby providing two means of ingress/egress for emergency vehicles without having to turn around or have to back up substantially. The layout will provide for multi-side access to the proposed building.

j. Landscaping

Proposed landscaping has been chosen to ascent/soften the frontage along Roosevelt Trail and ascent the new building. Street trees are proposed along Roosevelt Trail to frame the site and provide buffering for the project. As mentioned above, a natural buffer will be retained along the south property line and the preserved wetlands/uplands along the western boundary and in the southwest corner of the site adjacent to the pipeline easement will buffer the adjacent Indian Trails campground.

k. The standards and regulations set forth in Article 9 of the Land Use Ordinance shall be adhered to where applicable:

A. Conditional Uses

Conditional use approval has been obtained for outdoor sales and service.

C. Off-Street Parking

Parking for the new building is being provided as stated above. All parking will be provided onsite. The parking spaces and access aisle will be built to the Town standards. The new parking area does not access directly to Roosevelt Trail but to the loop drive that will be constructed for the project. The proposed loop driveway will not exceed 30 feet in width.

D. Off-Street Loading

Off-street loading will occur at the lower level of the site behind the proposed building.

H. Subsurface Sewage Disposal System

The surface system will be designed by a Licensed Site Evaluator to the standards of the Maine Department of Human Services, be submitted to the Code Enforcement Officer as an HHE-220 design and will be periodically inspected.

L. Signs

A monument sign is proposed at the entry driveway that will be retained for this project. This sign is proposed to be lit and will have adjacent landscaping to accent the sign. It has been placed to be seen from both directions and will include the street numbering on both sides of the sign as requested by the fire department. The final design will be provided at the time of building permit and will be designed to be uncluttered, simple, legible, and high-quality in order to create a distinctive commercial village corridor

M. Soils

The site has been evaluated based upon test pits that have been dug for the subsurface system, water quality ponds, location of the oil pipelines and wetland delineation process. In addition, a NCRS soil map is included.

O. Water Quality Protection

The project provides for treatment of stormwater per the Maine Stormwater Law and protection of surface water during construction by the use of Best Management Practices). In addition, the septic system will be designed to meet state water quality standards.

Q. Lot Structural Coverage

The building in the Commercial District is exempt from the lot coverage requirements. The proposed building within the shoreland zone (approx. 8,525 sf) is less than 15% of the project's area (183,447 sf) of the Shoreland area of the property.

R. Driveway Construction

The driveway is designed with a grade break such that the project's stormwater will be routed and discharged through the project's under-drained soil filter.

X. Stormwater Quality and Phosphorus Control

The project is required to obtain a Stormwater Permit from the MDEP and will meet the requirements for the State of Maine Chapter 500 Stormwater regulations.

Section F – Performance Standards

1. Parking Area Design Standards

The parking spaces have been designed to be 9 feet x 18 feet with a 24-foot-wide aisle. The parking is set back at least 10 feet from the Roosevelt Trail right-of-way and has landscaping proposed in the setback area.

2. Lighting of Parking Areas

Full cutoff lighting will be provided for the parking area. The proposed sight lighting mirrors that of the prior configuration for the site; the lighting lighted mainly the access drive, the parking that

fronts Roosevelt Trail with additional wall packs on the building. The planning board previously indicated that the lighting for sufficient for the project

3. Marking and Delineation of Parking Areas

The parking area/drive aisle will be clearly marked and delineated.

4. General Circulation and Parking Design Principals

As stated above, the project will have a loop driveway that will go from the access from Roosevelt Trail to the cross access with the existing marina. The parking area for the new building, storage areas and working areas will be accessed off this loop driveway.

5. Parking Surfaces

The parking area, loop road and entry to the building will all be paved. Access to the boat storage/parking areas will be crushed and compacted gravel. Boat storage areas in the commercial zone will be crushed stone.

6. Waiver for Off Street Parking, Loading and Front Buffer or Landscaped Area Requirements

As stated above, awaiver is being requested for the parking and is noted on the site plan.

7. Entrances Location and Design

The project will be closing an existing driveway entrance and using the remaining driveway entrance to provide a looped access between two separate parcels. This looped access will provide for better internal circulation and better and improved access for emergency vehicles.

Site distance was reviewed from the point of access (3.75' Town, 3.5' MDOT), 10' from the edge of the travel lane, to object (45' high, 4.25' high MDOT) from the town approaching lanes on Roosevelt Trail. Site distance from the existing driveway to the south was 582 feet for both the Town and MDOT criteria. The site distance was only obscured by overhanging vegetation which if trimmed or cut back would improve the sight distance. Site distance to the north was 720 feet for the Town criteria and 690 feet for the MDOT criteria. This section of Roosevelt Trail is posted for 35 miles per hour.

As stated above, MDOT has issued a driveway entrance pemit for the project.

8. Driveway Angles

The proposed driveway is perpendicular to Roosevelt Trail.

9. Entrance/Exit Dimensions 10. Entrance/Exit Surfacing Profile 11. Entrance/Exit Profile 12. Entrance/Exit Grades

The existing driveway that will be utilized will be widen to 25 feet wide.

The proposed looped access will be paved from the connection at Roosevelt Trail to the cross access with the existing marina.

The proposed entrance is flat enough to prevent the bottoming out of vehicles. A vertical curve transitioning from the entrance grade for the looped access is also designed to prevent the bottoming out of vehicles.

The connection to Roosevelt Trail will be less than 3% slope for the first 25 feet and the looped access does not exceed 10%. Based upon the use of the site, there is site is not actively used in the winter season; the main drives are plowed but no activity occurs.

13. Road Standards

The proposed project will not be installing any public or private ways.

14. Lighting

Lighting will be provided by wall pack lighting on the proposed building and full cutoff lighting will be provided for security and access purposes as indicated on the Site Plan. The lighting will not be extended beyond 25 feet in height and will match the lighting installed on the adjacent site. The proposed sight lighting mirrors that of the prior configuration for the site; the lighting lighted mainly the access drive, the parking that fronts Roosevelt Trail with additional wall packs on the building. The planning board previously indicated that the lighting for sufficient for the project

15. Buffers

Proposed landscaping has been chosen to ascent/soften the frontage along Roosevelt Trail and ascent the new building. Street trees are proposed along Roosevelt Trail to frame the site and provide buffering for the project. As mentioned above, a natural buffer will be retained along the south property line and the preserved wetlands/uplands along the western boundary will buffer the adjacent Indian Trails campground.

16. Site Conditions

The proposed construction plans include housekeeping provisions for construction of the project.

Minimal change in elevations is proposed with the proposed project grading matching the pre-development slopes and drainage courses.

The contractor will be responsible for the utilization of construction BMP's to prevent erosion and sedimentation and maintain the stability of the project site.

17. Environmental Considerations

a. Conservation and erosion/sediment control

Provisions are provided in the stormwater maintenance notes relative to land disturbance, erosion and sedimentation control and the use of construction BMP's. Please see Attachment 6 for the stormwater maintenance plan.

b. Hazardous Matter

Hazardous chemicals, fluids and matter, if present, will be stored within an existing or proposed building or covered as required by site Best Management Practices (BMP's). The existing marina is covered under the state's Multi-Sector General Permit and has an established Stormwater Pollution Prevention Plan (SWPPP) that is being updated to include the proposed expansion. The SWPPP includes the storage, prevention and response measures as well as required reporting relative to hazardous materials.

c. Odors

As with the current marina operation, minimal generation of odors is expected. Based upon the location of existing and proposed site activities and the buffering provided, odors are not expected beyond the boundaries of the property.

d. Noise

Based upon the normal noises of the marina coupled with the provided buffer, it is not expected that neighboring properties will hear more than the normal background of noise at our property boundary. The proposed indoor maintenance operations will no longer be a primary function of the new building. In addition, the Conditional Approval granted for the commercial zoning excluded outdoor engine repair.

e. Vibrations

Encountering ledge onsite during construction is not anticipated; therefore, vibrations during construction will be minimal. There are no current major generators of vibration on the existing marina and it is not expected with this expansion project.

f. Unique Features

There are no anticipated adverse impacts to rare or irreplaceable historic sites, deer wintering areas, important plant or wildlife habitat, or scenic areas. The project will not greatly impact existing scenery or natural beauty as the site will not be visible form Sebago Lake because of the preserved wetlands and uplands west of the Portland Pipeline easement. The project will not impact any existing trail systems or greenbelts.

18. Fire Suppression

The Town's fire department has requested a fire hydrant installation on the property; an easement will be provided to the Town as required. In addition, we will work with the Fire Department to provide an adequate fire suppression system for the new building.

Shoreland Zone Application (Town of Raymond Shoreland Zoning Provisions – Section 16)
Subsection D – Procedure for Administering Permits

1. Will maintain safe and healthful conditions.

   The proposed project has incorporated fire protection methods and equipment, as indicated above, provides for adequate emergency access, and will continue with safe collection, storage, and disposal of wastewater from vessels using the marina. The project will construct new bathhouse facilities and a new subsurface disposal system for wastewater.

2. Will not result in water pollution, erosion, or sedimentation to surface waters.

   The project provides for treatment of stormwater per the Maine Stormwater Law and protection of surface water during construction by the use of Best Management Practices). In addition, the new septic system will be designed to meet state water quality standards.

3. Will adequately provide for the disposal of all wastewater.

   The marina currently offers wastewater disposal for customers leasing slip space. The normal procedure is to pump the wastewater from the boat to a subsurface holding tank located next to the dock house. Blow Brothers is contracted by Port Harbor Marine to empty the holding tank when it is full and properly dispose of the wastewater off-site.

   In addition, the proposed expansion project proposes a new building that will house relocated facilities for the bathhouse and a new subsurface system for the new facilities. The new septic system and subsurface disposal area have been designed to handle all flows form the existing marina and proposed project.

4. Will not have an adverse impact on spawning grounds, fish, aquatic life, bird or other wildlife habitat.

   No adverse impacts to spawning grounds, fish, aquatic life, bird, or other wildlife habitat are expected. Project will provide for treatment of stormwater before discharging to uplands area adjacent to onsite wetlands. The site was evaluated for vernal pools and none were found. There are no mapped wildlife habitats within the project's boundaries. Please see Attachment 4 for a copy of all correspondence with the Department of Inland Fisheries & Wildlife (IF&W).

5. Will conserve shore cover and visual, as well as actual, points of access to inland waters.

   No shore line will be altered as a result of this project.

6. Will protect archaeological and historic resources as designated in the comprehensive plan.

   No historical or archeological resources are anticipated to be impacted as a result of the proposed project. Please see Attachment 5 for a copy of correspondence with the Maine Historic Preservation Commission regarding historical resources in the vicinity of the proposed project.

7. Will not adversely affect existing commercial fishing or maritime activities in a Commercial Fisheries/Maritime Activities district.

   Not applicable.

8. Will avoid problems associated with flood plain development and use

The 100-year FEMA flood plain elevation in the vicinity of the project is 268.00 NGVD (267.39 NAVD). The elevation of Sebago Lake is controlled throughout the year by Eel Weir Dan operated by Sappi; the maintenance level is intended to be between 262.00 and 266.50 NGVD (262.39 and 265.89 NAVD). Please see Attachment 2 for the flood zone map. None of the usable development improvements are within the flood plain of the Lake.

There is minor amount of filling in the flood plain as a result of the construction of under drained soil filter no. 1 and the outfall for under drained soil filter no. 2. We calculated the proposed filling in CAD and obtained 48.0 cy for the area adjacent to under drained soils filter # 1 and 16.5 cy adjacent to under drained soils filter # 2. Based upon the surface area of Sebago Lake being 29,992 acres, this minor filling will result in 0.00000133' rise in the lake surface.

9. Is in conformance with the provisions of Section 15, Land Use Standards

The following provisions of Section 15 are applicable to the proposed project. Any provisions of Section 15 not listed below are not applicable.

A. Minimum Lot Standards and Setbacks

- *The lot has more than 2 acres in area upland of wetlands. The proposed project will meet the required setbacks for the LRR1 Zoning District.*
- *The lot does not have frontage on the lake and is more than 100 feet wide.*

B. Principal and Accessory Structures

- *The proposed building is more than 100 feet from the wetlands.*
- *The proposed building will not to be greater than 35 feet in height.*
- *The proposed finished floor of the building is greater than 1 foot above the flood plain.*
- *As indicated on the Site Plan, the proposed non-vegetated surfaces (23,240 sf, 12.67%) is less than 15% of the area with the Shoreland Zone (183,487sf).*

C. Piers, Docks, Wharves, Bridges and Other Structures and Uses Extending Over or Below the Normal high-water Line of a Water Body or Within a Wetland

- *Not applicable.*

D. Campgrounds

- *Not Applicable.*

E. Personal Campsites

- *Not Applicable*

F. Commercial and Industrial Uses

- *None of the uses listed are proposed for the site.*

G. Parking Areas

- *There are no proposed parking areas in the Shoreland Zone.*

H. Roads and Driveways

- *Because of the connection to the existing marina and the need to connect at a flatter portion of the adjacent grade, the proposed loop driveway has been laid out at approximately 63' from the existing wetlands. This pavement is graded so that it does not drain directly to the wetlands but to the adjacent under drained soil filter. As part of the project, the existing gravel boat storage area is being removed adjacent to the wetlands and revegetated.*

- *There are no driveway grades in the shoreland zone greater than 8% and no road banks steeper than a 2:1 slope.*

I. Signs

- *No new signage is proposed at this time in the Shoreland Zoning District other than traffic control signage. The applicant will make a submission to Town if sign is required in the future*

J. Storm Water Runoff and Flood Protection

- *Stormwater on-site currently drains from the frontage along Roosevelt Trail easterly/northeasterly down slope towards Sebago Lake. The proposed project will mimic this drainage pattern slopping towards the lake into under drained soil filters that will collect and treat stormwater and discharge into the uplands adjacent to the wetlands. These wetlands are on the lower part of the property and have historically received this stormwater prior to discharge to Sebago Lake. The under drained soil filters are designed to meet the requirements of the MDEP Stormwater Law and provide for the required treatment for the lake.*

- *There is minor amount of filling in the flood plain as a result of the construction of under drained soil filter no. 1 and the outfall for under drained soil filter no. 2. We calculated the proposed filling in CAD and obtained 48.0 cy for the area adjacent to under drained soils filter # 1 and 16.5 cy adjacent to under drained soils filter # 2. Based upon the surface area of Sebago Lake being 29,992 acres, this minor filling will result in 0.00000133' rise in the lake surface.*

K. Septic Waste Disposal

- *See response under item f., Section E. Criteria and Standards, Article 10; item H., Article 9; and items 1. And 3. Subsection D, Section 16 above.*

L. Essential Services

- *Not Applicable.*

M. Mineral Exploration and Extraction

- *Not Applicable.*

N. Agriculture

- *Not Applicable.*

O. Beach Construction

- *Not Applicable.*

P. Timber Harvesting

- *Not Applicable.*

Q. Clearing or Removal of Vegetation for Activities Other than Timber Harvesting

- *The nearest proposed clearing is over 400 feet from Sebago Lake.*

- *As shown on the site plan less than 40% (59, 11.50%) of the trees (513) greater than 4" in diameter at 4 ½ feet above ground level.*

- *Based upon coordination with the Code Enforcement Officer and the MDEP, it was determined the state considers that any portion of Portland Pipeline Corridor used and maintained by the property owner to be counted as part of the clearing with the shoreland zone. Areas of corridor that are only maintained and used by the pipeline as well as temporary clearing, do not count towards the clearing within the Shoreland Zone. Therefore, we have reconfigured the use of the site to reduce the impacts from cleared openings to less than 25% of the lot area within the Shoreland Zone, 45,395 sf (24.74%) of the 183,487 sf of the Shoreland Zone.*

R. Hazard Trees, Storm-Damaged Trees, and Dead Tree Removal

- *Not Applicable.*

S. Exemptions to Clearing and Vegetation Removal Requirements

- *Not Applicable.*

T. Revegetation Requirements

- *Not Applicable.*

U. Erosion and Sedimentation Control

- *See response under item O., Article 9; item 17., Section F., Article 10 above.*

V. Soils

See response under item M., Article 9 above.

W. Water Quality

See response under item e., Section E. Criteria and Standards, Article 10; item O., Article 9 above.

X. Archaeological Sites

- *See response under item a., Section E. Criteria and Standards, Article 10; item 6., Subsection D, Section 16 above.*

Y. Public Boat Launch Facility and Associated Parking Areas

- *Not Applicable.*

Included with this submission are the following:

1. (15) Application Packets w/ Associated Attachments
2. (7) Reduced Size 11”x17” Plan Sets
3. (8) Full Size 24”x36” Plan Sets
4. (1) Documents in Digital Form

We hope that the information provided is found to be complete and agreeable to the Town of Raymond. Please do not hesitate to contact us with any questions, comments, or requests for additional information.

Sincerely,

SEBAGO TECHNICS, Inc.

Robert A. McSorley, PE
Senior Project Manager

RAM/JSH:me

cc: Mike Soucy, Port Harbor Marine

Table of Contents

Town Of Raymond Maine

Submissions Checklist and Requirements for Major, Minor and Staff Review Site

Applicant and Project Name: Jordan Bay Marina- Expansion
Port Harbor Holdings I, 1 Spring Point Dr,South Portland, ME 04101
Agent: Sebago Technics, 75 John Roberts Rd, South Portland Me 04101

Street Address of Proposed Project:

1326 Roosevelt Trail
Raymond, ME 04071

INTENT OF SUBMISSIONS CHECKLIST:

The purpose of this checklist is to provide applicants a reminder checklist of the common elements typically required by Land Use Ordinance, and to assist the Planning Staff or Planning Board. This does not replace the requirements and responsibilities of the applicant to follow the Land Use Ordinance. This is meant to be used as a tool and as guidance to help the applicant with preparing a complete document. Please note that the Planning Staff and/or Code Enforcement Officer may determine that any project may be elevated to Planning Board Review if determined there are items of the proposed project that promote substantial concerns, public opposition/concern, or could require a waiver of the Performance Standards.

Please check off appropriate box, fill in spaces provided, or attach separate documents to support the application requirements and checklist items. If the item is not applicable to the proposed project, please label N/A or leave the associated box or space blank. Thank you.

BASIC APPLICATION INFORMATION:

- Read, fill out required application form, and comply with all the submission requirements of the Site Plan Ordinance. See Raymond Land Use Ordinance, *Article 10 – Site Plan Review, D. Submissions*.
- Name, address, phone # for record owner ***and*** applicant.
- Names and addresses of all consultants working on the project
- Appropriate application fees and/or review escrow fees included
- Provide necessary copies of application documents and plans per the level of review authority:
- ***Planning Board Review – 15 copies of all documents & copies of plans shall be submitted as 8 full sized and 7 reduced plans to fit on 11" x 17" plan sheet***
- ***Staff Review – 5 copies of all documents and plan copies shall be all full sized***

Type of Proposed Land Use:

a. Residential ___
b. Commercial _x_
c. Industrial ___
d. Recreational ___
e. Other _____

Is the Project Site part of a Subdivision? Yes ____ No _x_
If yes, what size or class of Subdivision? Major ___ Minor ___ Amended ___
If yes, Subdivision name and date of Raymond Planning Board approval _____
Registry Plan Book _____, Page _____, Date recorded _____

Site Plan Classification: Refer to Raymond Land Use Ordinance, Article 10 – Site Plan Review, B. Authority and classification of Site Plan

- **Staff Review**
  - New Building 500 SF to 2,400 SF
  - Any Exterior renovation that does not exceed 2,400 SF
  - Additional or altered impervious surface that does not exceed 10,000 SF
  - All Backlot and Backlot Driveways

- **Minor**
    - New Building that does not exceed 4,800 SF
    - Any Exterior renovation that does not exceed 4,800 SF
    - Additional or altered impervious surface that does not exceed 20,000 SF
- **Major**
    - New Building that exceeds 4,800 SF
    - Any Exterior renovation that exceeds 4,800 SF
    - Additional or altered impervious surface that exceeds 20,000 SF

Amended Plans: Refer to Raymond Land Use Ordinance, Article 10, B.3 for descriptions

- De Minimus Revisions
- Staff Review Revisions
- Minor Site Plan Revisions
- Major Site Plan Amendments

Road Development: Refer to Raymond Street Ordinance for Design Standards

- Private
- Backlot Driveway
- Amended/Road Extension

Shoreland Zoning: Refer to Raymond Shoreland Zoning Provisions

The project falls within the Shoreland Zone X Yes ____ No

Please note that Raymond's Shoreland Zone setback is 600 feet from a great pond/lake exceeding State requirement. See the official Shoreland Zoning Map for official determination.

If yes, name of protected waterbody/resource and distance from resource edge

Sebago Lake

Conditional Rezoning: See Raymond Land Use Ordinance, Article 7 – Amendments, D. Conditional Rezoning

Has Conditional Rezoning been granted? ____ Yes __X__ No

If yes, date of approval and recorded deed/document information

_____

Site Plan Application: Refer to Raymond Land Use Ordinance, Article 10, Site Plan Review, D. Submissions

- Name of proposed Project __Jordan Bay Marina- Expansion__
- Project Narrative – describe project location, existing conditions of the site and proposed improvements
- Evidence of right, title or interest in the property (i.e., deed, purchase agreement)
- Proposed Use – Structure size, added net impervious area
- Land Setback Constraints – Zoning yard setbacks, ZBA approval if required
- Land Use Restrictions – Easements, Buffers, Deeded limitations
- Opportunities of Site – Open Space, Trails, Public Connectivity or Land Preservation
- Estimated Timetable of the Project – Permit approvals, Construction Phases and Project Completion

Identify the following requirements as part of the Final Plan: Refer to Raymond Land Use Ordinance, Article 9, Minimum Standards

- **Survey Services required** – Boundary by licensed Maine Surveyor, topography (datum) information with 2-foot intervals; metes and bounds description; ROW delineation; benchmark elevation
- **Parking Provisions** – Required parking to floor area use ratio, number of proposed, number required, number handicap accessibility spaces, space dimensions, entrance locations, loading docks, green space/islands. Refer to Raymond Land Use Ordinance, Article 9, Minimum Standards, C. Off-Street Parking, D. Off-Street Loading and Article 10, Site Plan Review, F. Performance Standards 1-15
- **Traffic Study** – Trip generation; peak usage; driveway access/entrance permit; local intersection impacts

- **Utility Service** – Points of origination; location; above or underground install, Letter of capacity to serve
- **Building Design** – Proposed building footprint plan; side and front elevation views; locations of access
- **Site Lighting** – Cut-off light fixture detail; pole height; locations; photometrics/lighting intensity plan
- **Septic Design** – Daily flow; subsurface wastewater layout size, location, test pit logs, HHE-200
- **Solid Waste Removal** – Estimated solid waste generated by proposed use; removal process/hauler; dumpster location; recycling efforts; needs for special waste
- **Groundwater Protection** – Aquifer protection; well location; hazardous materials contain/storage; SSPP
- **Stormwater Management** – Refer to Article 10, Site Plan Review, D. Submission Requirements, 14 – watershed analysis; peak runoff calculations; pipe sizing; runoff quantity and quality
- **Stormwater Design Requirements** – Refer to Article 9, Minimum Standards, X. Stormwater Quality and Phosphorus Control – phosphorus export treatment calculations or Point System computations
- **Erosion and Sedimentation Control Design** - silt fencing locations; sediment barriers; slope protection geotextile fabric/stone sizing, channel protection
- **Landscaping** – Buffers, plantings, plant species size and locations
- **Soils Mapping** – medium/high intensity soils maps, test pit logs, geotechnical reports
- **Fire Prevention** – nearest hydrant identified, sprinkler/suppression requirements, fire lane/site access, Department review sign-off
- **Signs** – Proposed site signs, location, height, size, illumination, wayfinding signs, traffic controls
- **Design Guidelines for Commercial Zoned Properties** – Recommend to address the Raymond Design Guidelines. A separate document is available online or at the Town Office. Prepare a narrative addressing each component of design as outlined in the Guidelines
- **Waiver Requests** – Any waiver request must be submitted in writing with the application. ***Only the Planning Board can approve a waiver request.***

Other State/Federal Agency permits/review (if required)

- **Federal** - Army Corp __x__ Yes ____ No
- **Other** - _____

- **State DEP** – Site Location Application
  - Stormwater Management __x__ Yes ____ No
  - Permit by Rule ____ Yes __x__ No
  - NRPA Permit __x__ Yes ____ No
  - Wetland Alteration ____ Yes __x__ No
  - VRAP or ESA Approval ____ Yes __x__ No
  - Other (specify) ____ Yes __x__ No
  - _____
- **State** – MDOT Traffic Movement Permit-TMP ____ Yes __x__ No
  Entrance Permit __x__ Yes ____ No

  DHHS Wastewater design approval
  Engineered system > 2000 gal/day ____ Yes __x__ No

Road Development – Refer to Raymond Street Ordinance for Design Standards and refer to Article 10, Site Plan Review, T. Back Lots and Back Lot Driveways

- Backlot Driveway ____ Yes __x__ No
- Private Road ____ Yes __x__ No
- Public Street ____ Yes __x__ No

Proposed Access originates from (name of road/street/lane/way)

Existing access to be be utilized connects to Roosevelt Trail

Proposed road/backlot driveway name to be confirmed by E-911

_____

Proposed length (LF) _____

Proposed travel width _____

Total impervious area of travel surface (SF) _____

Proposed # of lots/units accessing proposed road/backlot driveway _____

- Road Terminus selected
  Hammerhead Turnaround ____ Yes ____ No
  Cul-de-Sac/terminus circle ____ Yes ____ No
  Loop ____ Yes ____ No
- Draft deed of new access/private road or backlot driveway
- Current Road Frontage
  Original Lot _____ SF Proposed Lot(s) _____ SF
- Closest driveway to proposed access/road/backlot driveway (provide map with distance)
- Proposed Private Road ownership
  One Owner ____ Yes ____ No
  Shared Ownership ____ Yes ____ No
  Homeowner Association ____ Yes ____ No
  Other (describe) _____
- Waterbody/Wetland Impacts (on-site flagging/mapping, type of resource, crossing/filling location and estimated fill volume (CY), minimization and avoidance)
- Engineering/Professional Design required (culvert sizing, stormwater calculations, phosphorus export, treatment computations, erosion and sedimentation control plan)
- Survey Services required (boundary, topography information with 2-foot contour intervals, metes and bounds description, ROW monumentation)

Road Plan Requirements

- Road cross section of materials (surface and base materials and depths)
- Plan and profile view of proposed road/access (stationing, vertical curve/slope date)
- Proposed drainage measures
- Erosion control measures locations
- Tree clearing limits
- Road curve data (Pt & Pc stationing, radius, length)
- Proposed utility locations (catch basins, storm drains, water, electrical, gas, cable, etc.)
- Zoning Space and Bulk requirements

- Stormwater phosphorus export treatment calculations or Point System computations
- Is the proposed property and access or private road/backlot driveway part of a previously approved plan? ____ Yes ____ No
  If yes, indicate:
  Project name _____
  Date approved _____
  Recorded Deed information (date, book & page) _____

Shoreland Zoning (SZ) - Refer to Raymond Shoreland Zoning provisions

- Proposed Use(s) Marina
- **Type of Shoreland Zone** LRR1 x LRR2 ____ SP ____ RP ____
- Existing Lot Size 5.90 AC SF/AC Percent of Lot in SZ 71.39%
- Existing Impervious Area on Lot 33,605 SF
  - Percent of impervious area on existing lot 18.31% of SZ
- Proposed Impervious Area on Lot 23,240 SF
  - Percent of impervious area on existing lot 12.67% of SZ
- Closest horizontal distance of structure development and soil disturbance to waterbody or protected resource 50 LF from wetland, > 400' from lake
- Mapping of Floodplains – include FEMA or FIRM maps, indicate 100-year flood elevation
- Label Proposed Structure Footprint size (SF) and height (LF)
- Is tree clearing within 100 feet of waterbody or resource required?

  ____ Yes x No

- Acquisition of State Department sign offs
  - Protected/Endangered species ____ Yes x No in process
  - Historical ____ Yes x No
  - Essential Habitats x Yes ____ No in process
  - Aquatic Wildlife ____ Yes x No in process
  - Wading Birds ____ Yes x No in process
  - Other (specify) _____

Final Site Plan Necessities

- Provide a signature and date block on the final plan for Planning Board or Planning Authority Signatures

- All Planning Board waivers shall be noted on the Final Plan prior to signing of the approval
- All conditions of approval shall be noted on the Final Plan prior to the signing by the Planning Board or Planning Authority
- Development requiring Subdivision review or Road Development Plans, shall provide a recording block and be recorded in the Cumberland County Registry of Deeds within 60 days of the Planning Board signing the approved plan
- The applicant is requested to provide a final pdf electronic version of the Final Plans upon approval
- All Planning Board of Staff approvals are accompanied by a formal Finding of Fact document or letter
- All application fees, escrows or applicable performance bonds or estimated inspection fee escrow accounts are to be reviewed and approved by the Town and PAID IN FULL. The applicant cannot commence construction until such fees are paid in full
- For diligent processing of Final Site Plans the applicant should reply in writing to the Criteria and Site Plan Standards that the Planning Board shall consider for determining approval for Site Plan Review. That criteria is located in Article 10, Site Plan Review, E. Criteria and Standards, a-k
- For diligent processing of Final Shoreland Zoning Applications, the applicant should reply in writing to the required findings that the project meets the criteria as located in the Shoreland Zoning Provisions, Section 16, D. Procedure for Administering Permits, 1-9

NOTE: FEES WILL BE CALCULATED AFTER RECEIPT OF APPLICATION AND PRIOR TO BEING PLACED FOR HEARING.

Town of Raymond Planning Board
Application for Subdivision and Site Review

rev 1-25-17

INSTRUCTIONS

Please read these instructions carefully. If you are uncertain about a requirement please contact the Town Planner through the Town Offices at 655- 4742 x 134. Failure to submit a complete application as indicated below will delay your application. Deadlines: Complete applications must be submitted by the deadline to be considered for the next meeting. If you are unsure of whether or not an item is required, request a waiver. Ideally you have met with staff and are informed regarding the applicability of items.

Application packets:
For projects requiring Planning Board Review - 15 copies all documents & copies of plans shall be submitted as: 8- Full sized, & 7 reduced plans to fit on 11"x17" plan sheets.
For projects requiring Staff Review -5 copies of all documents, and plan copies shall be all full sized. Regardless of review authority all multiple sheet plan sets must be bound. Plan sets of less than 10 pages must be folded accordion style so that the title block is visible on the front of the plan. Plan sets of more than 10 pages may be submitted rolled. Application fees and escrow checks are part of a complete application.

Applicant: The applicant must have documentation with owner(s) signature if the owner does not sign the application.

Owner: If the owner is a non-person, documentation from the Secretary of the Association or Corporation must be submitted certifying that the person signing has authority to act for the entity.

Correspondence: Correspondence will be mailed to one person other than the applicant. Please indicate whether or not the Agent or the Owner will be notified. Condominium Development: All condominium development is subject to both subdivision and site review unless it is a single-family development.

Project Review: All projects are required to go to pre-app conference at the Board level. The applicant may opt for a staff review by the Plan Review Committee prior to submittal to the Board. This is highly encouraged for complex development proposals and for applicants that do not hire a professional consultant to represent them or are unfamiliar with the Planning Board regulations and approval process.

Other Approvals: A complete copy of any other agency application reviews or approvals must be noted at the time the application is submitted. Town approvals are not granted until all other required agency(s) associated with aspects of the project, but not limited to State, Federal, or other Authority is approved and copies delivered with the Final Plan submittal or application. The Planning Board may issue a condition of approval if it has written evidence that the outside agency has completed the review of an application for the project and is processing the project for approval.

Fees: Application fees are non-refundable except in cases where applications are withdrawn within two business days of the deadline. Escrow fees are utilized for plan review including Planner's time in reviewing submissions, drafting materials for the Planning Board, and attending meetings related to the application. Any remaining amount after the review of the plan will be returned to the party which submitted the escrow. If the property is transferred to another party it is important to address the escrow account to assure it is returned to the appropriate party.

Town of Raymond Planning Board
Application for Subdivision and Site Review

rev 1-25-17

Office Use Only

Filing Fee$_____Abutter notices $_____

Legal ad fee$_____Fire Department$_____

Escrow $_____Total fees $_____

Fees will be calculated after application is submitted prior to being scheduled for hearing.

Property Information

Map 51 Lot 2
Zoning District C/LLR1
Street Address: 1326 Roosevelt Trail
Deed Reference
Book 37597 Page 223
Parcel Size 5.90 AC

Applicant Information

Name: Port Harbor Holdings I,LLC
Address: 1 Spring Point Dr
South Portland, ME 04101
Telephone: 207-767-3254
Fax: _____
email: mikesoucy@portharbormarine.com

Note: Attach permission from owner if application not signed by owner.

Agent Information _____ check here if correspondence should be directed to agent

Name: Sebago Technics, Robert McSorley, PE
Address: 75 John Roberts Rd
South Portland Me 04101
Telephone: 207-200-2074
Fax: _____
email: rmcsorley@sebagotechnics.com

Owner Information:

Name: Same as applicant
Address: _____
_____
Telephone: _____
Fax: _____
email: _____

Proposed Development (check all that apply)

_____ Subdivision X Site Plan
_____ Pre-Application Conference
_____ Preliminary Plan Review
_____ Final Plan Review
_____ Other: _____

Project Type:

_____ Single Family Subdivision
_____ Multi-family Development
X Commercial
_____ Industrial
_____ Other: _____

Town of Raymond Planning Board
Application for Subdivision and Site Review

rev 1-25-17

Proposed Development Name: Jordan Bay Marina - Expansion

_____ Number of Lots

_____ Number of Units

6000 sf Total Square Footage of Comm./Ind. Bldgs.

Proposed Road Name(s):

N/A

Other Approvals Required:

_____ Zoning Board of Appeals: ____ Variance ____ Special Exception

X ME Dept. of Environmental Protection/Army Corps of Engineers

X Maine Department of Transportation

The undersigned, being the applicant, owner or legal representative of the property, hereby certifies that all information contained in this application is true and correct to the best of his/her knowledge and submits such information for review by the Town for conformance with all applicable regulations, ordinances, and codes of the town, state and federal government.

The undersigned, by their signature below authorizes any member of or authorized agent of the Town of Raymond or other review agency to enter the property for the purposes of review of this application.

Michael Soucy, Port Harbor Marine, Inc.

Print Name of Property Owner

Signature of Property Owner — Date: 8/10/22

Print Name of Owner's Agent

Signature of Owner's Agent — Date

Attachment 1

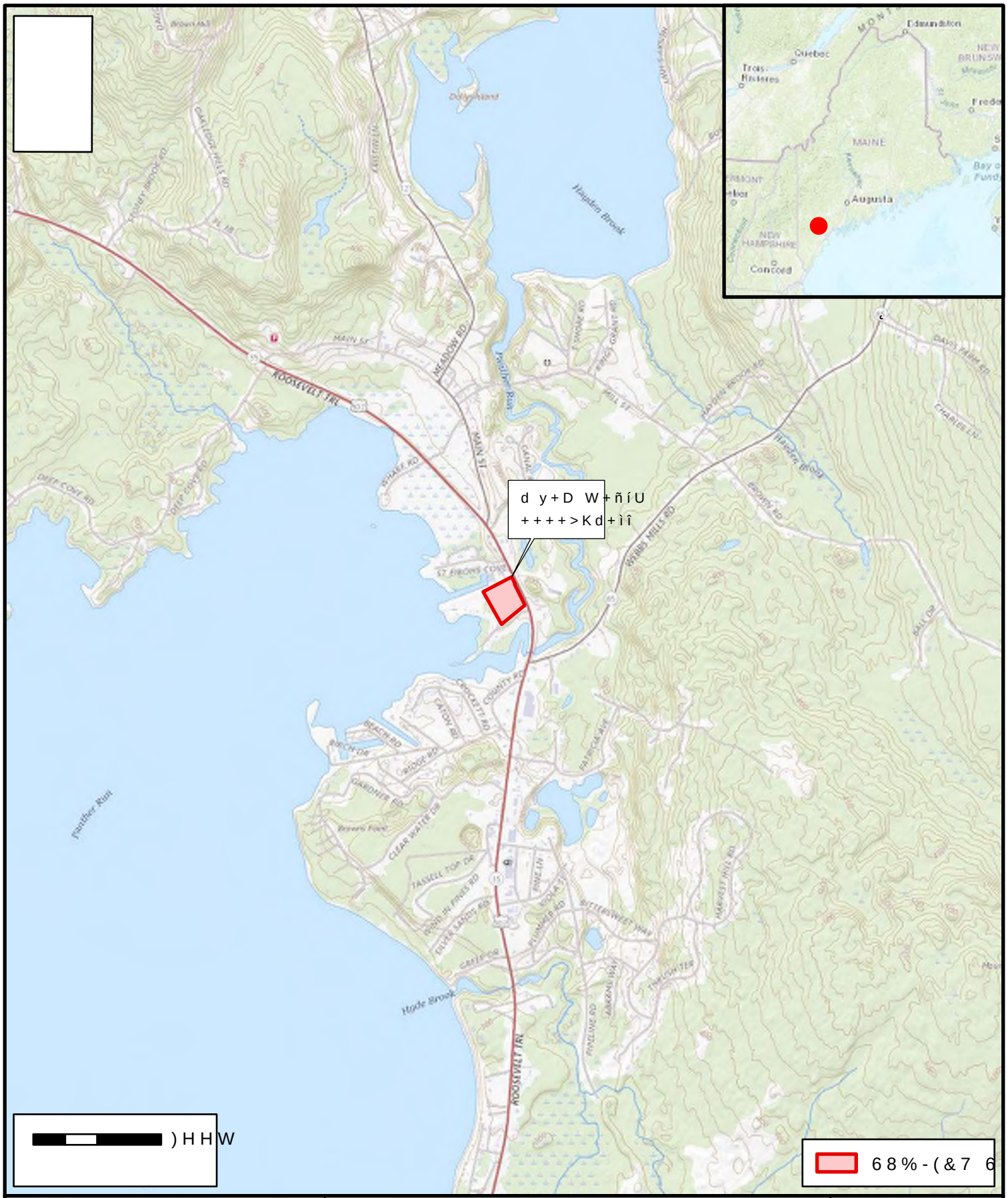
Location Maps

Attachment 1: Location Maps

The proposed project is located at 1328 Roosevelt Trail (U.S. Route 302) in Raymond, Maine, Tax Map 51, Lot 2. Please see this Attachement for location map information.

The area is zoned as Limited Residential - Recreation District I (a shoreland district) and Commercial District. Please see this Attachment for tax map information.

As recorded on the FEMA FIRM Panel 230205 0015 B, recorded in 1981, this parcel lies in Zone C, a zone of minimal flooding. Please see this Attachment for flood map information.



SEBAGO TECHNICS

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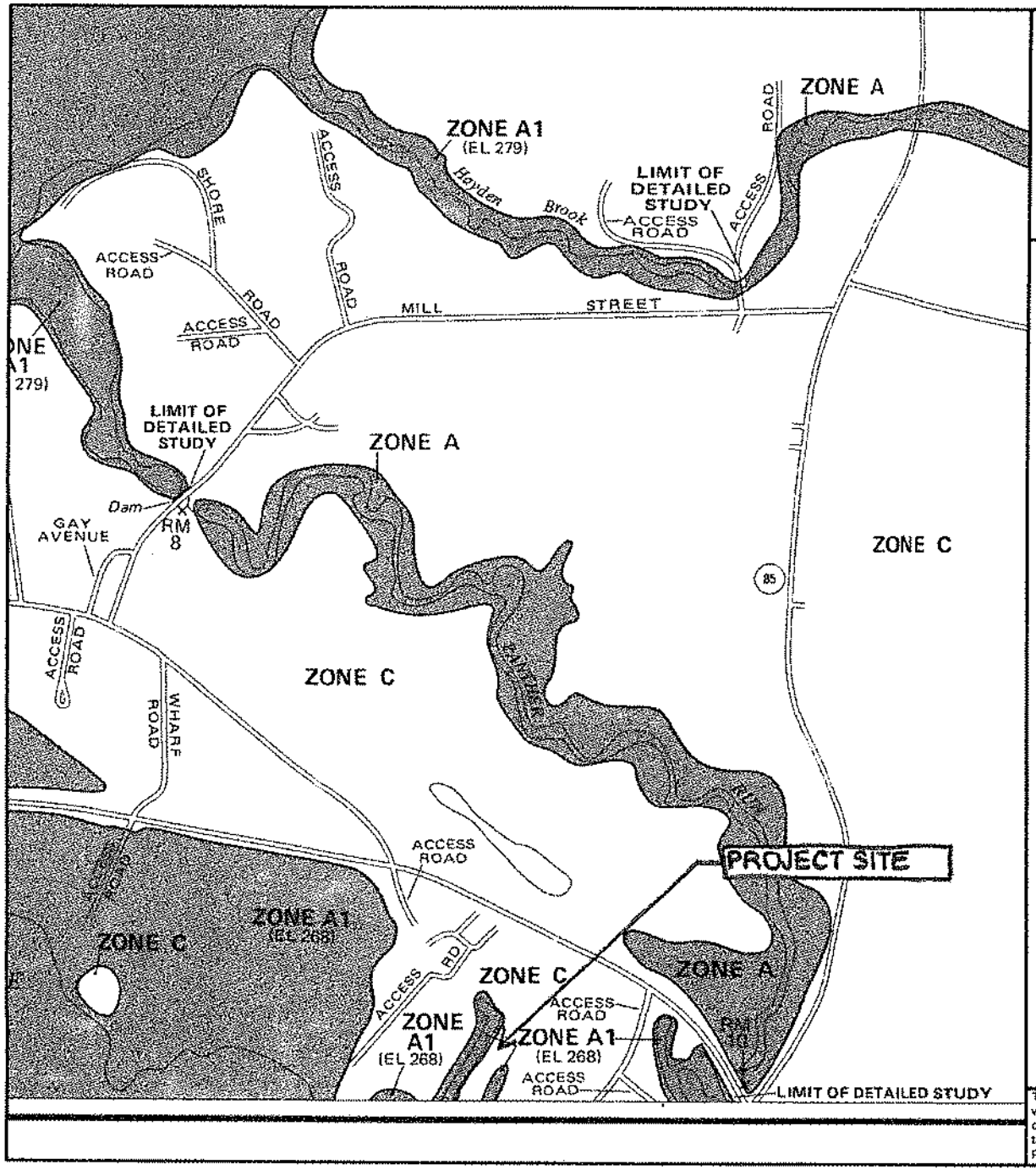


APPROXIMATE SCALE

800 0 800 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

TOWN OF
RAYMOND,
MAINE
CUMBERLAND COUNTY

PANEL 15 OF 20
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
230205 0015 B

EFFECTIVE DATE:
MAY 5, 1981

federal emergency management agency
federal insurance administration

Attachment 2

Right, Title or Interest

Attachment 2: Right, Title or Interest

The record owner of the subject parcel is Port Harbor Holdings I, by a deed recorded on December 18, 2020 at the Cumberland County Registry of Deeds in the following Book/Page: 37597/0223. Please see this Attachment for a copy of the recorded deed.

1326 ROOSEVELT TRAIL

Location	1326 ROOSEVELT TRAIL	**Mblu**	051/ 002/ 000/ 000/
Acct#	B0790R	**Owner**	PORT HARBOR HOLDINGS I
Assessment	$207,700	**Appraisal**	$207,700
PID	2645	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$164,000	$43,700	$207,700
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$164,000	$43,700	$207,700

Owner of Record

Owner	PORT HARBOR HOLDINGS I	**Sale Price**	$700,000
Co-Owner		**Certificate**	
Address	1 SPRING POINT DRIVE SOUTH PORTLAND, ME 04106	**Book & Page**	37597/0223
		Sale Date	12/18/2020
		Instrument	00

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
PORT HARBOR HOLDINGS I	$700,000		37597/0223	00	12/18/2020
HARTLEY GROUP LLC	$0		36623/298	1A	04/17/2020
HARTLEY WILLIAM C	$150,000		33980/0032	1A	04/28/2017
HARTLEY WILLIAM	$0		33513/0178	1A	10/04/2016
HARTLEY TACY F	$0		2727/0488		

Building Information

Building 1 : Section 1

Year Built:	1955
Living Area:	2,223

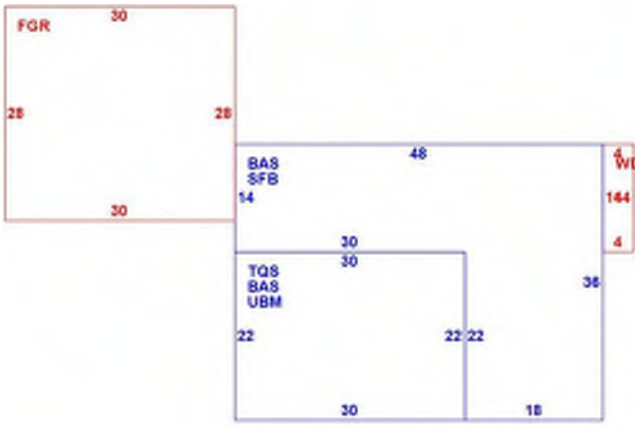
Replacement Cost: $230,141
Building Percent Good: 70
Replacement Cost Less Depreciation: $161,100

Building Attributes	
Field	**Description**
Style	Family Conver.
Model	Residential
Grade:	Average
Stories:	1.75
Occupancy	2
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure:	Salt Box
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Flr 1	Carpet
Interior Flr 2	
Heat Fuel	Oil
Heat Type:	Hot Air-no Duc
AC Type:	None
Total Bedrooms:	4 Bedrooms
Total Bthrms:	2
Total Half Baths:	0
Total Xtra Fixtrs:	
Total Rooms:	9
Bath Style:	Average
Kitchen Style:	Average
Num Kitchens	
Cndtn	
Usrfld 103	
Usrfld 104	
Usrfld 105	
Usrfld 106	
Usrfld 107	
Num Park	
Fireplaces	
Usrfld 108	
Usrfld 101	
Usrfld 102	
Usrfld 100	
Usrfld 300	

Building Photo

(https://images.vgsi.com/photos/RaymondMEPhotos//\00\00\23\86.jpg)

Building Layout



(ParcelSketch.ashx?pid=2645&bid=2645)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	1,728	1,728
TQS	Three Quarter Story	660	495
FGR	Garage	840	0
SFB	Basement,finished,raised	1,068	0
UBM	Basement, Unfinished	660	0
WDK	Deck, Wood	56	0
		5,012	2,223

Usrfld 301	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	1040
Description	Two Unit
Zone	LRR1
Neighborhood	
Alt Land Appr	No
Category	

Land Line Valuation

Size (Sqr Feet)	294030
Frontage	
Depth	
Assessed Value	$43,700
Appraised Value	$43,700

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
LNT	LEAN-TO			128.00 S.F.	$0	1
SHD1	SHED FRAME			440.00 S.F.	$1,800	1
SHD1	SHED FRAME			112.00 S.F.	$400	1
LNT	LEAN-TO			84.00 S.F.	$0	1
WDK	DECK, WOOD			80.00 S.F.	$700	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$164,000	$43,700	$207,700
2019	$164,000	$43,700	$207,700
2018	$164,000	$43,700	$207,700

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$164,000	$43,700	$207,700
2019	$164,000	$43,700	$207,700
2018	$164,000	$43,700	$207,700

MAINE REAL ESTATE TAX-Paid

QUITCLAIM DEED

DLN: 1002040125832

HARTLEY GROUP, LLC, a Maine limited liability company, with a mailing address of P.O. Box 44, Raymond, Maine 04071 for consideration paid, grants to **PORT HARBOR MARINE, INC.,** a Maine corporation, with a mailing address of 1 Spring Point Drive, South Portland, Maine 04106, with QUITCLAIM COVENANTS, the following described real property in the Town of Raymond, County of Cumberland and State of Maine:

See Exhibit A attached hereto and made a part hereof

Also hereby conveying all rights, easements, privileges, and appurtenances, belonging to the premises hereinabove described.

IN WITNESS WHEREOF, HARTLEY GROUP, LLC has caused this instrument to be executed by William C. Hartley, thereunto duly authorized this 18 day of December, 2020.

HARTLEY GROUP, LLC

Witness

By: William C. Hartley
Its: Manager

State of Maine
County of Cumberland, ss.

December 18, 2020

Personally, appeared before me William C. Hartley and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of Hartley Group, LLC.

Before me,

Notary Public or Attorney-at-Law
Printed Name: Elaine Orser
Commission Expires: _____

ELAINE ORSER
Notary Public-Maine
My Commission Expires
June 14, 2024

EXHIBIT A

(1326 Roosevelt Trail)

A certain lot or parcel of land with the buildings thereon, situated in said Town of Raymond and bounded and described as follows, to wit:

Commencing on the westerly side of the County or State road leading from Raymond Village to Portland, at the southeasterly corner of land formally of Henry Harmon;

Thence, southerly on the line of said road, as now traveled, to a point on said road one rod northerly from the corner of the Samuel Witham brickyard lot;

Thence, westerly on the line of land formally belonging to W.H. Skillin, more recently of Henry L. Forhan, thirty-two (32) rods, more or less, to land formally owned by Elijah Fulton and now or formally by L.O. Skillin;

Thence, northerly on the line of said L.O. Skillin land to the said Henry Harmon land;

Thence, easterly by line of said Harmon land to the said County or State road, at the place of beginning.

Meaning hereby to convey a part of lot numbered three (3) in the second range of lots in said Raymond, containing five (5) acres, more or less, and being the southeasterly part of the field formally owned by the late Elbridge Gerry at the time of his decease, the same premises, with the same conditions and reservations, as was conveyed to Leslie N. Foss by Henry W. Lanier of New York, in his deed of warranty dated May 26, 1924 and recorded in the Cumberland County Registry of Deeds, Book 1171, Page 311.

Reference may also be made to the Raymond Town Property Maps: Map 51, Lot 2, for further description of property herein conveyed.

This conveyance is made with the following exceptions and reservations:

1) Conveyance from Hannah D. Foss to Doris Foster of approximately one-half acre of land, dated April 8, 1940, recorded in said Registry of Deeds in Book 1609, Page 360.
2) Conveyance from Hannah Foss to the Portland Pipe Line Corporation of an easement, dated August 14, 1941, recorded in said Registry of Deeds, Book 1646, Page 181.
3) Conveyance from Hannah D. Foss to the State of Maine for highway purposes, dated August 7, 1957, recorded in said Registry of Deeds, Book 2369, Page 199.
4) Conveyance of Robert T. Smith, et al. to the Presumpscot Water Power Company, of flowage rights, deed recorded in said Registry of Deeds, Book 511, Page 524. (Deed dated September 30, 1884.)
5) Conveyance of James F. Hartley to Lucian Gervais in 1972, recorded in said Registry of Deeds, Book 3210, Page 66 (lot designated as lot 1 on Raymond Town Property Map 51.)

DOC :84587 BK:37597 PG:225
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
12/21/2020, 10:45:38A
Register of Deeds Nancy A. Lane E-RECORDED

For title reference see Deed given by William C. Hartley to Hartley Group, LLC, dated April 17, 2020 and recorded in the Cumberland County Registry of Deeds in Book 36623, Page 298.

Attachment 3

Water and Wastewater

Attachment 3: Water and Waste

The proposed development is to be served by public water. It is anticipated that the proposed use will require flows of 412 gallons per day.

Correspondence with the Portland Water District to confirm capacity has been initiated. Please see this Attachment for a copy of the request for capacity letter as well as their response. Any future correspondence with the Water District will be forwarded upon receipt for the Town's reference.

This site will be serviced by an onsite disposal system designed to handle all onsite existing and proposed sanitary flows.

August 5, 2022
14265-02

MEANS Department
Portland Water District
225 Douglass Street
Portland, ME 04102

Ability to Serve Request
1326 Roosevelt Trail
Raymond, ME 04071

Dear MEANS Department:

On behalf of Port Harbor Holdings I, we respectfully request a letter of capacity for the proposed 6,000 SF commercial building at 1326 Roosevelt Trail that that will expand the existing, adjacent marina. The site is shown as Lot 2 on the Town of Raymond Tax Map 51.

Proposed is an 8-inch water main line extending from the existing 16-inch ductile iron main located in Roosevelt Trail. This main will service a 2" domestic line, a 4" fire line, and a 6" hydrant line. Please see the attached utility plan depicting the service lateral. Below is also a calculation summary for average daily flows of the proposed project showing the breakdown for a sales area and the service area.

Maine Subsurface Wastewater Rules (Table 4C) and meter records were utilized to calculate anticipated average daily flows.

Sales Area: Calculated as employees at place of employment.
(4 employees * 12 gpd per employee) = 48 gpd

Public Restrooms/Bathhouse:
Calculated as 200% of meter flow (182 gpd average) = 364 gpd

Total new flow: 412 gpd

We hope we have provided sufficient information for you to review the proposed commercial building and to provide an ability to serve letter for the project. If you have any questions or need additional information, please do not hesitate to contact me.

Sincerely,

SEBAGO TECHNICS, INC.

Jessa Solis
Permitting Coordinator

Portland Water District

FROM SEBAGO LAKE TO CASCO BAY

October 21, 2022

Robert McSorley, PE
Sebago Technics, Inc.
75 John Roberts Rd., Suite 4A
South Portland, ME 04106

Re: 1326 Roosevelt Trail, WI
Ability to Serve with PWD Water

Dear Mr. McSorley:

The Portland Water District has received your request for an Ability to Serve Determination for the noted site submitted on August 5, 2022. Based on the information provided per plans dated October 20, 2022, we can confirm that the District will be able to serve the proposed project as further described in this letter. **Please note that this letter constitutes approval of the water system as currently designed and is valid for eighteen (18) months after the date of issue. Any changes affecting the approved water system will require further review and approval by PWD.**

Conditions of Service

The following conditions of service apply:

- A new 8-inch fire service and a 2-inch domestic water service, with a 1-inch meter, may be installed from the water main in Roosevelt Trail. The service should enter through the property's frontage on Roosevelt Trail at least 10-feet from any side property lines.
- One (1) private fire hydrant may be installed on the fire service on this site. Please refer to the PWD website for more information regarding private hydrant inspection policies.
- An approved backflow prevention device (testable double check valve assembly) must be installed on each service line directly after the meter and before the sprinkler riser prior to service activation. Please refer to the PWD website for more information on cross-connection control policies.
- The Portland Water District does not manage sewer collection in this area.

Prior to construction, the owner or contractor will need to complete a Service Application and pay all necessary fees for each proposed service. When the project is ready for construction, an Application for each service can be requested by contacting the MEANS Group at MEANS@pwd.org or 207-774-5961 ext. 3199. Once a completed Application has been submitted with payment, please allow seven (7) days for processing.

Existing Site Service

According to District records, the project site does not currently have existing water service.

Water System Characteristics

According to District records, there is an 16-inch diameter PVC water main in Roosevelt Trail and a public fire hydrant located adjacent to the site. The estimated static pressure in the area is 96 psi.

Public Fire Protection

The installation of new public hydrants to be accepted into the District water system will most likely not be required. It is your responsibility to contact the Town of Raymond Fire Department to ensure that this project is adequately served by existing and/or proposed hydrants.

Domestic Water Needs

The data noted above indicates there should be adequate pressure and volume of water to serve the domestic water needs of your proposed project. Based on the high water pressure in this area, we recommend that you consider the installation of pressure reducing devices that comply with state plumbing codes.

Private Fire Protection Water Needs

You have indicated that this project will require water service to provide private fire protection to the site. Please note that the District does not guarantee any quantity of water or pressure through a fire protection service. Please share these results with your sprinkler system designer so that they can design the fire protection system to best fit the noted conditions. If the data is out of date or insufficient for their needs, please contact MEANS to request a hydrant flow test and we will work with you to get more complete data.

Should you disagree with this determination, you may request a review by the District's Internal Review Team. Your request for review must be in writing and state the reason for your disagreement with the determination. The request must be sent to MEANS@PWD.org or mailed to 225 Douglass Street, Portland Maine, 04104 c/o MEANS. The Internal Review Team will undertake review as requested within 2 weeks of receipt of a request for review.

If the District can be of further assistance in this matter, please let us know.

Sincerely,
Portland Water District

Robert A. Bartels, P.E.
Senior Project Engineer

Attachment 4

Stormwater and Erosion

Attachment 4: Stormwater Management and Erosion Control

The stormwater report has been included with this submittal.

STORMWATER MANAGEMENT REPORT

For

Jordan Bay Marina Expansion
Raymond, ME

Prepared for:

Port Harbor Holdings , LLC
1 Spring Point Drive
South Portland, ME 04106

Prepared by:

Sebago Technics, Inc.
75 John Roberts Rd, Suite 4A
South Portland, ME 04106

June 2023

Table of Contents

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Appendices

STORMWATER MANAGEMENT REPORT
Jordan Bay Marina Expansion
Raymond, ME

1. Introduction

This Stormwater Management Plan Report has been prepared to present analyses performed to address the potential impacts associated with the project due to proposed modifications in stormwater runoff characteristics and land cover changes. The stormwater management controls that are outlined in this report have been designed to suit the proposed development and to comply with applicable regulatory requirements.

2. Existing Conditions

The project site currently consists of mostly undeveloped wooded land with an existing single-family home and gravel boat parking located on the northern portion of the lot. The project site is located at 1326 Roosevelt Trail (Route 302) in Raymond, Maine on the western side of Roosevelt Trail. The site is approximately 5.9 acres and is bounded by Roosevelt Trail to the East, Indian Point residential development to the South and the West, and another parcel owned by Port Harbor Holdings, LLC that is a part of Jordan Bay Marina to the North. Slopes on the site range from 1-11%.

The site is tributary to Sebago Lake which is listed as a lake most at risk but not severely blooming in Chapter 502 of the Maine Department of Environmental Protection (MDEP) regulations.

The proposed development area of the site is not located in an identified flood zone per the FEMA Flood Insurance Rate Map for the Town of Raymond, Community Panel 2302050015B effective 05/05/1981. A portion of the site is located within zone A1 (268.00 NGVD, 267.39 NAVD).

3. Soils

Soil characteristics were obtained from the USDA Web Soil Survey. The Hydrologic Soil Groups (HSG) of the soils are classified by Technical Release TR-55 of the Soil Conservation Service as follows:

Soil Map Symbol	Soil Name	Slope (%)	HSG
Cu	Cut and fill land	0-35	B
DeA	Deerfield loamy fine sand	0-3	A
HiC	Hinckley loamy sand	8-15	A
Sp	Sebago mucky peat	0-1	A/D
Sz	Swanton fine sandy loam	0-3	C/D

Hydrologic Soil Group boundaries are delineated on the Stormwater Management Plans. A copy of the Class D Medium Intensity Soil Survey is included as Appendix 4.

4. Proposed Site Improvements

The proposed development will consist of an approximately 19,200 SF building boat storage, boat display/storage space, as well as parking, and paved access aisles. The project will result in the creation of approximately 1.71 acres of impervious area and 1.98 acres of developed area.

5. Existing Conditions Model

The existing conditions watershed plan consists of six subcatchments labeled 1S, thru 6S in the HydroCAD model. Three locations were identified as Points of Analysis (POA) for comparing peak runoff rates and all are directly tributary to Sebago Lake.

POA-1 is located along the Westerly boundary of the site where runoff leaves the site through a wetland complex. Subcatchment 2S, and 3S contribute runoff to this point of analysis with an overall runoff area of approximately 6.08 acres. Subcatchment 2S represents the area that drains directly to POA-1, and subcatchment 3S represents the area on site that drains to another wetland centrally located on site that then spills over to the wetland complex that conveys runoff to POA-1. POA-1 and the associated drainage area are directly tributary to Sebago Lake, which is listed by the Maine Department of Environmental Protection as a Lake Most at Risk but not severely blooming within Chapter 502.

POA-2 is located at the Northwestern boundary of the site where runoff leaves the site onto the neighboring property that is also owned by Port Harbor Holdings, LLC. Subcatchments 1S and 6S contribute runoff to this point of analysis with an overall runoff area of approximately 0.28 acres. Subcatchments 1S and 6S represent small grassed and wooded areas that runoff onto the neighboring lot. POA-2 and the associated drainage area are directly tributary to Sebago Lake.

POA-3 is located at the outlet of the existing 18” culvert that runs underneath Indian Point Road. Subcatchments 4S and 5S contribute runoff to this point of analysis with an overall drainage area of roughly 3.39 acres. Subcatchment 4S represents both developed and undeveloped areas on the Eastern side of Roosevelt Trail that is tributary to a culvert that crossed underneath Roosevelt Trail and discharges runoff onto the project site, this runoff is then conveyed within a swale to the 18” culvert that runs underneath Indian Point Road before reaching POA-3. Subcatchment 5S represents the right of way and a small portion of the project site that runs off directly to the swale prior to the 18” culvert that runs underneath Indian Point Road. POA-3 and the associated drainage area are directly tributary to Sebago Lake.

6. Proposed Conditions Model

The proposed conditions watershed area consists of the same overall area as the existing condition plan, however, the existing condition subcatchments have been broken differently as a result of the proposed development.

POA-1: Proposed subcatchments 3.1S, 3.2S, and 7S contribute runoff to this point of analysis. Subcatchment 2S represents the developed land consisting of pavement, roof, and landscaped area that runs off into UDSF-2 for treatment and detention before discharging to reach 5R, and then to POA-1. Subcatchment 3.1S represents the impervious boat parking area as well as some landscaped area that runs off into UDSF-1 for treatment and detention before discharging to reach 6R, and then to POA-1. Subcatchment 3.2S represents the remainder of subcatchment 3S that remains after the development of the boat parking of subcatchment 3.1S that drains to on-site wetland then spills over to the wetland complex that conveys runoff to POA-1. Subcatchment 7S represents mostly undeveloped area and some existing landscape area that runs off directly to POA-1. The overall tributary area associated with POA-1 is 6.03 acres.

POA-2: Proposed subcatchments 1S and 6S contribute runoff to this point of analysis and represent existing and proposed landscaped area, a small amount of proposed impervious area, and some wooded area. The overall tributary area associated with POA-2 is 0.27 acres.

POA-3: Proposed subcatchments 4S and 5S contribute runoff to this point of analysis. Subcatchment 4S represents both developed and undeveloped areas on the Eastern side of Roosevelt Trail that is tributary to a culvert that crossed underneath Roosevelt Trail and discharges runoff onto the project site, this runoff is then conveyed within a swale to the 18” culvert that runs underneath Indian Point Road before reaching POA-3. Subcatchment 5S represents the right of way and a small portion of landscaped area on site that runs off directly to the swale prior to the 18” culvert that runs underneath Indian Point Road. The overall tributary area associated with POA-3 is 3.45 acres.

The two Best Management Practices (two underdrained soil filters) have been designed and sized in accordance with MDEP BMP standards contained within Chapter 500 and the BMP Manual. Sizing calculations can be found in Appendix 1.

7. Stormwater Management

Basic Standard - Chapter 500, Section 4(B)

Since the project will disturb more than one (1) acre of land area, MDEP Basic Standards apply, requiring that grading or other construction activities on the site do not impede or otherwise alter drainage ways to have an unreasonable adverse impact. We have avoided adverse impacts by providing an Erosion & Sedimentation Control Plan, and an Inspection, Maintenance and Housekeeping Plan (Appendix 3) to be implemented during construction and post-construction stabilization of the site. These construction requirements have been developed following Best Management Practice guidelines.

General Standard - Chapter 500, Section 4(C)

Since the project will create more than one (1) acre of impervious surface, MDEP General Standards apply, which require a project's stormwater management system to include 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. The General Standards require treatment of no less than 95% of the site's created impervious area and no less than 80% of the site's created developed area (landscaped area and impervious area combined). To mitigate the changes in hydrologic patterns due to the development of this project two underdrained soil filters have been implemented into the stormwater management infrastructure. Filtration BMPs are very effective at removing a wide range of pollutants through the use of organic soil filter media.

BMP sizing and treatment calculations are provided as Appendix 1.

Through the use of the aforementioned BMP's 97.77% of new impervious area and 97.02% of new developed area will be receiving treatment. This meets the requirements for the Maine DEP General Standards.

Phosphorus Standard - Chapter 500, Section 4(D)

Since the proposed project will create less than 3 acres of impervious area and less than 5 acres of developed area in a lake watershed that is not severely booming, the general standards may be used instead of the phosphorus standard.

Flooding Standard - Chapter 500, Section 4(F)

Although the planned project will not create more than three (3) acres of impervious surface MDEP Flooding Standards are required to be met through the Town of Raymond stormwater standards. The Flooding Standard requires a project's stormwater management system detain, retain, or result in the infiltration of stormwater from 24-hour storms of the 2, 10,

25-year frequencies such that the peak flows of stormwater from the project site do not exceed the peak flows of stormwater prior to undertaking the project. As such, a runoff evaluation was performed using the methodology outlined in the USDA Soil Conservation Service's "Urban Hydrology for Small Watersheds - Technical Release #55 (TR-55)". HydroCAD computer software was utilized to perform the calculations.

Runoff curve numbers were determined for each of the watersheds by measuring the area of each hydrologic soil group within each type of land cover. The type of land cover was determined based on survey data, field reconnaissance, and aerial photography. Times of concentration were determined from site topographic maps in accordance with SCS procedures.

The 24-hour rainfall values utilized in the hydrologic model were obtained from Appendix H of MDEP's Chapter 500: Stormwater Management (effective date August 2015). Rainfall values for Cumberland County are listed in the table below.

Storm Frequency Precipitation (in./24 hr) Cumberland County SE	
2-year	3.1
10-year	4.6
25-year	5.8

The following table presents the results of the peak runoff calculations at the analysis points for the existing and proposed conditions.

Peak Runoff Rate Summary Table			
Analysis Point	**Storm Event**	**Existing Conditions (cfs)**	**Proposed Conditions (cfs)**
POA-1	2-year	0.8	0.4
	10-year	4.3	3.1
	25-year	8.8	7.4
POA-2	2-year	0.1	0.1
	10-year	0.4	0.4
	25-year	0.6	0.6
POA-3	2-year	1.9	2.0
	10-year	3.6	3.8
	25-year	6.2	6.5

The HydroCAD Data output sheets from this analysis are appended to this report (Appendix 2) along with the Stormwater Management Plans (Appendix 5). The model predicts that the peak runoff

rates in the proposed condition at Points of Analysis 1 and 2 are at or below existing condition runoff rates for the 2, 10, and 25-year storm events with the implementation of the proposed stormwater management practices. While the model predicts that the peak runoff rates in the proposed conditions at the Point of Analysis 3 will see a minor increase in runoff rates for the 10 and 25-year storm events.

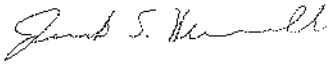
The unavoidable difficulties to capture the onsite runoff in proposed subcatchment 5S result in minor increases in the peak runoff rates at Point of Analysis 3. The increase in peak runoff rates for the Point of Analysis 3 can be considered insignificant increases due to the nature of the stormwater drainage in the surrounding area. Runoff from all Points of Analysis are immediately tributary to Sebago Lake, and when overall proposed and existing condition runoff rates are analyzed at Sebago Lake the proposed runoff rates are below the existing condition runoff rates. Furthermore, the model predicts that the downstream drainage channel and drainage culvert underneath Indian Point Road have sufficient capacity to handle the minor increase in peak rates. Therefore, there is no anticipated adverse effect on the drainage channel downstream and drainage culvert underneath Indian Point Road, and the increases in peak runoff rates at the Point of Analysis 3 can be considered insignificant.

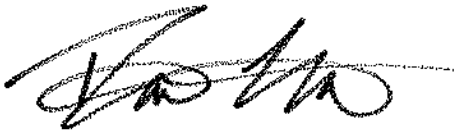
8. Summary

The proposed conditions have been designed to manage stormwater runoff through Best Management Practices approved by MDEP. Stormwater BMP's provide treatment to 97.77% (95% required) of impervious areas, and 97.02% (80% required) of the total developed area. Runoff discharging from the site will be at or below existing conditions for the 2, 10, and 25-year storm events at Point of Analysis 1 and 2, while there is an insignificant increase in the runoff discharging from the site for the 10 and 25-year storm events at Point of Analysis 3. Additionally, erosion and sedimentation controls along with associated maintenance and housekeeping procedures have been outlined to prevent unreasonable impacts on the site and to the surrounding environment.

Prepared by:

SEBAGO TECHNICS, INC.





Jake S. Hunnewell, E.I.
Civil Engineer

JSH

Robert A. McSorley, P.E.
Senior Project Manager

RAM

Appendix 1

Stormwater Quality Calculations

Table 1: MDEP GENERAL STANDARD CALCULATIONS

Job # 14265-02 Jordan Bay Marina

AREA ID	WATERSHED SIZE (S.F.)	EXISTING ONSITE IMPERVIOUS AREA TO REMAIN (S.F.)	NEW ONSITE IMPERVIOUS AREA (S.F.)	EXISTING ONSITE LANDSCAPED AREA TO REMAIN (S.F.)	NEW ONSITE LANDSCAPED AREA (S.F.)	NET NEW DEVELOPED AREA (S.F.)	NET EXISTING DEVELOPED AREAS (S.F.)	TREATMENT PROVIDED?	NEW IMPERVIOUS AREA TREATED (S.F.)	NEW LANDSCAPED AREA TREATED (S.F.)	DEVELOPED AREA TREATED (S.F.)	TREATMENT BMP
1S	8,615	2,040	555	0	0	555	2,040	NO	0	0	0	
2S	30,850	0	20,710	2,255	7,885	28,595	2,255	YES	20,710	7,885	28,595	UDSF-2
3.1S	79,965	190	52,135	19,520	2,625	54,760	19,710	YES	52,325	2,625	54,950	UDSF-1
3.2S	45,710	0	1,300	0	0	1,300	0	NO	0	0	0	
4S	109,585	0	0	0	0	0	0	NO	0	0	0	
5S	40,795	0	0	0	300	300	0	NO	0	0	0	
6S	2,990	0	0	0	0	0	0	NO	0	0	0	
7S	106,375	0	0	0	600	600	0	NO	0	0	0	
TOTAL (S.F.)	**424,885**	**2,230**	**74,700**	**21,775**	**11,410**	**86,110**	**24,005**		**73,035**	**10,510**	**83,545**	

TOTAL NEW IMPERVIOUS AREA (S.F.)	**74,700**	**TOTAL DEVELOPED AREA (S.F.)**	**86,110**
TOTAL IMPERVIOUS AREA RECEIVING TREATMENT (S.F.)	**73,035**	**TOTAL AREA RECEIVING TREATMENT (S.F.)**	**83,545**
% OF IMPERVIOUS AREA RECEIVING TREATMENT	**97.77%**	**% OF AREA RECEIVING TREATMENT**	**97.02%**

SEBAGO TECHNICS, INC.
75 John Roberts Road Suite 4A
South Portland, Maine 04106
Tel. (207) 200-2100

JOB			
SHEET NO.	1	OF	1
CALCULATED BY		DATE	3/2/2017
FILE NAME		PRNT DATE	6/12/2023

UNDERDRAINED SOIL FILTER

Task: Calculate water quality volume per MDEP chapter 500 regulations

References

1. Maine DEP Chapter 500, Section 4.C.(3)(b)
   a. "must detain a runoff volume equal to 1.0 inch times the subcatchment's impervious area plus 0.4 inch times the subcatchment's landscaped area"
2. Maine DEP Best Management Practices Stormwater Manual, Section 7.1
   a. "surface should represent 5% of impervious area and 2% of landscaped area"

Tributary to Underdrained Filter: UDSF-1

Landscaped Area	2,625.00	SF						
Impervious Area	52,325.00	SF						

Minimum Surface Area

Required (2% X Landscaped + 5%" X Impervious)

Total Landscaped Area	2,625.00	SF	Area	52.5	SF			
Total Impervious Area	52,325.00	SF	Area	2,616.3	SF			
Required Minimum Surface Area				2,668.8	SF			
Provided Surface Area				2,808.0	SF			

Treatment Volume

Required (0.4" X Landscaped + 1.0" X Impervious)

Landscaped Area	2,625.00	SF	Volume	87.5				
Impervious Area	52,325.00	SF	Volume	4,360.4				
Treatment Volume Required				4,447.9	CF	0.102	AF	
Provided Treatment Volume				4,472.0	CF	ELEV 270 TO 271.33		

Sediment Pre-Treatment

Per Reference 2, Chapter 7.1 "Pretreatment devices shall be provided to minimize discharge of sediment to the soil filter"

Annual Sediment Load:	55 cubic feet per acre per year of sanded area						
Area to be sanded:	52,325.00	SF					
Sediment Volume	66	CF					
Provided	74	CF	6	Inch Deep Forebay	with area of	148	sf

SEBAGO TECHNICS, INC.
75 John Roberts Road Suite 4A
South Portland, Maine 04106
Tel. (207) 200-2100

JOB			
SHEET NO.	1	OF	1
CALCULATED BY		DATE	3/2/2017
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   a. "must detain a runoff volume equal to 1.0 inch times the subcatchment's impervious area plus 0.4 inch times the subcatchment's landscaped area"
2. Maine DEP Best Management Practices Stormwater Manual, Section 7.1
   a. "surface should represent 5% of impervious area and 2% of landscaped area"

Tributary to Underdrained Filter: UDSF-2

Landscaped Area	7,885.00	SF				
Impervious Area	20,710.00	SF				

Minimum Surface Area

Required (2% X Landscaped + 5%" X Impervious)

Total Landscaped Area	7,885.00	SF	Area	157.7	SF	
Total Impervious Area	20,710.00	SF	Area	1,035.5	SF	
Required Minimum Surface Area				1,193.2	SF	
Provided Surface Area				1,320.0	SF	

Treatment Volume

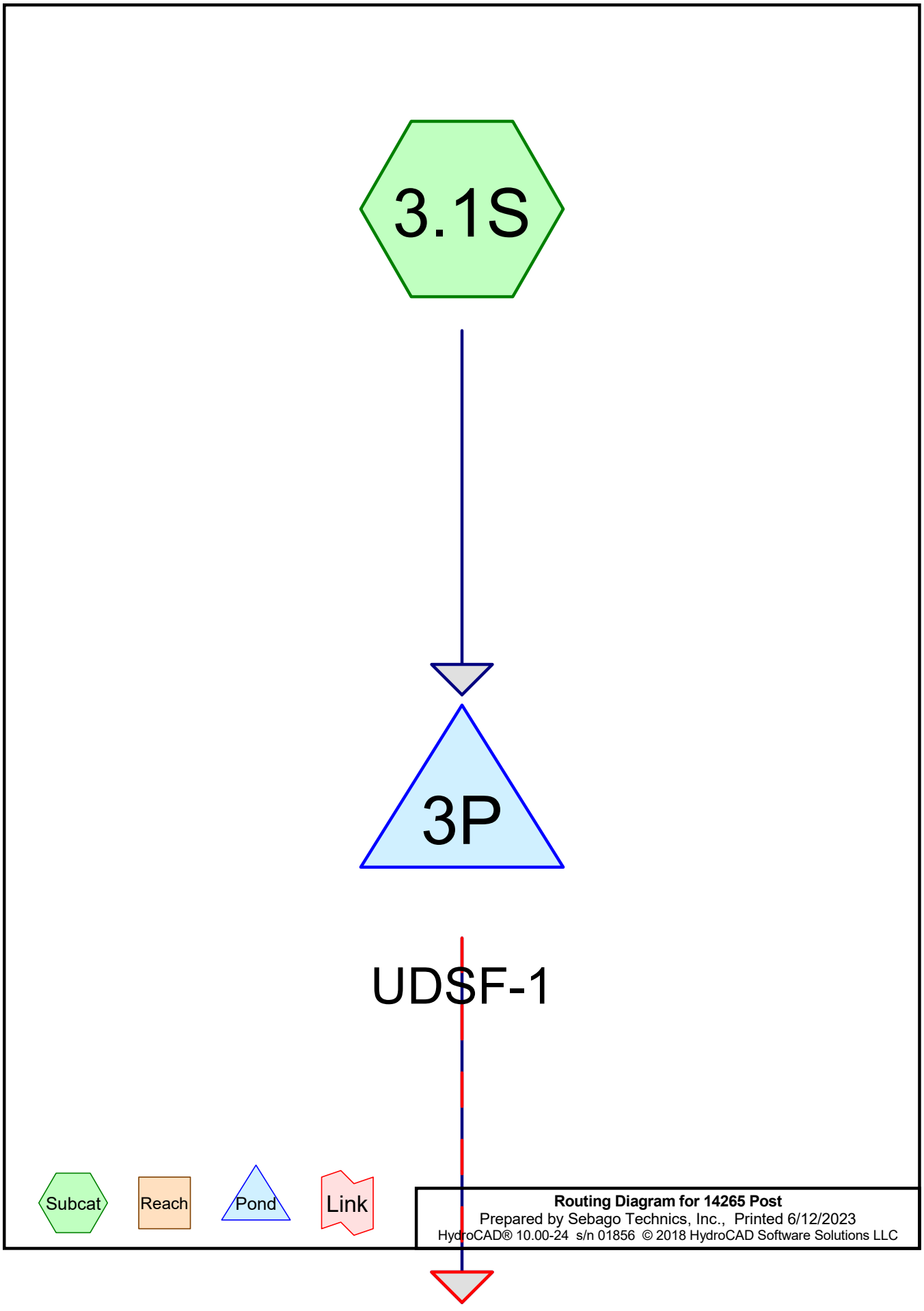
Required (0.4" X Landscaped + 1.0" X Impervious)

Landscaped Area	7,885.00	SF	Volume	262.8				
Impervious Area	20,710.00	SF	Volume	1,725.8				
Treatment Volume Required				1,988.7	CF	0.046	AF	
Provided Treatment Volume				1,999.0	CF	ELEV 269 TO 270.17		

Sediment Pre-Treatment

Per Reference 2, Chapter 7.1 "Pretreatment devices shall be provided to minimize discharge of sediment to the soil filter"

Annual Sediment Load:	55 cubic feet per acre per year of sanded area						
Area to be sanded:	20,710.00	SF					
Sediment Volume	26	CF					
Provided	38	CF	6	Inch Deep Forebay	with area of	75	sf



Routing Diagram for 14265 Post
Prepared by Sebago Technics, Inc., Printed 6/12/2023

Area Listing (selected nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
18,375	39	>75% Grass cover, Good, HSG A (3.1S)
9,410	80	>75% Grass cover, Good, HSG D (3.1S)
190	98	Existing Impervious (3.1S)
51,990	98	Impervious (3.1S)
79,965	**82**	**TOTAL AREA**

Time span=0.00-50.00 hrs, dt=0.01 hrs, 5001 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 3.1S: Runoff Area=79,965 sf 65.25% Impervious Runoff Depth=0.67"
Flow Length=160' Tc=7.0 min CN=82 Runoff=1.3 cfs 4,455 cf

Pond 3P: UDSF-1 Peak Elev=270.80' Storage=2,538 cf Inflow=1.3 cfs 4,455 cf
Primary=0.1 cfs 4,456 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 4,456 cf

Total Runoff Area = 79,965 sf Runoff Volume = 4,455 cf Average Runoff Depth = 0.67"
34.75% Pervious = 27,785 sf 65.25% Impervious = 52,180 sf

Summary for Subcatchment 3.1S:

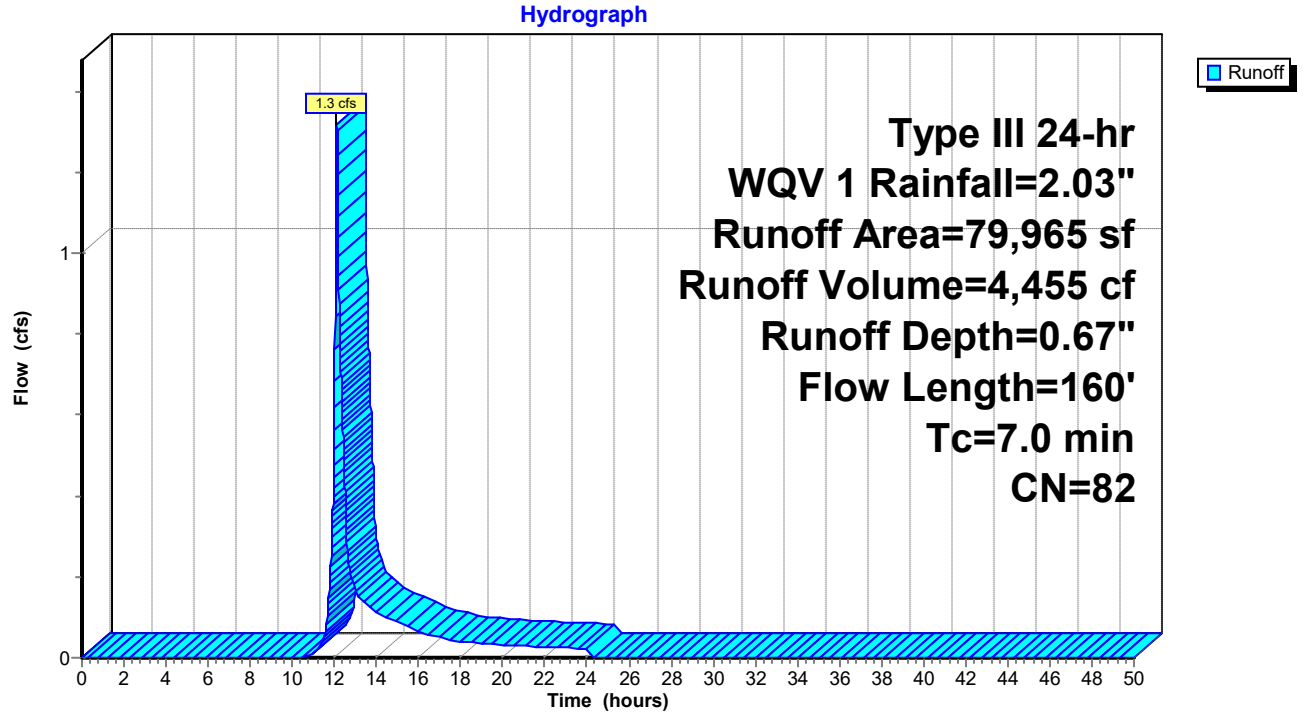
Runoff = 1.3 cfs @ 12.11 hrs, Volume= 4,455 cf, Depth= 0.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Type III 24-hr WQV 1 Rainfall=2.03"

	Area (sf)	CN	Description
*	51,990	98	Impervious
	9,410	80	>75% Grass cover, Good, HSG D
	18,375	39	>75% Grass cover, Good, HSG A
*	190	98	Existing Impervious
	79,965	82	Weighted Average
	27,785		34.75% Pervious Area
	52,180		65.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	110	0.0700	0.28		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.00"
0.2	25	0.0296	2.58		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
0.2	25	0.0180	2.72		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
7.0	160	Total			

Subcatchment 3.1S:



Summary for Pond 3P: UDSF-1

Inflow Area = 79,965 sf, 65.25% Impervious, Inflow Depth = 0.67" for WQV 1 event
Inflow = 1.3 cfs @ 12.11 hrs, Volume= 4,455 cf
Outflow = 0.1 cfs @ 16.65 hrs, Volume= 4,456 cf, Atten= 96%, Lag= 272.4 min
Primary = 0.1 cfs @ 16.65 hrs, Volume= 4,456 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 270.80' @ 16.65 hrs Surf.Area= 3,429 sf Storage= 2,538 cf

Plug-Flow detention time= 510.9 min calculated for 4,455 cf (100% of inflow)
Center-of-Mass det. time= 511.0 min (1,373.1 - 862.0)

Volume	Invert	Avail.Storage	Storage Description
#1	267.83'	12,990 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

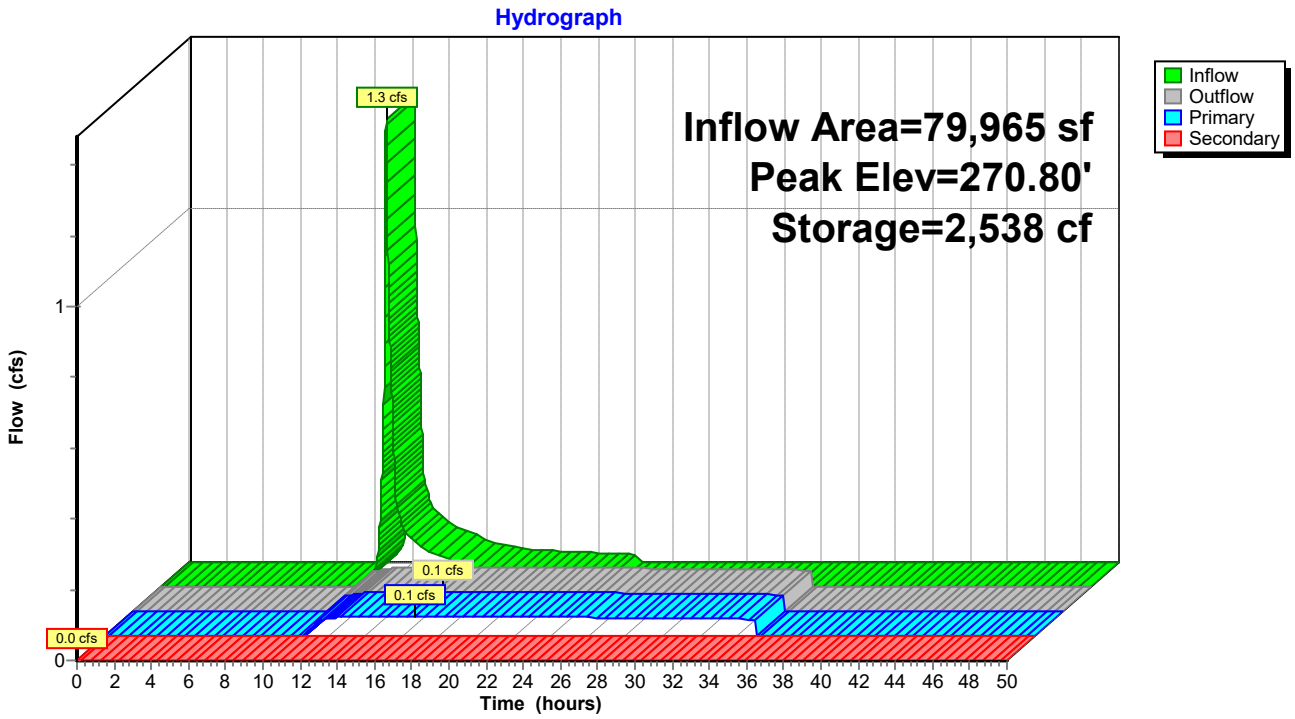
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
267.83	2,808	0.0	0	0
267.84	2,808	0.0	0	0
269.99	2,808	0.0	0	0
270.00	2,808	100.0	28	28
271.00	3,580	100.0	3,194	3,222
272.00	4,832	100.0	4,206	7,428
273.00	6,291	100.0	5,562	12,990

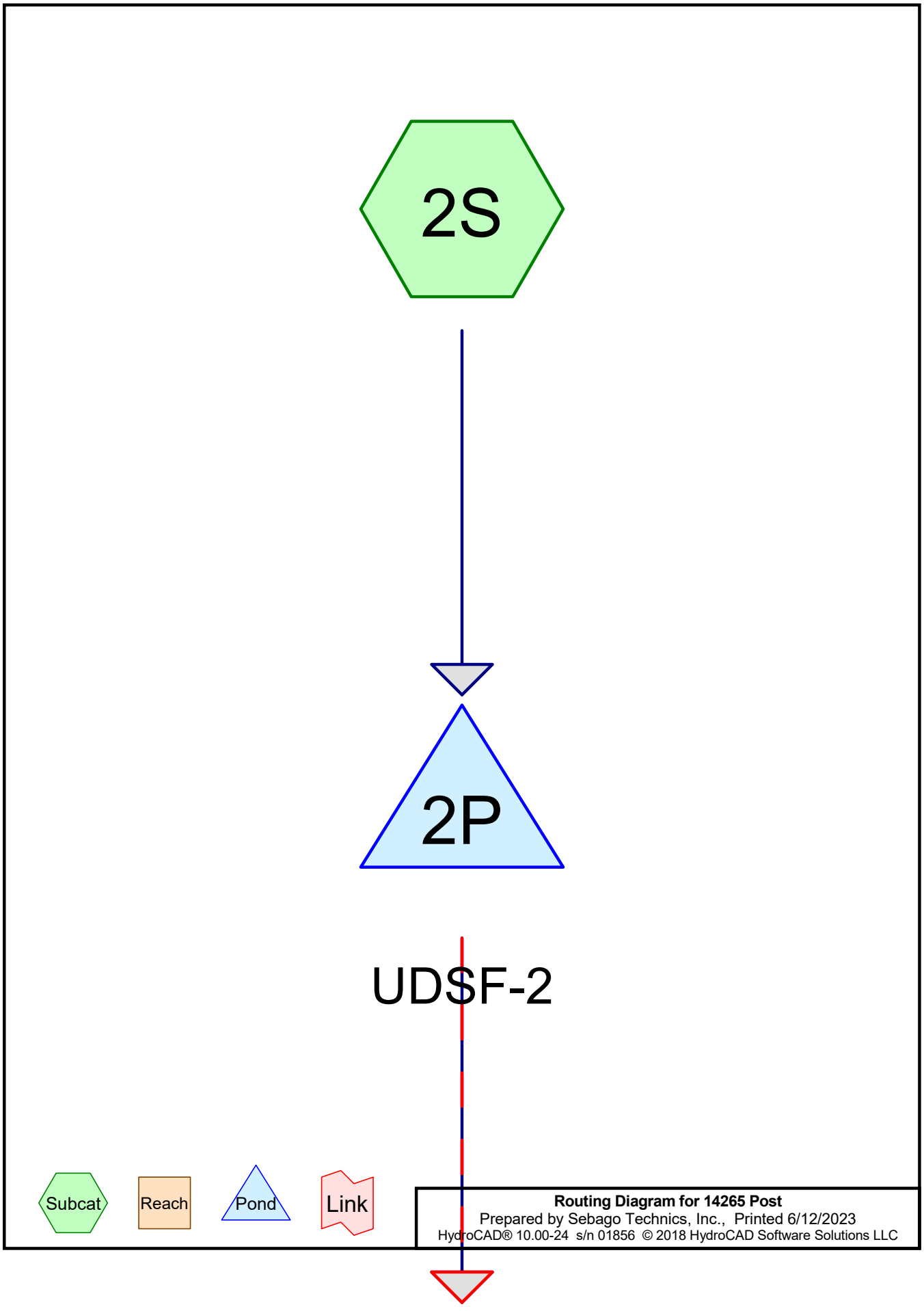
Device	Routing	Invert	Outlet Devices
#1	Primary	267.80'	**8.0" Round Stormdrain** L= 162.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 267.80' / 266.50' S= 0.0080 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf
#2	Device 1	271.50'	**1.3" x 1.3" Horiz. Beehive Grate X 7.00 columns** X 7 rows C= 0.600 Limited to weir flow at low heads
#3	Device 1	267.80'	**1.1" Vert. Orifice** C= 0.600
#4	Device 3	267.80'	**4.0" Round Underdrain** L= 12.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 267.80' / 267.80' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf
#5	Secondary	272.00'	**20.0' long x 12.2' breadth Overflow Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=0.1 cfs @ 16.65 hrs HW=270.80' (Free Discharge)
└**1=Stormdrain** (Passes 0.1 cfs of 1.8 cfs potential flow)
  └**2=Beehive Grate** (Controls 0.0 cfs)
  └**3=Orifice** (Orifice Controls 0.1 cfs @ 8.28 fps)
    └**4=Underdrain** (Passes 0.1 cfs of 0.6 cfs potential flow)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=267.83' (Free Discharge)
└**5=Overflow Spillway** (Controls 0.0 cfs)

Pond 3P: UDSF-1





Routing Diagram for 14265 Post
Prepared by Sebago Technics, Inc., Printed 6/12/2023

Area Listing (selected nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
5,125	39	>75% Grass cover, Good, HSG A (2S)
5,015	80	>75% Grass cover, Good, HSG D (2S)
20,710	98	Impervious (2S)
30,850	**85**	**TOTAL AREA**

Time span=0.00-50.00 hrs, dt=0.01 hrs, 5001 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 2S: Runoff Area=30,850 sf 67.13% Impervious Runoff Depth=0.77"
Flow Length=190' Tc=9.9 min CN=85 Runoff=0.5 cfs 1,988 cf

Pond 2P: UDSF-2 Peak Elev=269.75' Storage=1,177 cf Inflow=0.5 cfs 1,988 cf
Primary=0.0 cfs 1,988 cf Secondary=0.0 cfs 0 cf Outflow=0.0 cfs 1,988 cf

Total Runoff Area = 30,850 sf Runoff Volume = 1,988 cf Average Runoff Depth = 0.77"
32.87% Pervious = 10,140 sf 67.13% Impervious = 20,710 sf

Summary for Subcatchment 2S:

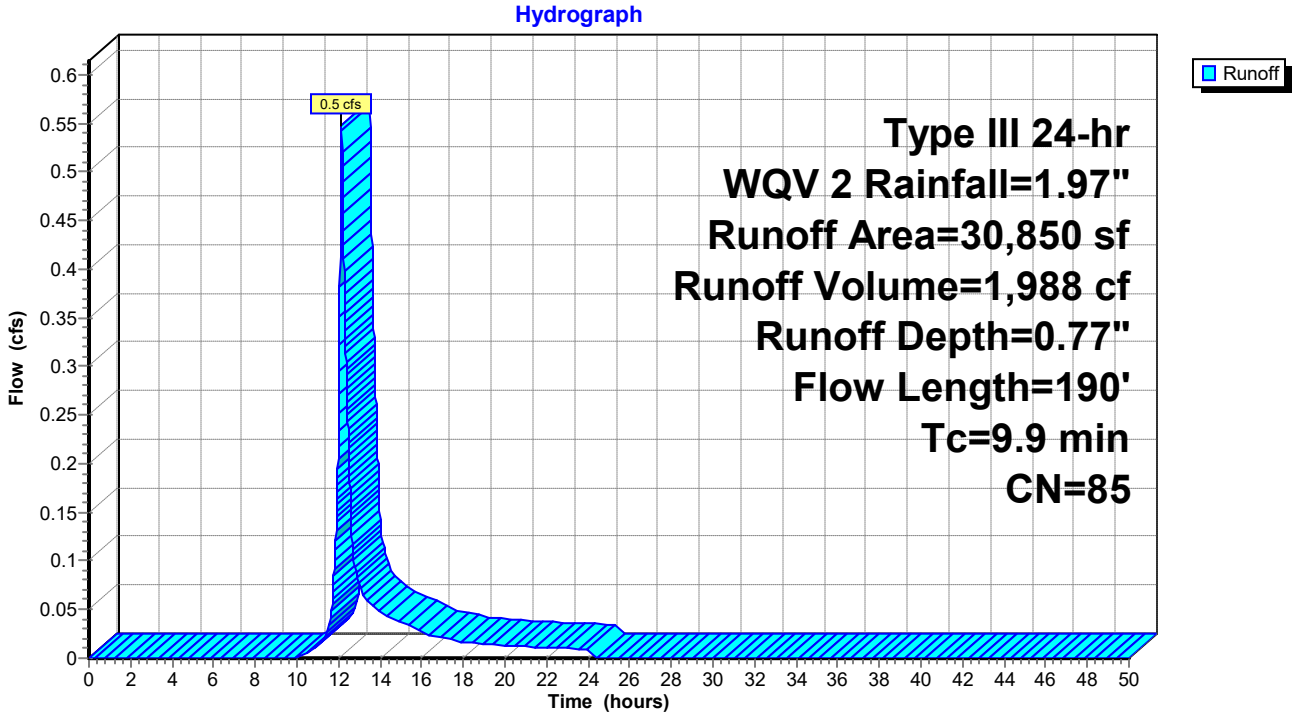
Runoff = 0.5 cfs @ 12.14 hrs, Volume= 1,988 cf, Depth= 0.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Type III 24-hr WQV 2 Rainfall=1.97"

	Area (sf)	CN	Description
*	20,710	98	Impervious
	5,015	80	>75% Grass cover, Good, HSG D
	5,125	39	>75% Grass cover, Good, HSG A
	30,850	85	Weighted Average
	10,140		32.87% Pervious Area
	20,710		67.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	116	0.0320	0.20		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.00"
0.4	68	0.0205	2.91		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.1	6	0.0166	1.93		**Shallow Concentrated Flow, C-D** Grassed Waterway Kv= 15.0 fps
9.9	190	Total			

Subcatchment 2S:



Summary for Pond 2P: UDSF-2

Inflow Area = 30,850 sf, 67.13% Impervious, Inflow Depth = 0.77" for WQV 2 event
Inflow = 0.5 cfs @ 12.14 hrs, Volume= 1,988 cf
Outflow = 0.0 cfs @ 16.85 hrs, Volume= 1,988 cf, Atten= 96%, Lag= 282.1 min
Primary = 0.0 cfs @ 16.85 hrs, Volume= 1,988 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 269.75' @ 16.85 hrs Surf.Area= 1,772 sf Storage= 1,177 cf

Plug-Flow detention time= 573.1 min calculated for 1,988 cf (100% of inflow)
Center-of-Mass det. time= 573.0 min (1,426.7 - 853.7)

Volume	Invert	Avail.Storage	Storage Description
#1	266.83'	12,802 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

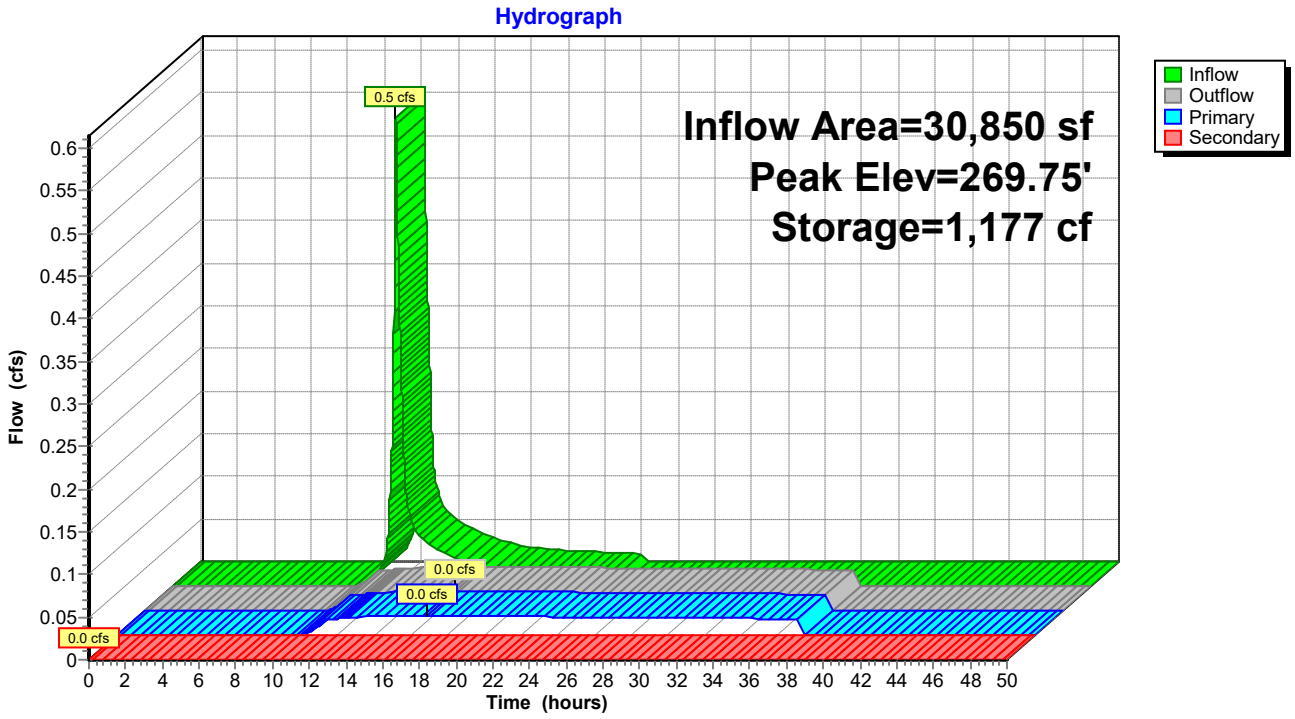
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
266.83	1,320	0.0	0	0
266.84	1,320	0.0	0	0
268.99	1,320	0.0	0	0
269.00	1,320	100.0	13	13
270.00	1,920	100.0	1,620	1,633
271.00	4,640	100.0	3,280	4,913
271.50	7,782	100.0	3,106	8,019
272.00	11,350	100.0	4,783	12,802

Device	Routing	Invert	Outlet Devices
#1	Primary	266.80'	**8.0" Round Stormdrain** L= 36.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 266.80' / 266.40' S= 0.0110 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	270.85'	**1.3" x 1.3" Horiz. Beehive Grate X 7.00 columns** X 7 rows C= 0.600 Limited to weir flow at low heads
#3	Device 1	266.80'	**0.7" Vert. Orifice** C= 0.600
#4	Device 3	266.80'	**4.0" Round Underdrain** L= 12.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 266.80' / 266.80' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf
#5	Secondary	271.00'	**20.0' long x 12.0' breadth Overflow Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=0.0 cfs @ 16.85 hrs HW=269.75' (Free Discharge)
└─**1=Stormdrain** (Passes 0.0 cfs of 2.5 cfs potential flow)
  └─**2=Beehive Grate** (Controls 0.0 cfs)
  └─**3=Orifice** (Orifice Controls 0.0 cfs @ 8.23 fps)
    └─**4=Underdrain** (Passes 0.0 cfs of 0.6 cfs potential flow)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=266.83' (Free Discharge)
└─**5=Overflow Spillway** (Controls 0.0 cfs)

Pond 2P: UDSF-2



TOP OF BERM = 273.25'

Summary for Pond 3P: UDSF-1

Inflow Area = 79,965 sf, 65.25% Impervious, Inflow Depth = 3.80" for 25-yr event
Inflow = 7.8 cfs @ 12.10 hrs, Volume= 25,346 cf
Outflow = 6.4 cfs @ 12.16 hrs, Volume= 17,918 cf, Atten= 19%, Lag= 3.7 min
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf
Secondary = 6.4 cfs @ 12.16 hrs, Volume= 17,918 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 272.25' @ 12.16 hrs Surf.Area= 5,193 sf Storage= 8,669 cf

Plug-Flow detention time= 155.4 min calculated for 17,914 cf (71% of inflow)
Center-of-Mass det. time= 62.6 min (873.8 - 811.2)

Volume	Invert	Avail.Storage	Storage Description
#1	267.83'	12,990 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
267.83	2,808	0.0	0	0
267.84	2,808	0.0	0	0
269.99	2,808	0.0	0	0
270.00	2,808	100.0	28	28
271.00	3,580	100.0	3,194	3,222
272.00	4,832	100.0	4,206	7,428
273.00	6,291	100.0	5,562	12,990

Device	Routing	Invert	Outlet Devices
#1	Primary	267.80'	**8.0" Round Stormdrain X 0.00** L= 162.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 267.80' / 266.50' S= 0.0080 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf
#2	Device 1	271.50'	**1.3" x 1.3" Horiz. Beehive Grate X 7.00 columns** X 7 rows C= 0.600 Limited to weir flow at low heads
#3	Device 1	267.80'	**1.1" Vert. Orifice** C= 0.600
#4	Device 3	267.80'	**4.0" Round Underdrain** L= 12.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 267.80' / 267.80' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf
#5	Secondary	272.00'	**20.0' long x 12.2' breadth Overflow Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=267.83' (Free Discharge)
└**1=Stormdrain** (Controls 0.0 cfs)
└**2=Beehive Grate** (Controls 0.0 cfs)
└**3=Orifice** (Passes 0.0 cfs of 0.0 cfs potential flow)
└**4=Underdrain** (Passes 0.0 cfs of 0.0 cfs potential flow)

Secondary OutFlow Max=6.4 cfs @ 12.16 hrs HW=272.25' (Free Discharge)
└**5=Overflow Spillway** (Weir Controls 6.4 cfs @ 1.28 fps)

TOP OF BERM = 273.25'

Summary for Pond 3P: UDSF-1

Inflow Area = 79,965 sf, 65.25% Impervious, Inflow Depth = 5.95" for 100-yr event
Inflow = 12.1 cfs @ 12.10 hrs, Volume= 39,681 cf
Outflow = 11.4 cfs @ 12.13 hrs, Volume= 32,253 cf, Atten= 5%, Lag= 1.8 min
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf
Secondary = 11.4 cfs @ 12.13 hrs, Volume= 32,253 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 272.36' @ 12.13 hrs Surf.Area= 5,362 sf Storage= 9,278 cf

Plug-Flow detention time= 118.5 min calculated for 32,253 cf (81% of inflow)
Center-of-Mass det. time= 45.6 min (844.2 - 798.6)

Volume	Invert	Avail.Storage	Storage Description
#1	267.83'	12,990 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
267.83	2,808	0.0	0	0
267.84	2,808	0.0	0	0
269.99	2,808	0.0	0	0
270.00	2,808	100.0	28	28
271.00	3,580	100.0	3,194	3,222
272.00	4,832	100.0	4,206	7,428
273.00	6,291	100.0	5,562	12,990

Device	Routing	Invert	Outlet Devices
#1	Primary	267.80'	**8.0" Round Stormdrain X 0.00** L= 162.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 267.80' / 266.50' S= 0.0080 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf
#2	Device 1	271.50'	**1.3" x 1.3" Horiz. Beehive Grate X 7.00 columns** X 7 rows C= 0.600 Limited to weir flow at low heads
#3	Device 1	267.80'	**1.1" Vert. Orifice** C= 0.600
#4	Device 3	267.80'	**4.0" Round Underdrain** L= 12.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 267.80' / 267.80' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf
#5	Secondary	272.00'	**20.0' long x 12.2' breadth Overflow Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=267.83' (Free Discharge)
└**1=Stormdrain** (Controls 0.0 cfs)
└**2=Beehive Grate** (Controls 0.0 cfs)
└**3=Orifice** (Passes 0.0 cfs of 0.0 cfs potential flow)
└**4=Underdrain** (Passes 0.0 cfs of 0.0 cfs potential flow)

Secondary OutFlow Max=11.4 cfs @ 12.13 hrs HW=272.36' (Free Discharge)
└**5=Overflow Spillway** (Weir Controls 11.4 cfs @ 1.57 fps)

TOP OF BERM = 272.10'

Summary for Pond 2P: UDSF-2

Inflow Area = 30,850 sf, 67.13% Impervious, Inflow Depth = 4.11" for 25-yr event
Inflow = 2.9 cfs @ 12.13 hrs, Volume= 10,577 cf
Outflow = 1.2 cfs @ 12.42 hrs, Volume= 5,664 cf, Atten= 59%, Lag= 17.2 min
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf
Secondary = 1.2 cfs @ 12.42 hrs, Volume= 5,664 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 271.08' @ 12.42 hrs Surf.Area= 5,148 sf Storage= 5,309 cf

Plug-Flow detention time= 219.0 min calculated for 5,663 cf (54% of inflow)
Center-of-Mass det. time= 109.6 min (915.1 - 805.5)

Volume	Invert	Avail.Storage	Storage Description
#1	266.83'	12,802 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
266.83	1,320	0.0	0	0
266.84	1,320	0.0	0	0
268.99	1,320	0.0	0	0
269.00	1,320	100.0	13	13
270.00	1,920	100.0	1,620	1,633
271.00	4,640	100.0	3,280	4,913
271.50	7,782	100.0	3,106	8,019
272.00	11,350	100.0	4,783	12,802

Device	Routing	Invert	Outlet Devices
#1	Primary	266.80'	**8.0" Round Stormdrain X 0.00** L= 36.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 266.80' / 266.40' S= 0.0110 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	270.85'	**1.3" x 1.3" Horiz. Beehive Grate X 7.00 columns** X 7 rows C= 0.600 Limited to weir flow at low heads
#3	Device 1	266.80'	**0.7" Vert. Orifice** C= 0.600
#4	Device 3	266.80'	**4.0" Round Underdrain** L= 12.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 266.80' / 266.80' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf
#5	Secondary	271.00'	**20.0' long x 12.0' breadth Overflow Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=266.83' (Free Discharge)
└─**1=Stormdrain** (Controls 0.0 cfs)
  └─**2=Beehive Grate** (Controls 0.0 cfs)
  └─**3=Orifice** (Passes 0.0 cfs of 0.0 cfs potential flow)
    └─**4=Underdrain** (Passes 0.0 cfs of 0.0 cfs potential flow)

Secondary OutFlow Max=1.2 cfs @ 12.42 hrs HW=271.08' (Free Discharge)
└─**5=Overflow Spillway** (Weir Controls 1.2 cfs @ 0.73 fps)

TOP OF BERM = 272.10'

Summary for Pond 2P: UDSF-2

Inflow Area = 30,850 sf, 67.13% Impervious, Inflow Depth = 6.31" for 100-yr event
Inflow = 4.4 cfs @ 12.13 hrs, Volume= 16,221 cf
Outflow = 3.8 cfs @ 12.19 hrs, Volume= 11,308 cf, Atten= 13%, Lag= 3.7 min
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf
Secondary = 3.8 cfs @ 12.19 hrs, Volume= 11,308 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 271.18' @ 12.19 hrs Surf.Area= 5,754 sf Storage= 5,834 cf

Plug-Flow detention time= 162.7 min calculated for 11,306 cf (70% of inflow)
Center-of-Mass det. time= 70.3 min (864.0 - 793.7)

Volume	Invert	Avail.Storage	Storage Description
#1	266.83'	12,802 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
266.83	1,320	0.0	0	0
266.84	1,320	0.0	0	0
268.99	1,320	0.0	0	0
269.00	1,320	100.0	13	13
270.00	1,920	100.0	1,620	1,633
271.00	4,640	100.0	3,280	4,913
271.50	7,782	100.0	3,106	8,019
272.00	11,350	100.0	4,783	12,802

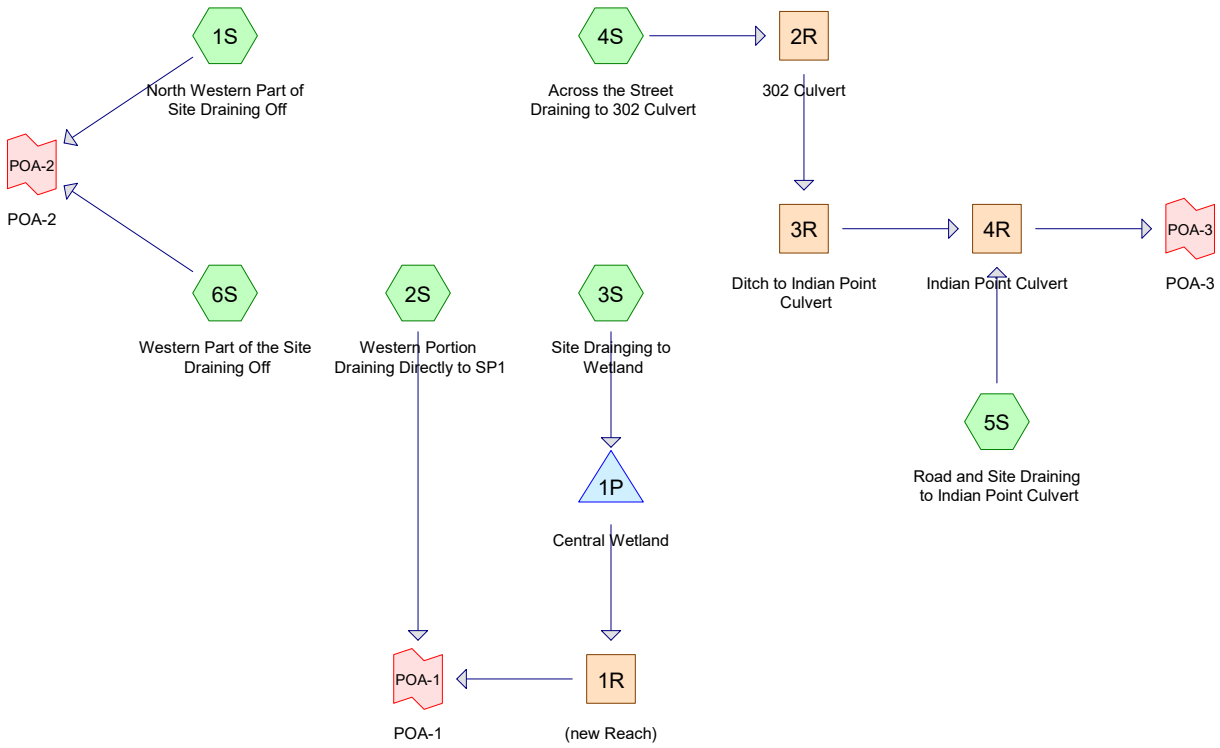
Device	Routing	Invert	Outlet Devices
#1	Primary	266.80'	**8.0" Round Stormdrain X 0.00** L= 36.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 266.80' / 266.40' S= 0.0110 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	270.85'	**1.3" x 1.3" Horiz. Beehive Grate X 7.00 columns** X 7 rows C= 0.600 Limited to weir flow at low heads
#3	Device 1	266.80'	**0.7" Vert. Orifice** C= 0.600
#4	Device 3	266.80'	**4.0" Round Underdrain** L= 12.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 266.80' / 266.80' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf
#5	Secondary	271.00'	**20.0' long x 12.0' breadth Overflow Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=266.83' (Free Discharge)
└─**1=Stormdrain** (Controls 0.0 cfs)
  ├─**2=Beehive Grate** (Controls 0.0 cfs)
  └─**3=Orifice** (Passes 0.0 cfs of 0.0 cfs potential flow)
    └─**4=Underdrain** (Passes 0.0 cfs of 0.0 cfs potential flow)

Secondary OutFlow Max=3.8 cfs @ 12.19 hrs HW=271.18' (Free Discharge)
└─**5=Overflow Spillway** (Weir Controls 3.8 cfs @ 1.08 fps)

Appendix 2A

Existing Conditions HydroCAD Summary



Subcat Reach Pond Link

Routing Diagram for 14265 Pre
Prepared by Sebago Technics, Inc., Printed 6/1/2023

Area Listing (selected nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
66,290	39	>75% Grass cover, Good, HSG A (1S, 2S, 3S, 4S)
1,410	61	>75% Grass cover, Good, HSG B (2S)
20,070	80	>75% Grass cover, Good, HSG D (2S, 3S, 4S, 5S)
9,065	30	Brush, Good, HSG A (2S)
8,890	73	Brush, Good, HSG D (2S)
18,410	98	Gravel Impervious Area (2S)
8,895	98	Impervious (1S, 3S)
3,655	98	Impervious Area (2S)
34,165	98	Impervious area (4S)
23,395	98	Pavement (5S)
89,010	30	Woods, Good, HSG A (2S, 3S, 4S)
31,640	55	Woods, Good, HSG B (2S)
109,990	77	Woods, Good, HSG D (2S, 3S, 5S, 6S)
424,885	**63**	**TOTAL AREA**

Summary for Subcatchment 1S: North Western Part of Site Draining Off

Runoff = 0.5 cfs @ 12.10 hrs, Volume= 1,555 cf, Depth= 1.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.80"

	Area (sf)	CN	Description
*	3,750	98	Impervious
	7,145	39	>75% Grass cover, Good, HSG A
	10,895	59	Weighted Average
	7,145		65.58% Pervious Area
	3,750		34.42% Impervious Area

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

Summary for Subcatchment 2S: Western Portion Draining Directly to SP1

Runoff = 6.2 cfs @ 12.12 hrs, Volume= 21,676 cf, Depth= 1.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.80"

	Area (sf)	CN	Description
*	3,655	98	Impervious Area
*	18,410	98	Gravel Impervious Area
	9,065	30	Brush, Good, HSG A
	19,510	30	Woods, Good, HSG A
	16,600	39	>75% Grass cover, Good, HSG A
	26,515	77	Woods, Good, HSG D
	8,890	73	Brush, Good, HSG D
	3,190	80	>75% Grass cover, Good, HSG D
	31,640	55	Woods, Good, HSG B
	1,410	61	>75% Grass cover, Good, HSG B
	138,885	61	Weighted Average
	116,820		84.11% Pervious Area
	22,065		15.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	64	0.0391	1.59		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.00"
0.4	54	0.0833	2.02		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
0.1	25	0.0600	4.97		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
1.4	148	0.0642	1.77		**Shallow Concentrated Flow, D-E** Short Grass Pasture Kv= 7.0 fps
0.4	86	0.0378	3.95		**Shallow Concentrated Flow, E-F** Paved Kv= 20.3 fps
4.7	190	0.0184	0.68		**Shallow Concentrated Flow, F-G** Woodland Kv= 5.0 fps
7.7	567	Total			

Summary for Subcatchment 3S: Site Drainging to Wetland

Runoff = 7.0 cfs @ 12.13 hrs, Volume= 24,046 cf, Depth= 2.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.80"

	Area (sf)	CN	Description
*	5,145	98	Impervious
	34,190	39	>75% Grass cover, Good, HSG A
	5,130	30	Woods, Good, HSG A
	7,365	80	>75% Grass cover, Good, HSG D
	74,005	77	Woods, Good, HSG D
	125,835	66	Weighted Average
	120,690		95.91% Pervious Area
	5,145		4.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	98	0.0816	0.29		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.00"
0.1	33	0.0758	5.59		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
1.0	108	0.0648	1.78		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps
1.7	100	0.0200	0.99		**Shallow Concentrated Flow, D-E** Short Grass Pasture Kv= 7.0 fps
8.5	339	Total			

Summary for Subcatchment 4S: Across the Street Draining to 302 Culvert

Runoff = 2.9 cfs @ 12.13 hrs, Volume= 11,482 cf, Depth= 1.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.80"

	Area (sf)	CN	Description
	8,355	39	>75% Grass cover, Good, HSG A
*	34,165	98	Impervious area
	64,370	30	Woods, Good, HSG A
	2,700	80	>75% Grass cover, Good, HSG D
	109,590	53	Weighted Average
	75,425		68.82% Pervious Area
	34,165		31.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	43	0.1860	0.15		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
0.2	96	0.1146	6.87		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.4	98	0.0510	4.58		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
0.2	51	0.0390	4.01		**Shallow Concentrated Flow, D-E** Paved Kv= 20.3 fps
2.8	383	0.0235	2.30		**Shallow Concentrated Flow, E-F** Grassed Waterway Kv= 15.0 fps
8.2	671	Total			

Summary for Subcatchment 5S: Road and Site Draining to Indian Point Culvert

Runoff = 4.1 cfs @ 12.12 hrs, Volume= 14,700 cf, Depth= 4.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.80"

	Area (sf)	CN	Description
	6,815	80	>75% Grass cover, Good, HSG D
*	23,395	98	Pavement
	7,715	77	Woods, Good, HSG D
	37,925	90	Weighted Average
	14,530		38.31% Pervious Area
	23,395		61.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	30	0.0420	1.41		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.00"
1.5	300	0.0267	3.32		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.1	24	0.2600	3.57		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps
6.9	271	0.0172	0.66		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
8.9	625	Total			

Summary for Subcatchment 6S: Western Part of the Site Draining Off

Runoff = 0.2 cfs @ 12.09 hrs, Volume= 483 cf, Depth= 3.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.80"

Area (sf)	CN	Description
1,755	77	Woods, Good, HSG D
1,755		100.00% Pervious Area

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

Summary for Reach 1R: (new Reach)

Inflow Area = 125,835 sf, 4.09% Impervious, Inflow Depth = 2.11" for 25-YR event
Inflow = 6.3 cfs @ 12.17 hrs, Volume= 22,174 cf
Outflow = 5.5 cfs @ 12.34 hrs, Volume= 22,174 cf, Atten= 13%, Lag= 10.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.69 fps, Min. Travel Time= 5.7 min
Avg. Velocity = 0.19 fps, Avg. Travel Time= 20.1 min

Peak Storage= 1,859 cf @ 12.25 hrs
Average Depth at Peak Storage= 0.25'
Bank-Full Depth= 0.50' Flow Area= 22.5 sf, Capacity= 22.9 cfs

20.00' x 0.50' deep channel, n= 0.080 Earth, long dense weeds
Side Slope Z-value= 50.0 '/' Top Width= 70.00'
Length= 234.0' Slope= 0.0137 '/'
Inlet Invert= 268.20', Outlet Invert= 265.00'

‡

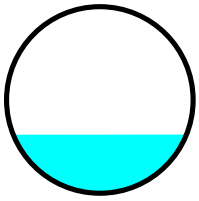
Summary for Reach 2R: 302 Culvert

Inflow Area = 109,590 sf, 31.18% Impervious, Inflow Depth = 1.26" for 25-YR event
Inflow = 2.9 cfs @ 12.13 hrs, Volume= 11,482 cf
Outflow = 2.9 cfs @ 12.14 hrs, Volume= 11,482 cf, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Max. Velocity= 5.99 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.59 fps, Avg. Travel Time= 0.5 min

Peak Storage= 34 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.47'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 13.3 cfs

18.0" Round Pipe
n= 0.025 Corrugated metal
Length= 71.0' Slope= 0.0592 '/'
Inlet Invert= 274.75', Outlet Invert= 270.55'



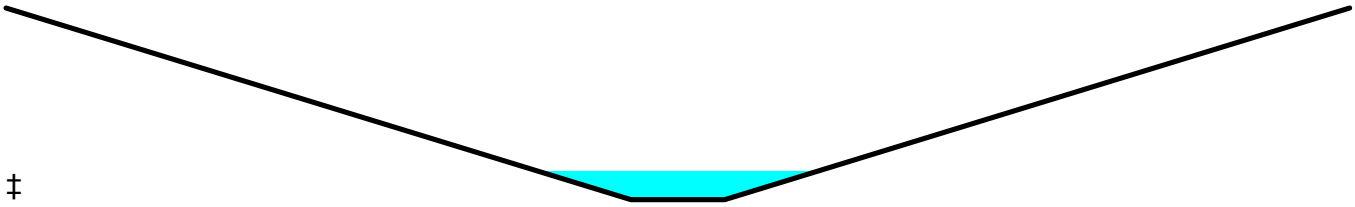
Summary for Reach 3R: Ditch to Indian Point Culvert

Inflow Area = 109,590 sf, 31.18% Impervious, Inflow Depth = 1.26" for 25-YR event
Inflow = 2.9 cfs @ 12.14 hrs, Volume= 11,482 cf
Outflow = 2.7 cfs @ 12.21 hrs, Volume= 11,482 cf, Atten= 4%, Lag= 4.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.52 fps, Min. Travel Time= 2.2 min
Avg. Velocity = 0.64 fps, Avg. Travel Time= 5.2 min

Peak Storage= 364 cf @ 12.17 hrs
Average Depth at Peak Storage= 0.30'
Bank-Full Depth= 2.00' Flow Area= 46.0 sf, Capacity= 213.5 cfs

3.00' x 2.00' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 10.0 '/' Top Width= 43.00'
Length= 202.0' Slope= 0.0110 '/'
Inlet Invert= 270.55', Outlet Invert= 268.33'



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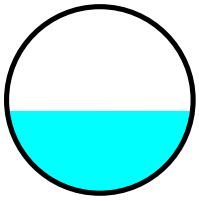
Summary for Reach 4R: Indian Point Culvert

Inflow Area = 147,515 sf, 39.02% Impervious, Inflow Depth = 2.13" for 25-YR event
Inflow = 6.2 cfs @ 12.16 hrs, Volume= 26,182 cf
Outflow = 6.2 cfs @ 12.16 hrs, Volume= 26,182 cf, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Max. Velocity= 8.28 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.89 fps, Avg. Travel Time= 0.3 min

Peak Storage= 45 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.66'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 15.5 cfs

18.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 60.1' Slope= 0.0185 '/'
Inlet Invert= 268.33', Outlet Invert= 267.22'



Summary for Pond 1P: Central Wetland

Inflow Area = 125,835 sf, 4.09% Impervious, Inflow Depth = 2.29" for 25-YR event
Inflow = 7.0 cfs @ 12.13 hrs, Volume= 24,046 cf
Outflow = 6.3 cfs @ 12.17 hrs, Volume= 22,174 cf, Atten= 9%, Lag= 2.8 min
Primary = 6.3 cfs @ 12.17 hrs, Volume= 22,174 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Peak Elev= 268.29' @ 12.17 hrs Surf.Area= 18,039 sf Storage= 3,309 cf

Plug-Flow detention time= 59.9 min calculated for 22,174 cf (92% of inflow)
Center-of-Mass det. time= 20.3 min (872.2 - 851.9)

Volume	Invert	Avail.Storage	Storage Description
#1	268.00'	27,643 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
268.00	4,785	0	0
269.00	50,500	27,643	27,643

Device	Routing	Invert	Outlet Devices
#1	Primary	268.20'	**100.0' long x 5.0' 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) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=6.3 cfs @ 12.17 hrs HW=268.29' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 6.3 cfs @ 0.70 fps)

Summary for Link POA-1: POA-1

Inflow Area = 264,720 sf, 10.28% Impervious, Inflow Depth = 1.99" for 25-YR event
Inflow = 8.8 cfs @ 12.31 hrs, Volume= 43,851 cf
Primary = 8.8 cfs @ 12.31 hrs, Volume= 43,851 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs

Summary for Link POA-2: POA-2

Inflow Area = 12,650 sf, 29.64% Impervious, Inflow Depth = 1.93" for 25-YR event
Inflow = 0.6 cfs @ 12.10 hrs, Volume= 2,038 cf
Primary = 0.6 cfs @ 12.10 hrs, Volume= 2,038 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs

Summary for Link POA-3: POA-3

Inflow Area = 147,515 sf, 39.02% Impervious, Inflow Depth = 2.13" for 25-YR event
Inflow = 6.2 cfs @ 12.16 hrs, Volume= 26,182 cf
Primary = 6.2 cfs @ 12.16 hrs, Volume= 26,182 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs

Time span=0.00-50.00 hrs, dt=0.01 hrs, 5001 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 1S: North Western Part of Runoff Area=10,895 sf 34.42% Impervious Runoff Depth=0.34"
Tc=6.0 min CN=59 Runoff=0.0 cfs 307 cf

Subcatchment 2S: Western Portion Runoff Area=138,885 sf 15.89% Impervious Runoff Depth=0.40"
Flow Length=567' Tc=7.7 min CN=61 Runoff=0.8 cfs 4,674 cf

Subcatchment 3S: Site Drainging to Runoff Area=125,835 sf 4.09% Impervious Runoff Depth=0.59"
Flow Length=339' Tc=8.5 min CN=66 Runoff=1.4 cfs 6,220 cf

Subcatchment 4S: Across the Street Runoff Area=109,590 sf 31.18% Impervious Runoff Depth=0.17"
Flow Length=671' Tc=8.2 min CN=53 Runoff=0.1 cfs 1,576 cf

Subcatchment 5S: Road and Site Draining Runoff Area=37,925 sf 61.69% Impervious Runoff Depth=2.08"
Flow Length=625' Tc=8.9 min CN=90 Runoff=1.9 cfs 6,562 cf

Subcatchment 6S: Western Part of the Site Runoff Area=1,755 sf 0.00% Impervious Runoff Depth=1.14"
Tc=6.0 min CN=77 Runoff=0.1 cfs 167 cf

Reach 1R: (new Reach) Avg. Flow Depth=0.05' Max Vel=0.27 fps Inflow=0.4 cfs 4,349 cf
n=0.080 L=234.0' S=0.0137 '/' Capacity=22.9 cfs Outflow=0.3 cfs 4,349 cf

Reach 2R: 302 Culvert Avg. Flow Depth=0.10' Max Vel=2.40 fps Inflow=0.1 cfs 1,576 cf
18.0" Round Pipe n=0.025 L=71.0' S=0.0592 '/' Capacity=13.3 cfs Outflow=0.1 cfs 1,576 cf

Reach 3R: Ditch to Indian Point Culvert Avg. Flow Depth=0.06' Max Vel=0.60 fps Inflow=0.1 cfs 1,576 cf
n=0.035 L=202.0' S=0.0110 '/' Capacity=213.5 cfs Outflow=0.1 cfs 1,576 cf

Reach 4R: Indian Point Culvert Avg. Flow Depth=0.36' Max Vel=5.94 fps Inflow=1.9 cfs 8,138 cf
18.0" Round Pipe n=0.012 L=60.1' S=0.0185 '/' Capacity=15.5 cfs Outflow=1.9 cfs 8,138 cf

Pond 1P: Central Wetland Peak Elev=268.21' Storage=2,057 cf Inflow=1.4 cfs 6,220 cf
Outflow=0.4 cfs 4,349 cf

Link POA-1: POA-1 Inflow=0.8 cfs 9,023 cf
Primary=0.8 cfs 9,023 cf

Link POA-2: POA-2 Inflow=0.1 cfs 474 cf
Primary=0.1 cfs 474 cf

Link POA-3: POA-3 Inflow=1.9 cfs 8,138 cf
Primary=1.9 cfs 8,138 cf

Total Runoff Area = 424,885 sf Runoff Volume = 19,505 cf Average Runoff Depth = 0.55"
79.17% Pervious = 336,365 sf 20.83% Impervious = 88,520 sf

Time span=0.00-50.00 hrs, dt=0.01 hrs, 5001 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 1S: North Western Part of Runoff Area=10,895 sf 34.42% Impervious Runoff Depth=1.01"
Tc=6.0 min CN=59 Runoff=0.3 cfs 921 cf

Subcatchment 2S: Western Portion Runoff Area=138,885 sf 15.89% Impervious Runoff Depth=1.14"
Flow Length=567' Tc=7.7 min CN=61 Runoff=3.5 cfs 13,142 cf

Subcatchment 3S: Site Drainging to Runoff Area=125,835 sf 4.09% Impervious Runoff Depth=1.46"
Flow Length=339' Tc=8.5 min CN=66 Runoff=4.3 cfs 15,322 cf

Subcatchment 4S: Across the Street Runoff Area=109,590 sf 31.18% Impervious Runoff Depth=0.68"
Flow Length=671' Tc=8.2 min CN=53 Runoff=1.2 cfs 6,239 cf

Subcatchment 5S: Road and Site Draining Runoff Area=37,925 sf 61.69% Impervious Runoff Depth=3.49"
Flow Length=625' Tc=8.9 min CN=90 Runoff=3.1 cfs 11,035 cf

Subcatchment 6S: Western Part of the Site Runoff Area=1,755 sf 0.00% Impervious Runoff Depth=2.29"
Tc=6.0 min CN=77 Runoff=0.1 cfs 335 cf

Reach 1R: (new Reach) Avg. Flow Depth=0.17' Max Vel=0.56 fps Inflow=3.4 cfs 13,450 cf
n=0.080 L=234.0' S=0.0137 '/' Capacity=22.9 cfs Outflow=2.7 cfs 13,450 cf

Reach 2R: 302 Culvert Avg. Flow Depth=0.31' Max Vel=4.70 fps Inflow=1.2 cfs 6,239 cf
18.0" Round Pipe n=0.025 L=71.0' S=0.0592 '/' Capacity=13.3 cfs Outflow=1.2 cfs 6,239 cf

Reach 3R: Ditch to Indian Point Culvert Avg. Flow Depth=0.19' Max Vel=1.20 fps Inflow=1.2 cfs 6,239 cf
n=0.035 L=202.0' S=0.0110 '/' Capacity=213.5 cfs Outflow=1.2 cfs 6,239 cf

Reach 4R: Indian Point Culvert Avg. Flow Depth=0.49' Max Vel=7.14 fps Inflow=3.6 cfs 17,273 cf
18.0" Round Pipe n=0.012 L=60.1' S=0.0185 '/' Capacity=15.5 cfs Outflow=3.6 cfs 17,273 cf

Pond 1P: Central Wetland Peak Elev=268.26' Storage=2,781 cf Inflow=4.3 cfs 15,322 cf
Outflow=3.4 cfs 13,450 cf

Link POA-1: POA-1 Inflow=4.3 cfs 26,592 cf
Primary=4.3 cfs 26,592 cf

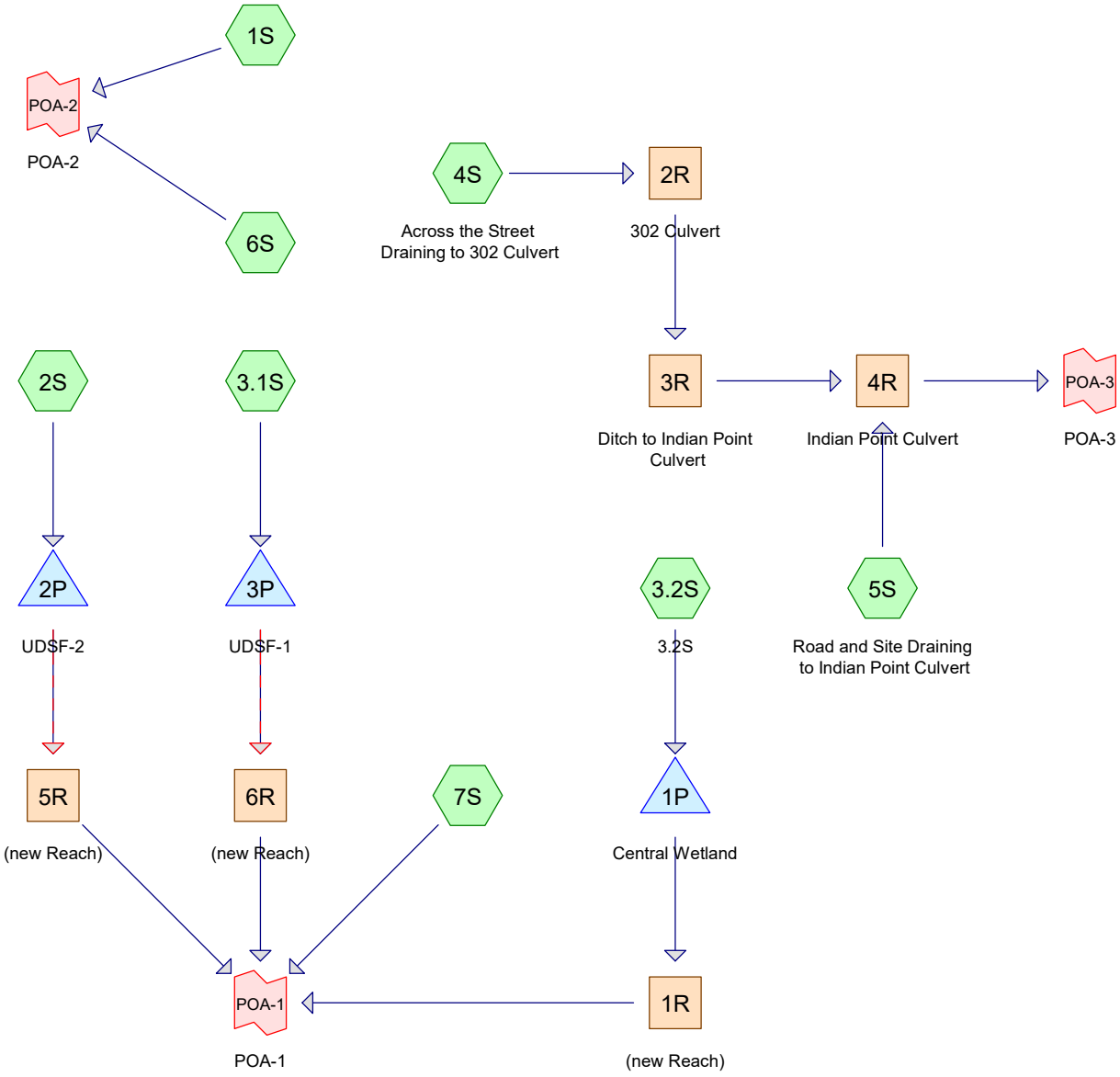
Link POA-2: POA-2 Inflow=0.4 cfs 1,256 cf
Primary=0.4 cfs 1,256 cf

Link POA-3: POA-3 Inflow=3.6 cfs 17,273 cf
Primary=3.6 cfs 17,273 cf

Total Runoff Area = 424,885 sf Runoff Volume = 46,993 cf Average Runoff Depth = 1.33"
79.17% Pervious = 336,365 sf 20.83% Impervious = 88,520 sf

Appendix 2B

Proposed Conditions
HydroCAD Summary



Subcat Reach Pond Link

Routing Diagram for 14265 Post
Prepared by Sebago Technics, Inc., Printed 6/12/2023

Area Listing (selected nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
43,765	39	>75% Grass cover, Good, HSG A (1S, 2S, 3.1S, 3.2S, 4S, 7S)
1,365	61	>75% Grass cover, Good, HSG B (7S)
31,455	80	>75% Grass cover, Good, HSG D (1S, 2S, 3.1S, 3.2S, 4S, 5S, 6S)
9,180	30	Brush, Good, HSG A (7S)
19,370	73	Brush, Good, HSG D (3.2S, 7S)
190	98	Existing Impervious (3.1S)
2,040	98	Existing Pavement (1S)
72,700	98	Impervious (2S, 3.1S)
34,170	98	Impervious area (4S)
210	98	Offsite Building (3.2S, 7S)
23,975	98	Pavement (5S)
555	98	Proposed Pavement (1S)
1,300	98	Retaining Wall (3.2S)
91,020	30	Woods, Good, HSG A (3.2S, 4S, 7S)
31,435	55	Woods, Good, HSG B (7S)
62,155	77	Woods, Good, HSG D (3.2S, 5S, 6S, 7S)
424,885	**67**	**TOTAL AREA**

Summary for Subcatchment 1S:

Runoff = 0.3 cfs @ 12.10 hrs, Volume= 1,173 cf, Depth= 1.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.80"

	Area (sf)	CN	Description
*	2,040	98	Existing Pavement
*	555	98	Proposed Pavement
	305	80	>75% Grass cover, Good, HSG D
	5,715	39	>75% Grass cover, Good, HSG A
	8,615	58	Weighted Average
	6,020		69.88% Pervious Area
	2,595		30.12% Impervious Area

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

Summary for Subcatchment 2S:

Runoff = 2.9 cfs @ 12.13 hrs, Volume= 10,577 cf, Depth= 4.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.80"

	Area (sf)	CN	Description
*	20,710	98	Impervious
	5,015	80	>75% Grass cover, Good, HSG D
	5,125	39	>75% Grass cover, Good, HSG A
	30,850	85	Weighted Average
	10,140		32.87% Pervious Area
	20,710		67.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	116	0.0320	0.20		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.00"
0.4	68	0.0205	2.91		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.1	6	0.0166	1.93		**Shallow Concentrated Flow, C-D** Grassed Waterway Kv= 15.0 fps
9.9	190	Total			

Summary for Subcatchment 3.1S:

Runoff = 7.8 cfs @ 12.10 hrs, Volume= 25,346 cf, Depth= 3.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.80"

	Area (sf)	CN	Description
*	51,990	98	Impervious
	9,410	80	>75% Grass cover, Good, HSG D
	18,375	39	>75% Grass cover, Good, HSG A
*	190	98	Existing Impervious
	79,965	82	Weighted Average
	27,785		34.75% Pervious Area
	52,180		65.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	110	0.0700	0.28		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.00"
0.2	25	0.0296	2.58		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
0.2	25	0.0180	2.72		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
7.0	160	Total			

Summary for Subcatchment 3.2S: 3.2S

Runoff = 1.9 cfs @ 12.38 hrs, Volume= 9,741 cf, Depth= 2.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.80"

	Area (sf)	CN	Description
	28,585	77	Woods, Good, HSG D
	3,590	73	Brush, Good, HSG D
	3,695	80	>75% Grass cover, Good, HSG D
	1,085	39	>75% Grass cover, Good, HSG A
	7,405	30	Woods, Good, HSG A
*	1,300	98	Retaining Wall
*	50	98	Offsite Building
	45,710	69	Weighted Average
	44,360		97.05% Pervious Area
	1,350		2.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.4	50	0.0080	0.05		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
2.8	75	0.0080	0.45		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
4.3	115	0.0080	0.45		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
25.5	240	Total			

Summary for Subcatchment 4S: Across the Street Draining to 302 Culvert

Runoff = 2.9 cfs @ 12.13 hrs, Volume= 11,482 cf, Depth= 1.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.80"

	Area (sf)	CN	Description
	8,355	39	>75% Grass cover, Good, HSG A
*	34,170	98	Impervious area
	64,370	30	Woods, Good, HSG A
	2,690	80	>75% Grass cover, Good, HSG D
	109,585	53	Weighted Average
	75,415		68.82% Pervious Area
	34,170		31.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	43	0.1860	0.15		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
0.2	96	0.1146	6.87		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.4	98	0.0510	4.58		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
0.2	51	0.0390	4.01		**Shallow Concentrated Flow, D-E** Paved Kv= 20.3 fps
2.8	383	0.0235	2.30		**Shallow Concentrated Flow, E-F** Grassed Waterway Kv= 15.0 fps
8.2	671	Total			

Summary for Subcatchment 5S: Road and Site Draining to Indian Point Culvert

Runoff = 4.4 cfs @ 12.12 hrs, Volume= 15,812 cf, Depth= 4.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.80"

	Area (sf)	CN	Description
	6,820	80	>75% Grass cover, Good, HSG D
*	23,975	98	Pavement
	7,715	77	Woods, Good, HSG D
	2,285	80	>75% Grass cover, Good, HSG D
	40,795	90	Weighted Average
	16,820		41.23% Pervious Area
	23,975		58.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	30	0.0500	1.51		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.00"
1.7	335	0.0267	3.32		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
0.1	28	0.2600	3.57		**Shallow Concentrated Flow, C-D** Short Grass Pasture Kv= 7.0 fps
6.9	271	0.0172	0.66		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
9.0	664	Total			

Summary for Subcatchment 6S:

Runoff = 0.3 cfs @ 12.09 hrs, Volume= 848 cf, Depth= 3.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.80"

Area (sf)	CN	Description
1,235	80	>75% Grass cover, Good, HSG D
1,755	77	Woods, Good, HSG D
2,990	78	Weighted Average
2,990		100.00% Pervious Area

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

Summary for Subcatchment 7S:

Runoff = 2.3 cfs @ 12.33 hrs, Volume= 12,448 cf, Depth= 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.80"

	Area (sf)	CN	Description
	24,100	77	Woods, Good, HSG D
	15,780	73	Brush, Good, HSG D
	5,110	39	>75% Grass cover, Good, HSG A
	19,245	30	Woods, Good, HSG A
	9,180	30	Brush, Good, HSG A
	31,435	55	Woods, Good, HSG B
	1,365	61	>75% Grass cover, Good, HSG B
*	160	98	Offsite Building
	106,375	55	Weighted Average
	106,215		99.85% Pervious Area
	160		0.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	21	0.0238	0.09		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.00"
6.4	45	0.0888	0.12		**Sheet Flow, B-C** Woods: Light underbrush n= 0.400 P2= 3.00"
11.0	320	0.0094	0.48		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
21.3	386	Total			

Summary for Reach 1R: (new Reach)

Inflow Area = 45,710 sf, 2.95% Impervious, Inflow Depth = 2.23" for 25-yr event
Inflow = 1.9 cfs @ 12.41 hrs, Volume= 8,511 cf
Outflow = 1.6 cfs @ 12.68 hrs, Volume= 8,511 cf, Atten= 12%, Lag= 16.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.48 fps, Min. Travel Time= 8.1 min
Avg. Velocity = 0.15 fps, Avg. Travel Time= 26.5 min

Peak Storage= 799 cf @ 12.55 hrs
Average Depth at Peak Storage= 0.13'
Bank-Full Depth= 0.50' Flow Area= 22.5 sf, Capacity= 22.9 cfs

20.00' x 0.50' deep channel, n= 0.080 Earth, long dense weeds
Side Slope Z-value= 50.0 '/' Top Width= 70.00'
Length= 234.0' Slope= 0.0137 '/'
Inlet Invert= 268.20', Outlet Invert= 265.00'

‡

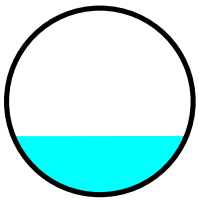
Summary for Reach 2R: 302 Culvert

Inflow Area = 109,585 sf, 31.18% Impervious, Inflow Depth = 1.26" for 25-yr event
Inflow = 2.9 cfs @ 12.13 hrs, Volume= 11,482 cf
Outflow = 2.9 cfs @ 12.14 hrs, Volume= 11,482 cf, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Max. Velocity= 5.99 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.59 fps, Avg. Travel Time= 0.5 min

Peak Storage= 34 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.47'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 13.3 cfs

18.0" Round Pipe
n= 0.025 Corrugated metal
Length= 71.0' Slope= 0.0592 '/'
Inlet Invert= 274.75', Outlet Invert= 270.55'



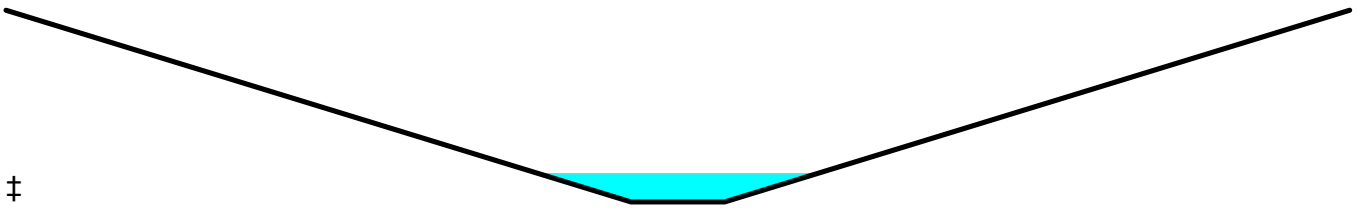
Summary for Reach 3R: Ditch to Indian Point Culvert

Inflow Area = 109,585 sf, 31.18% Impervious, Inflow Depth = 1.26" for 25-yr event
Inflow = 2.9 cfs @ 12.14 hrs, Volume= 11,482 cf
Outflow = 2.7 cfs @ 12.21 hrs, Volume= 11,482 cf, Atten= 4%, Lag= 4.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.52 fps, Min. Travel Time= 2.2 min
Avg. Velocity = 0.64 fps, Avg. Travel Time= 5.2 min

Peak Storage= 364 cf @ 12.17 hrs
Average Depth at Peak Storage= 0.30'
Bank-Full Depth= 2.00' Flow Area= 46.0 sf, Capacity= 213.5 cfs

3.00' x 2.00' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 10.0 '/' Top Width= 43.00'
Length= 202.0' Slope= 0.0110 '/'
Inlet Invert= 270.55', Outlet Invert= 268.33'



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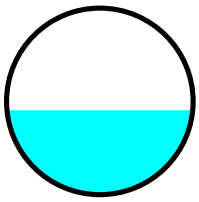
Summary for Reach 4R: Indian Point Culvert

Inflow Area = 150,380 sf, 38.67% Impervious, Inflow Depth = 2.18" for 25-yr event
Inflow = 6.5 cfs @ 12.16 hrs, Volume= 27,294 cf
Outflow = 6.5 cfs @ 12.16 hrs, Volume= 27,294 cf, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Max. Velocity= 8.38 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.93 fps, Avg. Travel Time= 0.3 min

Peak Storage= 47 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.68'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 15.5 cfs

18.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 60.1' Slope= 0.0185 '/'
Inlet Invert= 268.33', Outlet Invert= 267.22'



Summary for Reach 5R: (new Reach)

Inflow Area = 30,850 sf, 67.13% Impervious, Inflow Depth > 3.36" for 25-yr event
Inflow = 1.0 cfs @ 12.47 hrs, Volume= 8,627 cf
Outflow = 1.0 cfs @ 12.55 hrs, Volume= 8,610 cf, Atten= 1%, Lag= 4.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.50 fps, Min. Travel Time= 2.6 min
Avg. Velocity = 0.17 fps, Avg. Travel Time= 7.7 min

Peak Storage= 160 cf @ 12.51 hrs
Average Depth at Peak Storage= 0.13'
Bank-Full Depth= 0.50' Flow Area= 17.5 sf, Capacity= 19.2 cfs

10.00' x 0.50' deep channel, n= 0.080 Earth, long dense weeds
Side Slope Z-value= 50.0 '/' Top Width= 60.00'
Length= 78.0' Slope= 0.0179 '/'
Inlet Invert= 266.40', Outlet Invert= 265.00'

‡

Summary for Reach 6R: (new Reach)

Inflow Area = 79,965 sf, 65.25% Impervious, Inflow Depth > 3.79" for 25-yr event
Inflow = 5.2 cfs @ 12.20 hrs, Volume= 25,230 cf
Outflow = 4.8 cfs @ 12.31 hrs, Volume= 25,184 cf, Atten= 9%, Lag= 6.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.58 fps, Min. Travel Time= 3.3 min
Avg. Velocity = 0.18 fps, Avg. Travel Time= 10.7 min

Peak Storage= 948 cf @ 12.25 hrs
Average Depth at Peak Storage= 0.32'
Bank-Full Depth= 0.50' Flow Area= 17.5 sf, Capacity= 13.3 cfs

10.00' x 0.50' deep channel, n= 0.080 Earth, long dense weeds
Side Slope Z-value= 50.0 '/' Top Width= 60.00'
Length= 116.0' Slope= 0.0086 '/'
Inlet Invert= 266.00', Outlet Invert= 265.00'

‡

Summary for Pond 1P: Central Wetland

Inflow Area = 45,710 sf, 2.95% Impervious, Inflow Depth = 2.56" for 25-yr event
Inflow = 1.9 cfs @ 12.38 hrs, Volume= 9,741 cf
Outflow = 1.9 cfs @ 12.41 hrs, Volume= 8,511 cf, Atten= 2%, Lag= 2.3 min
Primary = 1.9 cfs @ 12.41 hrs, Volume= 8,511 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Peak Elev= 268.24' @ 12.41 hrs Surf.Area= 9,833 sf Storage= 1,600 cf

Plug-Flow detention time= 86.0 min calculated for 8,511 cf (87% of inflow)
Center-of-Mass det. time= 27.6 min (888.0 - 860.4)

Volume	Invert	Avail.Storage	Storage Description
#1	268.00'	16,693 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
268.00	3,516	0	0
269.00	29,870	16,693	16,693

Device	Routing	Invert	Outlet Devices
#1	Primary	268.20'	**100.0' long x 5.0' 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) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65
2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=1.8 cfs @ 12.41 hrs HW=268.24' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 1.8 cfs @ 0.47 fps)

Summary for Pond 2P: UDSF-2

Inflow Area = 30,850 sf, 67.13% Impervious, Inflow Depth = 4.11" for 25-yr event
Inflow = 2.9 cfs @ 12.13 hrs, Volume= 10,577 cf
Outflow = 1.0 cfs @ 12.47 hrs, Volume= 8,627 cf, Atten= 65%, Lag= 20.2 min
Primary = 1.0 cfs @ 12.47 hrs, Volume= 8,627 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 270.98' @ 12.47 hrs Surf.Area= 4,595 sf Storage= 4,837 cf

Plug-Flow detention time= 505.3 min calculated for 8,627 cf (82% of inflow)
Center-of-Mass det. time= 432.8 min (1,238.3 - 805.5)

Volume	Invert	Avail.Storage	Storage Description
#1	266.83'	12,802 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
266.83	1,320	0.0	0	0
266.84	1,320	0.0	0	0
268.99	1,320	0.0	0	0
269.00	1,320	100.0	13	13
270.00	1,920	100.0	1,620	1,633
271.00	4,640	100.0	3,280	4,913
271.50	7,782	100.0	3,106	8,019
272.00	11,350	100.0	4,783	12,802

Device	Routing	Invert	Outlet Devices
#1	Primary	266.80'	**8.0" Round Stormdrain** L= 36.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 266.80' / 266.40' S= 0.0110 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	270.85'	**1.3" x 1.3" Horiz. Beehive Grate X 7.00 columns** X 7 rows C= 0.600 Limited to weir flow at low heads
#3	Device 1	266.80'	**0.7" Vert. Orifice** C= 0.600
#4	Device 3	266.80'	**4.0" Round Underdrain** L= 12.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 266.80' / 266.80' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf
#5	Secondary	271.00'	**20.0' long x 12.0' breadth Overflow Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=1.0 cfs @ 12.47 hrs HW=270.98' (Free Discharge)
└**1=Stormdrain** (Passes 1.0 cfs of 3.0 cfs potential flow)
  ├**2=Beehive Grate** (Orifice Controls 1.0 cfs @ 1.76 fps)
  └**3=Orifice** (Orifice Controls 0.0 cfs @ 9.81 fps)
    └**4=Underdrain** (Passes 0.0 cfs of 0.8 cfs potential flow)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=266.83' (Free Discharge)
└**5=Overflow Spillway** (Controls 0.0 cfs)

Summary for Pond 3P: UDSF-1

Inflow Area = 79,965 sf, 65.25% Impervious, Inflow Depth = 3.80" for 25-yr event
Inflow = 7.8 cfs @ 12.10 hrs, Volume= 25,346 cf
Outflow = 5.2 cfs @ 12.20 hrs, Volume= 25,230 cf, Atten= 33%, Lag= 5.8 min
Primary = 2.1 cfs @ 12.20 hrs, Volume= 22,666 cf
Secondary = 3.2 cfs @ 12.20 hrs, Volume= 2,564 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 272.15' @ 12.20 hrs Surf.Area= 5,058 sf Storage= 8,193 cf

Plug-Flow detention time= 313.6 min calculated for 25,225 cf (100% of inflow)
Center-of-Mass det. time= 311.0 min (1,122.2 - 811.2)

Volume	Invert	Avail.Storage	Storage Description
#1	267.83'	12,990 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
267.83	2,808	0.0	0	0
267.84	2,808	0.0	0	0
269.99	2,808	0.0	0	0
270.00	2,808	100.0	28	28
271.00	3,580	100.0	3,194	3,222
272.00	4,832	100.0	4,206	7,428
273.00	6,291	100.0	5,562	12,990

Device	Routing	Invert	Outlet Devices
#1	Primary	267.80'	**8.0" Round Stormdrain** L= 162.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 267.80' / 266.50' S= 0.0080 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf
#2	Device 1	271.50'	**1.3" x 1.3" Horiz. Beehive Grate X 7.00 columns** X 7 rows C= 0.600 Limited to weir flow at low heads
#3	Device 1	267.80'	**1.1" Vert. Orifice** C= 0.600
#4	Device 3	267.80'	**4.0" Round Underdrain** L= 12.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 267.80' / 267.80' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf
#5	Secondary	272.00'	**20.0' long x 12.2' breadth Overflow Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60

Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=2.1 cfs @ 12.20 hrs HW=272.15' (Free Discharge)
└─**1=Stormdrain** (Barrel Controls 2.1 cfs @ 5.99 fps)
  ├─**2=Beehive Grate** (Passes < 2.2 cfs potential flow)
  └─**3=Orifice** (Passes < 0.1 cfs potential flow)
    └─**4=Underdrain** (Passes < 0.8 cfs potential flow)

Secondary OutFlow Max=3.1 cfs @ 12.20 hrs HW=272.15' (Free Discharge)
└─**5=Overflow Spillway** (Weir Controls 3.1 cfs @ 1.01 fps)

Summary for Link POA-1: POA-1

Inflow Area = 262,900 sf, 28.30% Impervious, Inflow Depth > 2.50" for 25-yr event
Inflow = 7.4 cfs @ 12.36 hrs, Volume= 54,753 cf
Primary = 7.4 cfs @ 12.36 hrs, Volume= 54,753 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs

Summary for Link POA-2: POA-2

Inflow Area = 11,605 sf, 22.36% Impervious, Inflow Depth = 2.09" for 25-yr event
Inflow = 0.6 cfs @ 12.09 hrs, Volume= 2,021 cf
Primary = 0.6 cfs @ 12.09 hrs, Volume= 2,021 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs

Summary for Link POA-3: POA-3

Inflow Area = 150,380 sf, 38.67% Impervious, Inflow Depth = 2.18" for 25-yr event
Inflow = 6.5 cfs @ 12.16 hrs, Volume= 27,294 cf
Primary = 6.5 cfs @ 12.16 hrs, Volume= 27,294 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs

Time span=0.00-50.00 hrs, dt=0.01 hrs, 5001 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 1S: Runoff Area=8,615 sf 30.12% Impervious Runoff Depth=0.31"
Tc=6.0 min CN=58 Runoff=0.0 cfs 220 cf

Subcatchment 2S: Runoff Area=30,850 sf 67.13% Impervious Runoff Depth=1.67"
Flow Length=190' Tc=9.9 min CN=85 Runoff=1.2 cfs 4,300 cf

Subcatchment 3.1S: Runoff Area=79,965 sf 65.25% Impervious Runoff Depth=1.46"
Flow Length=160' Tc=7.0 min CN=82 Runoff=3.0 cfs 9,717 cf

Subcatchment 3.2S: 3.2S Runoff Area=45,710 sf 2.95% Impervious Runoff Depth=0.72"
Flow Length=240' Slope=0.0080 '/' Tc=25.5 min CN=69 Runoff=0.5 cfs 2,758 cf

Subcatchment 4S: Across the Street Runoff Area=109,585 sf 31.18% Impervious Runoff Depth=0.17"
Flow Length=671' Tc=8.2 min CN=53 Runoff=0.1 cfs 1,576 cf

Subcatchment 5S: Road and Site Draining Runoff Area=40,795 sf 58.77% Impervious Runoff Depth=2.08"
Flow Length=664' Tc=9.0 min CN=90 Runoff=2.0 cfs 7,058 cf

Subcatchment 6S: Runoff Area=2,990 sf 0.00% Impervious Runoff Depth=1.20"
Tc=6.0 min CN=78 Runoff=0.1 cfs 299 cf

Subcatchment 7S: Runoff Area=106,375 sf 0.15% Impervious Runoff Depth=0.22"
Flow Length=386' Tc=21.3 min CN=55 Runoff=0.2 cfs 1,969 cf

Reach 1R: (new Reach) Avg. Flow Depth=0.02' Max Vel=0.17 fps Inflow=0.1 cfs 1,527 cf
n=0.080 L=234.0' S=0.0137 '/' Capacity=22.9 cfs Outflow=0.1 cfs 1,527 cf

Reach 2R: 302 Culvert Avg. Flow Depth=0.10' Max Vel=2.40 fps Inflow=0.1 cfs 1,576 cf
18.0" Round Pipe n=0.025 L=71.0' S=0.0592 '/' Capacity=13.3 cfs Outflow=0.1 cfs 1,576 cf

Reach 3R: Ditch to Indian Point Culvert Avg. Flow Depth=0.06' Max Vel=0.60 fps Inflow=0.1 cfs 1,576 cf
n=0.035 L=202.0' S=0.0110 '/' Capacity=213.5 cfs Outflow=0.1 cfs 1,576 cf

Reach 4R: Indian Point Culvert Avg. Flow Depth=0.37' Max Vel=6.06 fps Inflow=2.0 cfs 8,634 cf
18.0" Round Pipe n=0.012 L=60.1' S=0.0185 '/' Capacity=15.5 cfs Outflow=2.0 cfs 8,634 cf

Reach 5R: (new Reach) Avg. Flow Depth=0.02' Max Vel=0.15 fps Inflow=0.0 cfs 3,434 cf
n=0.080 L=78.0' S=0.0179 '/' Capacity=19.2 cfs Outflow=0.0 cfs 3,411 cf

Reach 6R: (new Reach) Avg. Flow Depth=0.07' Max Vel=0.26 fps Inflow=0.3 cfs 9,717 cf
n=0.080 L=116.0' S=0.0086 '/' Capacity=13.3 cfs Outflow=0.3 cfs 9,683 cf

Pond 1P: Central Wetland Peak Elev=268.20' Storage=1,269 cf Inflow=0.5 cfs 2,758 cf
Outflow=0.1 cfs 1,527 cf

Pond 2P: UDSF-2 Peak Elev=270.55' Storage=3,098 cf Inflow=1.2 cfs 4,300 cf
Primary=0.0 cfs 3,434 cf Secondary=0.0 cfs 0 cf Outflow=0.0 cfs 3,434 cf

Pond 3P: UDSF-1 Peak Elev=271.52' Storage=5,244 cf Inflow=3.0 cfs 9,717 cf
Primary=0.3 cfs 9,717 cf Secondary=0.0 cfs 0 cf Outflow=0.3 cfs 9,717 cf

Link POA-1: POA-1 Inflow=0.4 cfs 16,590 cf
Primary=0.4 cfs 16,590 cf

Link POA-2: POA-2 Inflow=0.1 cfs 519 cf
Primary=0.1 cfs 519 cf

Link POA-3: POA-3 Inflow=2.0 cfs 8,634 cf
Primary=2.0 cfs 8,634 cf

Total Runoff Area = 424,885 sf Runoff Volume = 27,897 cf Average Runoff Depth = 0.79"
68.19% Pervious = 289,745 sf 31.81% Impervious = 135,140 sf

Time span=0.00-50.00 hrs, dt=0.01 hrs, 5001 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 1S: Runoff Area=8,615 sf 30.12% Impervious Runoff Depth=0.96"
Tc=6.0 min CN=58 Runoff=0.2 cfs 686 cf

Subcatchment 2S: Runoff Area=30,850 sf 67.13% Impervious Runoff Depth=3.00"
Flow Length=190' Tc=9.9 min CN=85 Runoff=2.2 cfs 7,713 cf

Subcatchment 3.1S: Runoff Area=79,965 sf 65.25% Impervious Runoff Depth=2.72"
Flow Length=160' Tc=7.0 min CN=82 Runoff=5.7 cfs 18,152 cf

Subcatchment 3.2S: 3.2S Runoff Area=45,710 sf 2.95% Impervious Runoff Depth=1.67"
Flow Length=240' Slope=0.0080 '/' Tc=25.5 min CN=69 Runoff=1.2 cfs 6,369 cf

Subcatchment 4S: Across the Street Runoff Area=109,585 sf 31.18% Impervious Runoff Depth=0.68"
Flow Length=671' Tc=8.2 min CN=53 Runoff=1.2 cfs 6,238 cf

Subcatchment 5S: Road and Site Draining Runoff Area=40,795 sf 58.77% Impervious Runoff Depth=3.49"
Flow Length=664' Tc=9.0 min CN=90 Runoff=3.4 cfs 11,870 cf

Subcatchment 6S: Runoff Area=2,990 sf 0.00% Impervious Runoff Depth=2.38"
Tc=6.0 min CN=78 Runoff=0.2 cfs 592 cf

Subcatchment 7S: Runoff Area=106,375 sf 0.15% Impervious Runoff Depth=0.79"
Flow Length=386' Tc=21.3 min CN=55 Runoff=1.1 cfs 6,986 cf

Reach 1R: (new Reach) Avg. Flow Depth=0.09' Max Vel=0.39 fps Inflow=1.1 cfs 5,139 cf
n=0.080 L=234.0' S=0.0137 '/' Capacity=22.9 cfs Outflow=0.8 cfs 5,139 cf

Reach 2R: 302 Culvert Avg. Flow Depth=0.31' Max Vel=4.70 fps Inflow=1.2 cfs 6,238 cf
18.0" Round Pipe n=0.025 L=71.0' S=0.0592 '/' Capacity=13.3 cfs Outflow=1.2 cfs 6,238 cf

Reach 3R: Ditch to Indian Point Culvert Avg. Flow Depth=0.19' Max Vel=1.20 fps Inflow=1.2 cfs 6,238 cf
n=0.035 L=202.0' S=0.0110 '/' Capacity=213.5 cfs Outflow=1.2 cfs 6,238 cf

Reach 4R: Indian Point Culvert Avg. Flow Depth=0.51' Max Vel=7.26 fps Inflow=3.8 cfs 18,108 cf
18.0" Round Pipe n=0.012 L=60.1' S=0.0185 '/' Capacity=15.5 cfs Outflow=3.8 cfs 18,108 cf

Reach 5R: (new Reach) Avg. Flow Depth=0.06' Max Vel=0.33 fps Inflow=0.3 cfs 5,768 cf
n=0.080 L=78.0' S=0.0179 '/' Capacity=19.2 cfs Outflow=0.3 cfs 5,749 cf

Reach 6R: (new Reach) Avg. Flow Depth=0.20' Max Vel=0.45 fps Inflow=1.9 cfs 18,040 cf
n=0.080 L=116.0' S=0.0086 '/' Capacity=13.3 cfs Outflow=1.8 cfs 17,991 cf

Pond 1P: Central Wetland Peak Elev=268.23' Storage=1,480 cf Inflow=1.2 cfs 6,369 cf
Outflow=1.1 cfs 5,139 cf

Pond 2P: UDSF-2 Peak Elev=270.87' Storage=4,351 cf Inflow=2.2 cfs 7,713 cf
Primary=0.3 cfs 5,768 cf Secondary=0.0 cfs 0 cf Outflow=0.3 cfs 5,768 cf

Pond 3P: UDSF-1 Peak Elev=271.92' Storage=7,048 cf Inflow=5.7 cfs 18,152 cf
Primary=1.9 cfs 18,040 cf Secondary=0.0 cfs 0 cf Outflow=1.9 cfs 18,040 cf

Link POA-1: POA-1 Inflow=3.1 cfs 35,865 cf
Primary=3.1 cfs 35,865 cf

Link POA-2: POA-2 Inflow=0.4 cfs 1,278 cf
Primary=0.4 cfs 1,278 cf

Link POA-3: POA-3 Inflow=3.8 cfs 18,108 cf
Primary=3.8 cfs 18,108 cf

Total Runoff Area = 424,885 sf Runoff Volume = 58,606 cf Average Runoff Depth = 1.66"
68.19% Pervious = 289,745 sf 31.81% Impervious = 135,140 sf

Appendix 2C

Proposed Conditions
Indian Point Culvert 100-year Storm Event

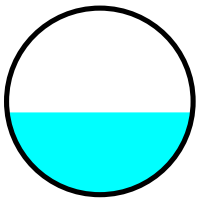
Summary for Reach 4R: Indian Point Culvert

Inflow Area = 147,515 sf, 39.02% Impervious, Inflow Depth = 2.13" for 25-YR event
Inflow = 6.2 cfs @ 12.16 hrs, Volume= 26,182 cf
Outflow = 6.2 cfs @ 12.16 hrs, Volume= 26,182 cf, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Max. Velocity= 8.28 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.89 fps, Avg. Travel Time= 0.3 min

Peak Storage= 45 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.66'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 15.5 cfs

18.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 60.1' Slope= 0.0185 '/'
Inlet Invert= 268.33', Outlet Invert= 267.22'



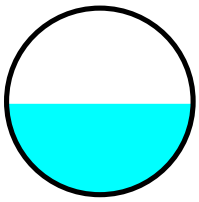
Summary for Reach 4R: Indian Point Culvert

Inflow Area = 147,515 sf, 39.02% Impervious, Inflow Depth = 2.46" for 50-YR event
Inflow = 7.4 cfs @ 12.16 hrs, Volume= 30,209 cf
Outflow = 7.4 cfs @ 12.16 hrs, Volume= 30,209 cf, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Max. Velocity= 8.66 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.99 fps, Avg. Travel Time= 0.3 min

Peak Storage= 51 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.73'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 15.5 cfs

18.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 60.1' Slope= 0.0185 '/'
Inlet Invert= 268.33', Outlet Invert= 267.22'



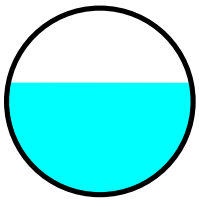
Summary for Reach 4R: Indian Point Culvert

Inflow Area = 147,515 sf, 39.02% Impervious, Inflow Depth = 3.29" for 100-YR event
Inflow = 10.4 cfs @ 12.16 hrs, Volume= 40,474 cf
Outflow = 10.4 cfs @ 12.16 hrs, Volume= 40,474 cf, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-50.00 hrs, dt= 0.01 hrs
Max. Velocity= 9.39 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.20 fps, Avg. Travel Time= 0.3 min

Peak Storage= 67 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.90'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 15.5 cfs

18.0" Round Pipe
n= 0.012 Corrugated PP, smooth interior
Length= 60.1' Slope= 0.0185 '/'
Inlet Invert= 268.33', Outlet Invert= 267.22'



Appendix 3

Inspection, Maintenance and Housekeeping Plan

INSPECTION, MAINTENANCE, AND HOUSEKEEPING PLAN

For:
Jordan Bay Marina
Port Harbor Holdings , LLC.
1 Spring Point Drive
South Portland, Maine 04106

By:
Sebago Technics, Inc.
75 John Roberts Road, Suite 4A
South Portland, Maine 04106

Introduction

The following plan outlines the anticipated inspection and maintenance procedures for the erosion and sedimentation control measures as well as stormwater management facilities for the project. This plan also outlines several housekeeping requirements that shall be followed during and after construction. These procedures shall be followed in order to ensure the intended function of the designed measures and to prevent unreasonably adverse impacts to the surrounding environment.

The procedures outlined in this Inspection, Maintenance and Housekeeping Plan are provided as an overview of the anticipated practices to be used on this site. In some instances, additional measures may be required due to unexpected conditions. For additional detail on any of the erosion and sedimentation control measures or stormwater management devices to be utilized on this project, refer to the most recently revised edition of the "Maine Erosion and Sedimentation Control BMP" manual and/or the "Stormwater Management for Maine: Best Management Practices" manual as published by the Maine Department of Environmental Protection (MDEP).

During Construction

1. **Inspection:** During the construction process, it is the Contractor's responsibility to comply with the inspection and maintenance procedures outlined in this section. These responsibilities include inspecting disturbed and impervious areas, erosion control measures, materials storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. These areas shall be inspected at least once a week as well as before and after a storm event (0.5" of rainfall), and prior to completing permanent stabilization measures. A person with knowledge of erosion and stormwater control, including the standards and conditions in any applicable permits, shall conduct the inspections.

2. **Maintenance:** All measures shall be maintained in an effective operating condition until areas are permanently stabilized. If Best Management Practices (BMPs) need to be maintained or modified, additional BMPs are necessary, or other corrective action is needed, implementation must be completed within 7 calendar days and prior to any storm event (0.5" of rainfall).

3. **Documentation:** A log summarizing the inspections and any corrective action taken must be maintained on-site. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of erosion and sedimentation controls, material storage areas, and vehicle access

points to the site. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and locations where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken. The log must be made accessible to the appropriate regulatory agency upon request. The permittee shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

4. **Specific Inspection and Maintenance Tasks:** The following is a list of erosion control and stormwater management measures and the specific inspection and maintenance tasks to be performed during construction.

A. Sediment Barriers:

- Hay bale barriers, silt fences, and filter berms shall be inspected immediately after each rainfall and at least daily during prolonged rainfall.
- If the fabric on a silt fence or filter barrier should decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, it shall be replaced.
- Sediment deposits should be removed after each storm event (0.5" of rainfall). They must be removed before deposits reach approximately one-half the height of the barrier.
- Filter berms shall be reshaped as needed.
- Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required should be dressed to conform to the existing grade, prepared, and seeded.
- Temporary erosion control measures installed during construction shall be removed after final stabilization of the project.

B. Riprap Materials:

- Once a riprap installation has been completed, it should require very little maintenance. It shall, however, be inspected periodically to determine if high flows have caused scour beneath the riprap or dislodged any of the stone.

C. Erosion Control Blankets:

- Inspect these reinforced areas semi-annually and after significant rainfall events for slumping, sliding, seepage, and scour. Pay close attention to unreinforced areas adjacent to the erosion control blankets, which may experience accelerated erosion.
- Review all applicable inspection and maintenance procedures recommended by the specific blanket manufacturer. These tasks shall be included in addition to the requirements of this plan.

D. Stabilized Construction Entrances/Exits:

- The exit shall be maintained in a condition that will prevent tracking of sediment onto public rights-of-way.
- When the control pad becomes ineffective, the stone shall be removed along with

the collected soil material. The entrance should then be reconstructed.

- Areas that have received mud-tracking or sediment deposits shall be swept or washed. Washing shall be done on an area stabilized with aggregate, which drains into an approved sediment-trapping device (not into storm drains, ditches, or waterways).
- Temporary erosion control measures installed during construction shall be removed after final stabilization of the project.

E. Temporary Seed and Mulch:

- Mulched areas should be inspected after rain events to check for rill erosion.
- If less than 90% of the soil surface is covered by mulch, additional mulch shall be applied in bare areas.
- In applications where seeding and mulch have been applied in conjunction with erosion control blankets, the blankets must be inspected after rain events for dislocation or undercutting.
- Mulch shall continue to be reapplied until 95% of the soil surface has established temporary vegetative cover.

F. Stabilized Temporary Drainage Swales:

- Sediment accumulation in the swale shall be removed once the cross section of the swale is reduced by 25%.
- The swales shall be inspected after rainfall events. Any evidence of sloughing of the side slopes or channel erosion shall be repaired and corrective action should be taken to prevent reoccurrence of the problem.
- In addition to the stabilized lining of the channel (i.e. erosion control blankets), stone check dams may be needed to further reduce channel velocity.

5. **Housekeeping:** The following general performance standards apply to the proposed project.

A. 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.

B. 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.

C. 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.

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

E. Trench or foundation dewatering: Trench dewatering is the removal of water from trenches, foundations, cofferdams, 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.

Post-Construction

1. **Inspection:** After construction, it is the responsibility of the owner or assigned heirs to comply with the inspection and maintenance procedures outlined in this section. All measures must be maintained in effective operating condition. The owner shall inspect and maintain the BMPs, including but not limited to any parking areas, catch basins, drainage swales, detention basins and ponds, pipes and related structures, in accordance with all municipal and state inspection, cleaning and maintenance requirements of the approved post-construction stormwater management plan.

2. **Specific Inspection and Maintenance Tasks:** The following is a list of permanent erosion control and stormwater management measures and the inspection and maintenance tasks to be performed after construction. If the BMP requires maintenance, repair or replacement to function as intended by the approved post-construction stormwater management plan, the owner or operator of the BMP shall take corrective action(s) to address the deficiency or deficiencies as soon as possible after the deficiency is discovered and shall provide a record of the deficiency and corrective action(s) to the local municipality in the annual report.

   A. Vegetated Areas:

   - Inspect vegetated areas, particularly slopes and embankments, early in the growing season or after heavy rains (>0.5") to identify active or potential erosion problems.
   - Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows.

   B. Ditches, Swales and Other Open Channels:

   - Inspect ditches, swales, level spreaders and other open stormwater channels in the spring, in the late fall, and after heavy rains to remove any obstructions to flow. Remove accumulated sediments and debris, remove woody vegetative growth that could obstruct flow, and repair any erosion of the ditch lining.
   - Vegetated ditches must be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity.
   - Any woody vegetation growing through riprap linings must also be removed.

Repair any slumping side slopes as soon as practicable.

- If the ditch has a riprap lining, replace riprap in areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones have dislodged.

C. Culverts:

- Inspect culverts in the spring, in the late fall, and after heavy rains (>0.5") to remove any obstructions to flow.
- Remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit.
- Inspect and repair any erosion damage at the culvert's inlet and outlet.

D. Removal of Winter Sand:

- Clear accumulations of winter sand in parking lots and along roadways at least once a year, preferably in the spring.
- Accumulations on pavement may be removed by pavement sweeping.
- Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader or other acceptable method.

E. Underdrain Soil Filter:

- Following storms that fill the system and overflow is observed, the soil filter should drain in no less than 36 to 60 hours. If the system drains too fast, an orifice may need to be added on the underdrain outlet or, if already present, may need to be modified.
- Soil Filter Replacement: The top several inches of the filter shall be replaced with fresh material when water ponds on the surface of the bed for more than 72 hours. Removed sediments should be disposed of in an acceptable manner.
- Sediment Removal: Sediment and plant debris should be removed from the pretreatment structure at least annually.
- Mowing: If mowing is desired, only handheld string trimmers or push-mowers are allowed on the filter (no tractor) and the grass bed should be mowed no more than 2 times per growing season to maintain grass heights of no less than 6 inches.
- Fertilization: Fertilization of the underdrained filter area should be avoided unless absolutely necessary to establish vegetation.
- Harvesting and Weeding: Harvesting and pruning of excessive growth will need to be done occasionally. Weeding to control unwanted or invasive plants may also be necessary.
- Snow storage is prohibited within the underdrained soil filter areas.
- See inspection log within Attachment 1 of this document for the inspection requirements of this BMP.

3. **Documentation:**

A. The owner or operator of a BMP or a qualified post-construction stormwater inspector hired by that person, shall, as required by the local municipality, provide a completed and signed certification on a form provided by the local municipality, certifying that the person has inspected the BMP(s) and that they are adequately maintained and functioning as intended by the approved post-construction stormwater management plan, or that they required maintenance or repair, including the record of the deficiency and corrective action(s) taken.

B. A log summarizing the inspections and any corrective action taken must be maintained. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of controls. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and locations where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken. The log must be made accessible to the appropriate regulatory agency upon request. A sample "Stormwater Inspection and Maintenance Form" has been included as Attachment 1 of this Inspection, Maintenance, and Housekeeping Plan.

4. **Duration of Maintenance:** Perform maintenance as described and required for any associated permits unless and until the system is formally accepted by a municipality or quasi-municipal district, or is placed under the jurisdiction of a legally created association that will be responsible for the maintenance of the system. If a municipality or quasi-municipal district chooses to accept a stormwater management system, or a component of a stormwater system, it must provide a letter to the MDEP stating that it assumes responsibility for the system. The letter must specify the components of the system for which the municipality or district will assume responsibility, and that the municipality or district agrees to maintain those components of the system in compliance with MDEP standards. Upon such assumption of responsibility, and approval by the MDEP, the municipality, quasi-municipal district, or association becomes a co-permittee for this purpose only and must comply with all terms and conditions of the permit.

ATTACHMENT 1 – STORMWATER INSPECTION AND MAINTENANCE LOG

Jordan Bay Marina
1326 Roosevelt Trail
Raymond, Maine

This log is intended to accompany the Inspection, Maintenance, and Housekeeping Plan for the commercial development project at 1326 Roosevelt Trail in Raymond, Maine. The following items shall be checked, cleaned, and maintained on a regular basis as specified in the Maintenance Plan and as described in the sections below. This log shall be kept on file for a minimum of five (5) years and shall be available for review by the Town of Raymond and the Maine DEP. Qualified personnel familiar with the drainage systems and soils shall perform all inspections. A copy of the construction and post-construction maintenance logs are provided.

General Site

INSPECTION MAINTENANCE AND HOUSEKEEPING FORM			
General Information			
Project Name:		**Inspection Date:**	
Project Location:		**Current Weather:**	
		Date / Amount Last Precip:	
BMP Owner:		**Company conducting inspection:**	
Owner Mailing Address:		**Company Mailing Address**	
Owner Phone #:		**Company Phone #:**	
Owner Email:		**Inspector Name:**	
		Inspector Email:	

Site Element	Suggested Maintenance (recm'd frequency)	Observations	Inspection Notes/Recommended Action
Vegetated Areas	Inspect Slopes/Embankments for erosion (annually)		
	Replant bare areas or areas of sparse growth (annually)		
Ditches/Swales	Remove obstructions/debris/sediment (monthly)		
	Inspect for erosion/repair as needed (annually)		
	Remove woody vegetation (annually)		
	Mow vegetated ditches (annually)		
Catch Basins	Remove sediment/debris from sump (annually)		
	Remove accumulated debris from inlet grate		
Culverts	Remove sediment/debris from inlet/outlet aprons (annually)		
	Inspect inlet/outlet aprons for erosion, repair as needed (annually)		
	Inspect, repair as needed, riprap aprons for dislodged/sparse coverage (annually)		
Pipe Outlets	Remove sediment/debris from outlet aprons (annually)		
	Inspect outlet aprons for erosion, repair as needed (annually)		
	Inspect, repair as needed, riprap aprons for dislodged/sparse coverage (annually)		

Additional Notes/Observations:

Underdrain Soil Filter

INSPECTION MAINTENANCE AND HOUSEKEEPING FORM			
General Information			
Project Name:		**Inspection Date:**	
Project Location:		**Current Weather:**	
		Date / Amount Last Precip:	
BMP Owner:		**Company conducting inspection:**	
Owner Mailing Address:		**Company Mailing Address**	
Owner Phone #:		**Company Phone #:**	
Owner Email:		**Inspector Name:**	
		Inspector Email:	

BMP Element	Suggested Maintenance (recm'd frequency)	Observations	Inspection Notes/Recommended Action
Forebay/Pretreatment	Sediment/Debris Removal (Annually)		
	Inspect for bare areas or rill erosion (Annually)		
Outlet Control Structure	Sediment Depth (Annually)		
	Floatables/Debris (Annually)		
Discharge Pipe	Ground Stabilized (>1" rain, Annually)		
Emergency Spillway	Review for signs of erosion (Twice Annually)		
	Review for signs of discharge (>1" rain, twice annually)		
Embankments	Review for signs of erosion (Twice Annually)		
Filter Bed	Trim overgrown vegetation with string trimmer (annually)		
	Review basin for evidence of vehicular traffic or storage of snow within footprint (annually)		
	Confirm pond drains in 24-48 hours for water quality volume (annually)		

Additional Notes/Observations:

Appendix 4

Subsurface Investigations

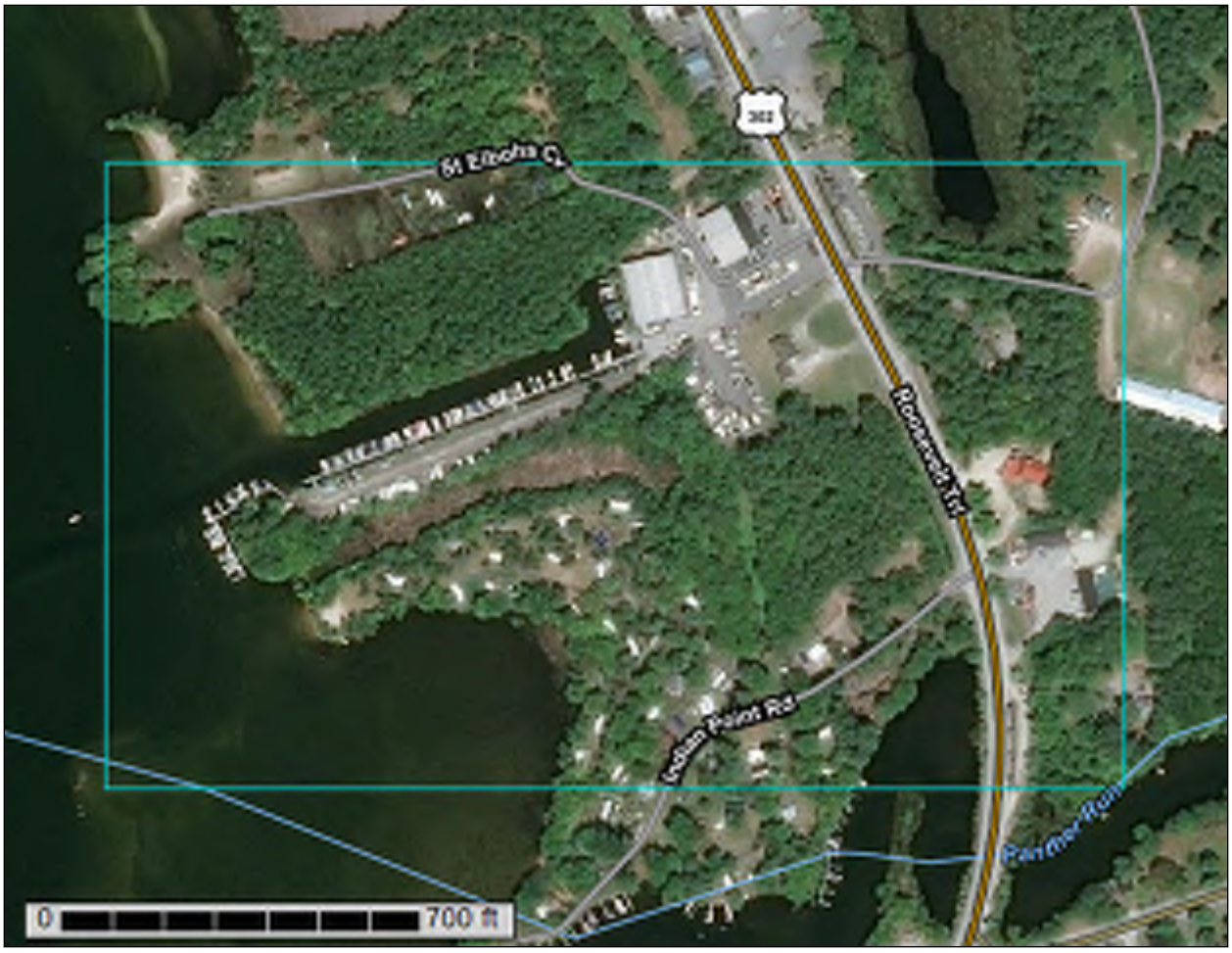
United States Department of Agriculture

NRCS

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



October 13, 2021

Contents

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: 1:3,330 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 45 90 180 270

Feet: 0 150 300 600 900

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: Jun 7, 2019—Jul 2, 2019

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
Cu	Cut and fill land	6.8	12.2%
DeA	Deerfield loamy fine sand, 0 to 3 percent slopes	8.6	15.3%
DeB	Deerfield loamy fine sand, 3 to 8 percent slopes	1.3	2.4%
HlB	Hinckley loamy sand, 3 to 8 percent slopes	0.3	0.6%
HlC	Hinckley loamy sand, 8 to 15 percent slopes	8.3	14.9%
Sp	Sebago mucky peat	11.7	20.9%
Sz	Swanton fine sandy loam	4.7	8.3%
W	Water	14.1	25.2%
Wa	Walpole fine sandy loam	0.0	0.0%
Totals for Area of Interest		**55.8**	**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

Cu—Cut and fill land

Map Unit Composition

Cut and fill land: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cut And Fill Land

Typical profile

H1 - 0 to 65 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 35 percent
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.06 to 20.00 in/hr)
Depth to water table: About 24 to 42 inches
Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

ASSUMPTION HSGS Soil Group: B

DeA—Deerfield loamy fine sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2xfg8
Elevation: 0 to 1,100 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

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

Description of Deerfield

Setting

Landform: Kame terraces, outwash plains, outwash deltas, outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy outwash derived from granite, gneiss, and/or quartzite

Typical profile

Ap - 0 to 9 inches: loamy fine sand
Bw - 9 to 25 inches: loamy fine sand
BC - 25 to 33 inches: fine sand
Cg - 33 to 60 inches: sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: About 15 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Sodium adsorption ratio, maximum: 11.0
Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: A
Ecological site: F144AY027MA - Moist Sandy Outwash
Hydric soil rating: No

DeB—Deerfield loamy fine sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2xfg9
Elevation: 0 to 1,190 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

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

Description of Deerfield

Setting

Landform: Kame terraces, outwash plains, outwash terraces, outwash deltas
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy outwash derived from granite, gneiss, and/or quartzite

Typical profile

Ap - 0 to 9 inches: loamy fine sand
Bw - 9 to 25 inches: loamy fine sand
BC - 25 to 33 inches: fine sand
Cg - 33 to 60 inches: sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: About 15 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Sodium adsorption ratio, maximum: 11.0
Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: A
Ecological site: F144AY027MA - Moist Sandy Outwash
Hydric soil rating: No

HIB—Hinckley loamy sand, 3 to 8 percent slopes

Map Unit Setting
National map unit symbol: 2svm8
Elevation: 0 to 1,430 feet
Mean annual precipitation: 36 to 53 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Hinckley and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting
Landform: Outwash plains, eskers, moraines, kame terraces, kames, outwash terraces, outwash deltas
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Nose slope, side slope, base slope, crest, riser, tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile
Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 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: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

HIC—Hinckley loamy sand, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2svm9
Elevation: 0 to 1,480 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Hinckley

Setting

Landform: Kame terraces, outwash plains, kames, eskers, moraines, outwash terraces, outwash deltas
Landform position (two-dimensional): Shoulder, backslope, footslope, toeslope
Landform position (three-dimensional): Head slope, nose slope, side slope, crest, riser
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand

Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 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: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Sp—Sebago mucky peat

Map Unit Setting

National map unit symbol: blk0
Elevation: 10 to 2,100 feet
Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 80 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Sebago

Setting

Landform: Bogs
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Organic material

Typical profile

Oe - 0 to 36 inches: mucky peat
Oi - 36 to 65 inches: mucky peat

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 6.00 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water supply, 0 to 60 inches: Very high (about 18.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Hydrologic Soil Group: A/D
Ecological site: F144BY230ME - Acidic Peat Wetland Complex
Hydric soil rating: Yes

Sz—Swanton fine sandy loam

Map Unit Setting

National map unit symbol: blk4
Elevation: 10 to 900 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 39 to 46 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Swanton

Setting

Landform: Outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy glaciolacustrine deposits

Typical profile

H1 - 0 to 9 inches: fine sandy loam
H2 - 9 to 32 inches: fine sandy loam
H3 - 32 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 high (0.00 to 0.20 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: High (about 9.3 inches)

Interpretive groups

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

W—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Setting

Landform: Lakes

Wa—Walpole fine sandy loam

Map Unit Setting

National map unit symbol: blk7
Elevation: 0 to 540 feet
Mean annual precipitation: 48 to 49 inches
Mean annual air temperature: 45 to 46 degrees F
Frost-free period: 145 to 165 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Walpole

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

Typical profile

H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 20 inches: fine sandy loam
H3 - 20 to 65 inches: gravelly loamy 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 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: F144BY303ME - Acidic Swamp
Hydric soil rating: Yes

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FORM F 14265

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
PORT HARBOR MARINE	PORT HARBOR MARINE	RAYMOND

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-1 ■ Test Pit ☐ Boring

0-1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistence	Color	Redox
SANDY LOAM	FRIABLE	10YR 3/2 VERY DARK GRAYISH BROWN	
LOAMY SAND	CEMENTED	10YR 5/6 YELLOWISH BROWN	COMMON, MEDIUM, AND DISTINCT
LOAMY FINE SAND	FIRM	5Y 6/2 LIGHT OLIVE GRAY	MANY, COARSE, AND PROMINENT
COARSE SAND	FRIABLE	2.5Y 5/1 GRAY	
SILT LOAM	FIRM	5Y 5/2 GRAYISH BROWN	

LIMIT OF EXCAVATION = 60"

hydric	non-hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
☐	■	0-3	10"	■	☐	☐

L.S.S. Soil Series / phase name: NAUMBURG | Drainage Class: SPD | Hydrologic Group: D

L.S.E. Soil Classification: Profile: 3 | Drainage Condition: D

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-2 ■ Test Pit ☐ Boring

0-1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistence	Color	Redox
LOAMY SAND FILL	FRIABLE	10YR 3/3 DARK BROWN	NONE OBSERVED
SANDY LOAM	FRIABLE	10YR 2/1 BLACK	COMMON, MEDIUM, & DISTINCT
MEDIUM SAND		2.5Y 6/1 GRAY	
VERY FINE SANDY LOAM	FIRM	2.5Y 5/2 GRAYISH BROWN	

LIMIT OF EXCAVATION = 48"

hydric	non-hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
☐	■	0-3	0"	■	☐	☐

L.S.S. Soil Series / phase name: SWANTON | Drainage Class: MWD | Hydrologic Group: D

L.S.E. Soil Classification: Profile: 7 (12) | Drainage Condition: E

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-3 ■ Test Pit ☐ Boring

0 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistence	Color	Redox
SANDY LOAM FILL	FRIABLE	10YR 3/2 VERY DARK GRAYISH BROWN	NONE OBSERVED
LOAMY SAND	FRIABLE	10YR 5/6 YELLOWISH BROWN	
MEDIUM SAND		10YR 7/2 LIGHT GRAY	
		10YR 5/3 BROWN	COMMON, MEDIUM, AND DISTINCT

LIMIT OF EXCAVATION = 60"

hydric	non-hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
☐	■	0-3	54"	■	☐	☐

L.S.S. Soil Series / phase name: ADAMS | Drainage Class: SED | Hydrologic Group: A

L.S.E. Soil Classification: Profile: 5 | Drainage Condition: B

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-4 ■ Test Pit ☐ Boring

0-1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistence	Color	Redox
SANDY LOAM	FRIABLE	10YR 3/1 VERY DARK GRAY	
FINE SAND LOAMY FINE SAND		10YR 7/1 LIGHT GRAY 7.5YR 4/3 BROWN	COMMON, MEDIUM, AND DISTINCT
FINE SAND		2.5Y 5/2 GRAYISH BROWN	
		2.5Y 7/1 LIGHT GRAY	

LIMIT OF EXCAVATION = 72"

hydric	non-hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
☐	■	0-3	22"	■	☐	☐

L.S.S. Soil Series / phase name: CROGHAN | Drainage Class: MWD | Hydrologic Group: A

L.S.E. Soil Classification: Profile: 5 | Drainage Condition: C

Professional Endorsements *(as applicable)*

L.S.S.	signature:	Date:	7/27/22
	name printed/typed: Gary M. Fullerton	Lic.#:	462
L.S.E.	signature:	Date:	7/27/22
	name printed/typed: Gary M. Fullerton	Lic.#:	355

affix professional seal

FORM F 14265

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
PORT HARBOR MARINE	PORT HARBOR MARINE	RAYMOND

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-5 ■ Test Pit ☐ Boring

0-1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistence	Color	Redox
SANDY LOAM	FRIABLE	10YR 3/2 VERY DARK GRAYISH BROWN	
GRAVELLY LOAMY COARSE SAND		10YR 4/6 DARK YELLOWISH BROWN 2.5Y 5/4 LIGHT OLIVE BROWN	
SILT LOAM	FIRM	5Y 5/2 OLIVE GRAY	
SILTY CLAY LOAM WITH VERY FINE SAND VARVES		5Y 4/2 OLIVE GRAY	COMMON, MEDIUM, AND DISTINCT

LIMIT OF EXCAVATION = 54"

hydric	non-hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
☐	■	3-8	21"	☐	■	☐

L.S.S. Soil Series / phase name: ELMWOOD — Drainage Class: MWD — Hydrologic Group: B

L.S.E. Soil Classification: Profile: 7 — Drainage Condition: C

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-6 ■ Test Pit ☐ Boring

1-2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistence	Color	Redox
SANDY LOAM	FRIABLE	10YR 3/3 DARK BROWN	
LOAMY FINE SAND		10YR 5/6 YELLOWISH BROWN	
GRAVELLY LOAMY SAND		10YR 6/4 LIGHT YELLOWISH BROWN	
VERY FINE SANDY LOAM	FIRM	2.5Y 5/3 LIGHT OLIVE BROWN	
SILTY CLAY LOAM		5Y 4/2 OLIVE GRAY	COMMON, MEDIUM, AND DISTINCT

LIMIT OF EXCAVATION = 48"

hydric	non-hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
☐	■	3-8	28"	☐	■	☐

L.S.S. Soil Series / phase name: ELMWOOD — Drainage Class: MWD — Hydrologic Group: B

L.S.E. Soil Classification: Profile: 7 — Drainage Condition: C

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: _____ ☐ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistence	Color	Redox

hydric	non-hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
☐	☐			☐	☐	☐

L.S.S. Soil Series / phase name: _____ — Drainage Class: _____ — Hydrologic Group: _____

L.S.E. Soil Classification: Profile: _____ — Drainage Condition: _____

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: _____ ☐ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

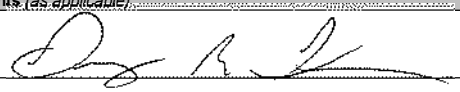
Texture	Consistence	Color	Redox

hydric	non-hydric	Slope %	Limiting factor	ground water	restrictive layer	bedrock
☐	☐			☐	☐	☐

L.S.S. Soil Series / phase name: _____ — Drainage Class: _____ — Hydrologic Group: _____

L.S.E. Soil Classification: Profile: _____ — Drainage Condition: _____

Professional Endorsements *(as applicable)*

L.S.S. signature:		Date: 7/27/22
name printed/typed:	Gary M. Fullerton	Lic.#: 462
L.S.E. signature:		Date: 7/27/22
name printed/typed:	Gary M. Fullerton	Lic.#: 355

affix professional seal

Appendix 5

Stormwater Management Plans

14265-02 SWP.dwg, TAB:PRE

ROBERT A. McSORLEY, PE 8588

SHEET 1 OF 2

PROJECT	14265-02
SCALE	1" = 30'
DATE	06/22/22
CHECKED	RAM
DRAWN	DAB
DESIGNED	JSH

EXISTING CONDITIONS - SWP
OF:
JORDAN BAY MARINA
1328 ROOSEVELT TRAIL
RAYMOND, ME
FOR:
PORT HARBOR MARINE
1 SPRING POINT DRIVE
SOUTH PORTLAND, ME 04106

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

REV:	BY:	DATE:	STATUS:
H	RAM	06/14/2023	RESUBMISSION TO THE TOWN OF RAYMOND & MDEP
G	RAM	12/05/2022	MDEP - CORRECT CONTROL STRUCTURE BLEEDERS
F	RAM	10/20/22	REVISED PER PWD
E	RAM	10/12/22	REVISED PER PWD AND ARCHITECTURAL COORDINATION
D	RAM	9/21/22	ADD WAIVER REQUEST
C	RAM	9/14/22	REVISED PER TOWN OF RAYMOND COMMENTS
B	RAM	08/25/22	REVISED PER PORTLAND PIPELINE

STATE OF MAINE
ROBERT McSORLEY
8588
LICENSED PROFESSIONAL ENGINEER
06/14/2023

PROPOSED CONDITIONS LEGEND

- WATERSHED BOUNDARY
- TIME OF CONCENTRATION (A — B)
- REACH
- #### SUBCATCHMENT LABEL
- #### REACH
- #### POINT OF ANALYSIS
- #### STORMWATER TREATMENT/DETENTION POND
- HSG # / HSG # SOILS BOUNDARY

GRAPHIC SCALE
(IN FEET)
1 INCH = 40 FT.

REV	BY	DATE	STATUS
H	RAM	06/14/2023	RESUBMISSION TO THE TOWN OF RAYMOND & MDEP
G	RAM	12/05/2022	MDEP - CORRECT CONTRL STRUCTURE BLEEDERS
F	RAM	10/20/22	REVISED PER PWD
E	RAM	10/12/22	REVISED PER PWD AND ARCHITECTURAL COORDINATION
D	RAM	9/27/22	ADD WAIVER REQUEST
C	RAM	9/14/22	REVISED PER TOWN OF RAYMOND COMMENTS
B	RAM	08/26/22	REVISED PER PORTLAND PIPELINE

ROBERT A. McSORLEY, PE #5588

STATE OF MAINE — ROBERT A. McSORLEY — 5588 — REGISTERED PROFESSIONAL ENGINEER — 06/14/2023

PROPOSED CONDITIONS - SWP
OF:
JORDAN BAY MARINA
1328 ROOSEVELT TRAIL
RAYMOND, ME
FOR:
PORT HARBOR MARINE
1 SPRING POINT DRIVE
SOUTH PORTLAND, ME 04106

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite A
South Portland, ME 04106
Tel. 207-200-2100

DESIGNED	JSH
DRAWN	DAB
CHECKED	RAM
DATE	06/22/22
SCALE	1" = 30'
PROJECT	14265-02

SHEET 2 OF 2

14265-02 SWP.dwg TABPOST

Attachment 5

Agency Letters

Attachment 5: Agency Resource Letters

Maine Department of Inland Fisheries and Wildlife A project description with supporting documents was sent to Maine Inland Fisheries and Wildlife (IF&W) on July 22, 2022. At the time of submittal, a response has not been received.

Maine Natural Areas Program In response to a request to review the site, Maine Natural Areas Program reported there are no rare botanical features documented specifically within the project area.

Maine Historic Preservation Commission A project description with supporting documents was sent to the Maine Historic Preservation Commission on July 22, 2022. At the time of submittal, a response has not been received.

July 21, 2022
14265-02

John Perry
Environmental Coordinator
Maine Department of Inland Fisheries
284 State Street
41 State House Station
Augusta, Maine 04333

Inland Fisheries and Wildlife Review
Jordan Bay Marina, Sebago Lake - Raymond, ME

Dear Mr. Perry:

On behalf of Port Harbor Marine, Inc., Sebago Technics respectfully requests an update to the site review previously requested on December 16, 2019). The project site is located 1328 Roosevelt Trail (U.S. Route 302) in Raymond, Maine on Sebago Lake. Our client's intent is to expand the land side maintenance, sales, services and storage for the marina.

As part of this process, a review of the site by the Maine Department of Inland Fisheries and Wildlife for any areas that support rare, threatened and endangered species, designated essential and significant wildlife habitats, and fisheries habitat is needed.

For your reference, I have enclosed a project location map. At your earliest convenience, please review and forward your findings. If you have any questions on this project, please do not hesitate to contact me at jsolis@sebagotechnics.com or on my direct line at (207) 200-2119.

Sincerely,

SEBAGO TECHNICS, INC.

Jessa Solis
Permitting Specialist

July 21, 2022
14265-02

Kirk Mohney
Maine Historic Preservation Commission
55 Capitol Street
65 State House Station
Augusta, Maine 04333

Maine Historic Preservation Commission Review
Jordan Bay Marina, Sebago Lake - Raymond, ME

Dear Mr. Mohney:

On behalf of Port Harbor Marine, Inc., Sebago Technics respectfully requests an update to the site review previously requested on December 16, 2019 (MPHC #1841-19). The project site is located 1328 Roosevelt Trail (U.S. Route 302) in Raymond, Maine on Sebago Lake. Our client's intent is to expand the land side maintenance, sales, services and storage for the marina.

For your reference, I have enclosed a site plan, project location map, a map of the abutter area showing structures older than 1969, and vision cards for those lots/structures. At your earliest convenience, please review and forward your findings. If you have any questions on this project, please do not hesitate to contact me at jsolis@sebagotechnics.com or on my direct line at (207) 200-2119. I look forward to hearing from you.

Sincerely,

SEBAGO TECHNICS, INC.

Jessa Solis
Permitting Specialist

STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
177 STATE HOUSE STATION
AUGUSTA, MAINE 04333

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

July 22, 2022

Jessa Solis
Sebago Technics
75 John Roberts Road, Suite 4A
South Portland, ME 04106

Via email: jsolis@sebagotechnics.com

Re: Rare and exemplary botanical features in proximity to: #14265-02, Jordan Bay Marina, Sebago Lake, Raymond, Maine

Dear Ms. Solis:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received July 21, 2022 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Raymond, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM
BLOSSOM LANE, DEERING BUILDING

DEPARTMENT OF Agriculture Conservation & Forestry

PHONE: (207) 287-804490
WWW.MAINE.GOV/DACF/MNAP

The Maine Natural Areas Program (MNAP) is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. MNAP welcomes coordination with individuals or organizations proposing environmental alteration or conducting environmental assessments. If, however, data provided by MNAP are to be published in any form, the Program should be informed at the outset and credited as the source.

The Maine Natural Areas Program has instituted a fee structure of $75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for $150.00 for two hours of our services.

Thank you for using MNAP in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Lisa St. Hilaire

Lisa St. Hilaire | Information Manager | Maine Natural Areas Program
207-287-8044 | lisa.st.hilaire@maine.gov

Rare and Exemplary Botanical Features within 4 miles of
Project: #14265-02, Jordan Bay Marina, Sebago Lake, Raymond, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Nodding Pogonia	T	S2	G4?	2010-08-18	5	Hardwood to mixed forest (forest, upland)
Pitch Pine Bog		S2	G3G5	2004-06-21	10	
Red Maple Swamp		S5	G3G5	2004-06-21	16	
Scarlet Oak	E	S1	G5	1916-08	2	Hardwood to mixed forest (forest, upland)

Date Exported: 2022-07-22 14:59

Conservation Status Ranks

State and Global Ranks: This ranking system facilitates a quick assessment of a species' or habitat type's rarity and is the primary tool used to develop conservation, protection, and restoration priorities for individual species and natural habitat types. Each species or habitat is assigned both a state (S) and global (G) rank on a scale of critically imperiled (1) to secure (5). Factors such as range extent, the number of occurrences, intensity of threats, etc., contribute to the assignment of state and global ranks. The definitions for state and global ranks are comparable but applied at different geographic scales; something that is state imperiled may be globally secure.

The information supporting these ranks is developed and maintained by the Maine Natural Areas Program (state ranks) and NatureServe (global ranks).

Rank	Definition
S1 **G1**	**Critically Imperiled** – At very high risk of extinction or elimination due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.
S2 **G2**	**Imperiled** – At high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
S3 **G3**	**Vulnerable** – At moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
S4 **G4**	**Apparently Secure** – At fairly low risk of extinction or elimination due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
S5 **G5**	**Secure** – At very low risk of extinction or elimination due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.
SX **GX**	**Presumed Extinct** – Not located despite intensive searches and virtually no likelihood of rediscovery.
SH **GH**	**Possibly Extinct** – Known from only historical occurrences but still some hope of rediscovery.
S#S# **G#G#**	**Range Rank** – A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem.
SU **GU**	**Unrankable** – Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
GNR **SNR**	**Unranked** – Global or subnational conservation status not yet assessed.
SNA **GNA**	**Not Applicable** – A conservation status rank is not applicable because the species or ecosystem is not a suitable target for conservation activities (e.g., non-native species or ecosystems.
Qualifier	**Definition**
S#? **G#?**	**Inexact Numeric Rank** – Denotes inexact numeric rank.
Q	**Questionable taxonomy that may reduce conservation priority** – Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable. The "Q" modifier is only used at a global level.
T#	**Infraspecific Taxon (trinomial)** – The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank.

State Status: Endangered and Threatened are legal status designations authorized by statute. Please refer to MRSA Title 12, §544 and §544-B.

Status	Definition
E	**Endangered** – Any native plant species in danger of extinction throughout all or a significant portion of its range within the State or Federally listed as Endangered.
T	**Threatened** – Any native plant species likely to become endangered within the foreseeable future throughout all or a significant portion of its range in the State or Federally listed as Threatened.
SC	**Special Concern** – A native plant species that is rare in the State, but not rare enough to be considered Threatened or Endangered.
PE	**Potentially Extirpated** – A native plant species that has not been documented in the State in over 20 years, or loss of the last known occurrence.

Element Occurrence (EO) Ranks: Quality assessments that designate viability of a population or integrity of habitat. These ranks are based on size, condition, and landscape context. Range ranks (e.g., AB, BC) and uncertainty ranks (e.g., B?) are allowed. The Maine Natural Areas Program tracks all occurrences of rare plants and natural communities/ecosystems (S1-S3) as well as exemplary common natural community types (S4-S5 with EO ranks A/B).

Rank	Definition
A	**Excellent** – Excellent estimated viability/ecological integrity.
B	**Good** – Good estimated viability/ecological integrity.
C	**Fair** – Fair estimated viability/ecological integrity.
D	**Poor** – Poor estimated viability/ecological integrity.
E	**Extant** – Verified extant, but viability/ecological integrity not assessed.
H	**Historical** – Lack of field information within past 20 years verifying continued existence of the occurrence, but not enough to document extirpation.
X	**Extirpated** – Documented loss of population/destruction of habitat.
U	**Unrankable** – Occurrence unable to be ranked due to lack of sufficient information (e.g., possible mistaken identification).
NR	**Not Ranked** – An occurrence rank has not been assigned.

Visit the Maine Natural Areas Program website for more information
http://www.maine.gov/dacf/mnap

Attachment 6

Lighting

Attachment 6: Lighting

Lighting on site has been designed to match the surrounding area and existing lighting in use at Jordan Bay Marina. Please see this Attachment for lighting details.

BEACON
design . performance . technology

DATE: LOCATION:

TYPE: PROJECT:

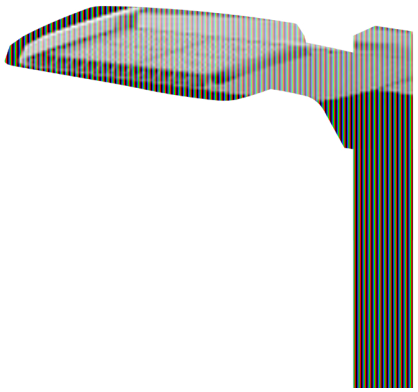
CATALOG #:

VIPER Area/Site

VIPER LUMINAIRE

MICRO STRIKE | OPTICS STRIKE

FEATURES



- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as auto dealership, retail, commercial, and campus parking lots
- Featuring two different optical technologies, Strike and Micro Strike Optics, which provide the best distribution patterns for retrofit or new construction
- Rated for high vibration applications including bridges and overpasses. All sizes are rated for 1.5G
- Control options including photo control, occupancy sensing, NX Distributed Intelligence™, wiSCAPE and 7-Pin with networked controls
- New customizable lumen output feature allows for the wattage and lumen output to be customized in the factory to meet whatever specification requirements may entail
- Field interchangeable mounting provides additional flexibility after the fixture has shipped

c UL us IP65

BUY AMERICAN SOLUTIONS

See Certification Specifications

CONTROL TECHNOLOGY

NX DISTRIBUTED INTELLIGENCE™ wiSCAPE™

SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with 1000 hour powder coat paint finish
- External hardware is corrosion resistant

OPTICS

- Micro Strike Optics (160, 320, 480, or 720 LED counts) maximize uniformity in applications and come standard with mid-power LEDs which evenly illuminate the entire luminous surface area to provide a low glare appearance. Catalog logic found on page 2
- Strike Optics (36, 72, 108, or 162 LED counts) provide best in class distributions and maximum pole spacing in new applications with high powered LEDs. Strike optics are held in place with a polycarbonate bezel to mimic the appearance of the Micro Strike Optics so both solutions can be combined on the same application. Catalog logic found on page 3
- Both optics maximize target zone illumination with minimal losses at the house-side, reducing light trespass issues. Additional backlight control shields and house side shields can be added for further reduction of illumination behind the pole
- One-piece silicone gasket ensures a weatherproof seal
- Zero up-light at 0 degrees of tilt
- Field rotatable optics

INSTALLATION

- Mounting patterns for each arm can be found on page 11
- Optional universal mounting block for ease of installation during retrofit applications. Available as an option (ASQU) or accessory for square and round poles.
- All mounting hardware included

INSTALLATION (CONTINUED)

- Knuckle arm fitter option available for 2-3/8" OD tenon
- For products with EPA less than 1 mounted to a pole greater that 20ft, a vibration damper is recommended

ELECTRICAL

- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40˚C to 40˚C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised

CONTROLS

- Photo control, occupancy sensor programmable controls, and Zigbee wireless controls available for complete on/off and dimming control
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)
- 0- 10V Dimming Drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 6" standard

CONTROLS (CONTINUED)

- NX Distributed Intelligence™ available with in fixture wireless control module, features dimming and occupancy sensor
- wiSCAPE® available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

CERTIFICATIONS

- Meets the qualifications for DLC Premium
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40˚C ambient temperatures
- 1.5 G rated for ANSI C136.31 high vibration applications
- Fixture is IP65 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt
- This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 04/23/2020. See Buy American Solutions.

WARRANTY

- 5 year warranty
- See HLI Commercial and Industrial Outdoor Lighting Warranty for additional information

KEY DATA	
Lumen Range	5,000–80,000
Wattage Range	36–600
Efficacy Range (LPW)	92–155
Weight lbs. (kg)	13.7-30.9 (6.2-13.9)

HUBBELL Lighting

BEACON
design . performance . technology

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

VIPER Area/Site

VIPER LUMINAIRE

STRIKE OPTIC – ORDERING GUIDE

Example: VP–ST–1–36L-39–3K7–2–UNV–A–BLT

CATALOG #

VP –

Series		Optic Platform		Size		Light Engine		CCT/CRI		Distribution		Optic Rotation		Voltage	
VP	Viper	ST	Strike	1	Size 1	36L-39 [8]	5500 lumens	AM	monochromatic amber, 595nm	FR	Auto Front Row	L	Optic rotation left	UNV	120-277V
						36L-55 [8]	7500 lumens			2	Type 2	R	Optic rotation right	120	120V
						36L-85	10000 lumens	27K8	2700K, 80 CRI	3	Type 3			208	208V
						36L-105	12500 lumens	3K7	3000K, 70 CRI	4F	Type 4 Forward			240	240V
						36L-120	14000 lumens	3K8	3000K, 80 CRI	4W	Type 4 Wide			277	277V
				2	Size 2	72L-115	15000 lumens	3K9	3000K, 90 CRI	5QN	Type 5 Square Narrow			347	347V
						72L-145	18000 lumens	35K8	3500K, 80 CRI	5QM	Type 5 Square Medium			480	480V
						72L-180	21000 lumens	4K7	4000K, 70 CRI	5QW	Type 5 Square Wide				
						72L-210	24000 lumens	4K8	4000K, 80 CRI	5W	Type 5 Wide (Round)				
						72L-240	27000 lumens	4K9	4000K, 90 CRI	5RW	Type 5 Rectangular				
				3	Size 3	108L-215 [8]	27000 lumens	5K7	5000K, 70 CRI	C	Corner Optic				
						108L-250	30000 lumens	5K8	5000K, 80 CRI	TC	Tennis Court Optic				
						108L-280	33000 lumens								
						108L-325	36000 lumens								
						108L-365	40000 lumens								
				4	Size 4	162L-320	40000 lumens								
						162L-365 [10]	44000 lumens								
						162L-405	48000 lumens								
						162L-445	52000 lumens								
						162L-485	55000 lumens								
						162L-545 [8]	60000 lumens								
						CLO	Custom Lumen Output [1]								

–

Mounting		Color		Options		Network Control Options	
A	Arm mount for square pole/flat surface	BLT	Black Matte Textured	F	Fusing	NXSPW-14F	NX Wireless, PIR Occupancy Sensor, Dimming Daylight Harvesting, 14' [1,4,5]
A_	Arm mount for round pole [3]	BLS	Black Gloss Smooth	E	Battery Backup [1,2,7,8,9]	NXSPW-40F	NX Wireless, PIR Occupancy Sensor, Dimming Daylight Harvesting, 40') [1,4,5]
ASQU	Universal arm mount for square pole	DBT	Dark Bronze Matte Textured	2PF	Dual Power Feed	NXSP-14F	NX, PIR Occupancy Sensor, Dimming Daylight Harvesting, 14' [4,5]
A_U	Universal arm mount for round pole [3]	DBS	Dark Bronze Gloss Smooth	2DR	Dual Driver	NXSP-40F	NX, PIR Occupancy Sensor, Dimming Daylight Harvesting, 40' [4,5]
AAU	Adjustable arm for pole mounting (universal drill pattern)	GTT	Graphite Matte Textured	TE	Tooless Entry	NXWE	NX Wireless Enabled [4,5]
AA_U	Adjustable arm mount for round pole [3]	LGS	Light Grey Gloss Smooth	BC	Backlight Control	WIR	wiSCAPE® In-Fixture Module [4,5]
ADU	Decorative upswept Arm (universal drill pattern)	LGT	Light Grey Gloss Textured	TB	Terminal Block	WIRSC	wiSCAPE® Module and Occupancy Sensor [4,5]
AD_U	Decorative upswept arm mount for round pole [3]	PSS	Platinum Silver Smooth			**Stand Alone Sensors**	
MAF	Mast arm fitter for 2-3/8" OD horizontal arm	WHT	White Matte Textured			BTS-14F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor [5]
K	Knuckle	WHS	White Gloss Smooth			BTS-40F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor [5]
T	Trunnion	VGT	Verde Green Textured			BTSO-12F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor, up to 12' mounting height [5]
WB	Wall Bracket, horizontal tenon with MAF	**Color Option**				7PR	7-Pin Receptacle [5]
WM	Wall mount bracket with decorative upswept arm	CC	Custom Color			7PR-SC	7-Pin Receptacle with shorting cap [5]
WA	Wall mount bracket with adjustable arm					3PR	3-Pin twist lock [5]
						3PR-SC	3-Pin receptacle with shorting cap [5]
						3PR-TL	3-Pin PCR with photocontrol [5]
						Programmed Controls	
						ADD	AutoDim Timer Based Dimming [5]
						ADT	AutoDim Time of Day Dimming [5]
						Photocontrols	
						PC	Button Photocontrol [5,6]

1 – Items with a grey background can be done as a custom order. Contact brand representative for more information
2 – Battery temperature rating -20C to 55C
3 – Replace "_" with "2" for 2.5"-3.4" OD pole, "3" for 3.5"-4.13" OD pole, "4" for 4.18"-5.25" OD pole, "5" for 5.5"-6.5" OD pole
4 – Networked Controls cannot be combined with other control options
5 – Not available with 2PF option
6 – Not available with 480V
7 – Not available with 347 or 480V
8 – Not available with Dual Driver option
9 – Only available in Size 1 housing
10 – Some voltage restrictions may apply when combined with controls

HUBBELL Lighting

BEACON
design . performance . technology

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

VIPER Area/Site

VIPER LUMINAIRE

ORDERING GUIDE (CONTINUED)

CATALOG #

Accessory Type		Size		Option		Color	
SHD	Shield	1	Size 1	HSS-90-B	House Side Shield 90° Back	BLS	Black Gloss Smooth
		2	Size 2	HSS-90-F	House Side Shield 90° Front	BLT	Black Matte Textured
		3	Size 3	HSS-90-S	House Side Shield 90° Side	DBS	Dark Bronze Gloss Smooth
		4	Size 4	HSS-270-BSS	House Side Shield 270° Back/Side/Side	DBT	Dark Bronze Matte Textured
				HSS-270-FSS	House Side Shield 270° Front/Side/Side	GTT	Graphite Matte Textured
				HSS-270-FSB	House Side Shield 270° Front/Side/Back	LGS	Light Gray Gloss Smooth
				HSS-360	House Side Shield 360°	PSS	Platinum Silver Smooth
				BC	Back Light Control	WHS	White Gloss Smooth
MTG	Mounting			A	Arm Mount for square pole/flat surface	WHT	White Matte Textured
				ASQU	Universal Arm Mount for square pole	VGT	Green Landscape Decorative
				AAU	Adjustable Arm for pole mounting	LEG	Legacy Colors
				ADU	Decorative upswept Arm	**Color Option**	
				RPA	Round Pole Adapter	CC	Custom Color
				MAF	Mast Arm Fitter for 2-3/8" OD horizontal arm		
				K	Knuckle		
				T	Trunnion		
				WB	Wall Bracket (compatible with universal arm mounts)		

Accessory Type		Option	
MSC	Miscellaneous	BIRD SPK	Bird Spike

Hubbell Control Solutions — Accessories (Sold Separately)

NX Distributed Intelligence™

☐ **NXOFM-1R1D-UNV** — On-fixture Module (7-pin), On / Off / Dim, Daylight Sensor with HubbNET Radio and Bluetooth® Radio, 120–480VAC

wiSCAPE® Lighting Control

☐ **WIR-RME-L** — On-fixture Module (7-pin or 5-pin), On / Off / Dim, Daylight Sensor with wiSCAPE Radio, 110–480VAC

☐ **SCP-REMOTE** — Remote Control for SCP/_F option. Order at least one per project to program and control the occupancy sensor

For additional information related to these accessories please visit www.hubbellcontrolsolutions.com. Options provided for use with integrated sensor, please view specification sheet ordering information table for details.

CONTROLS

wiSCAPE™ NX DISTRIBUTED™ INTELLIGENCE

Control Option	Sensor	Networkable	Scheduling	Occupancy	Daylight Harvesting	On/Off Control	Programming	Pair with Sensor	Sensor Mounting Height
NXWE	–	✔	✔	–	–	✔	✔	–	–
NXSPW_F	NXSM-P	✔	✔	✔	✔	✔	✔	–	14ft, 40ft
NXSP_F	NXSM-P	–	–	✔	✔	✔	–	–	14ft, 40ft
BTSO12F	BTSMP-OMNI	–	–	✔	✔	✔	Bluetooth	–	12ft
BTS_F	BTSMP	–	–	✔	✔	–	–	–	14ft, 40ft
ADD	–	–	✔	–	–	✔	–	✔	–
ADT	–	–	✔	–	–	✔	–	✔	–
7PR	–	Paired with external control	Paired with external control	–	Paired with external control	Paired with external control	–	✔	–
7PR-SC	–	–	–	–	–	–	–	✔	–
3PR	–	–	–	–	–	Paired with external control	–	✔	–
3PR-SC	–	–	–	–	–	–	–	✔	–
3PR-TL	–	–	–	–	✔	✔	–	✔	–
WIR	–	✔	✔	–	✔	✔	Gateway	–	–
WIRSC	BTSMP	✔	✔	✔	✔	✔	Gateway	–	14ft, 40ft

HUBBELL Lighting

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VIPER LUMINAIRE

DELIVERED LUMENS

For delivered lumens, please see Lumens Data PDF on www.hubbelllighting.com

PROJECTED LUMEN MAINTENANCE

Ambient Temp.	0	25,000	*TM-21-11 36,000	50,000	100,000	Calculated L_{70} (Hours)
25°C / 77°F	1.00	0.97	0.96	0.95	0.91	408,000
40°C / 104°F	0.99	0.96	0.95	0.94	0.89	356,000

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98
50°C	122°F	0.97

Micro Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	–	0.841	–
3000K	0.977	0.861	0.647
3500K	–	0.900	–
4000K	1	0.926	0.699
5000K	1	0.937	0.791
Monochromatic Amber Multiplier			
Amber	0.250		

Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	–	0.859	–
3000K	0.941	0.912	0.703
3500K	–	0.906	–
4000K	1	0.894	0.734
5000K	1	0.879	0.711
Monochromatic Amber Multiplier			
Amber	0.255		

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VIPER LUMINAIRE

ELECTRICAL DATA: STRIKE

# OF LEDS	36				
NOMINAL WATTAGE	39	55	85	105	115
SYSTEM POWER (W)	39.6	56.8	83.6	108.2	113.7
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	0.33	0.46	0.71	0.88	1.00
208	0.19	0.26	0.41	0.50	0.58
240	0.16	0.23	0.35	0.44	0.50
277	0.14	0.20	0.31	0.38	0.43
347	0.11	0.16	0.24	0.30	0.35
480	0.08	0.11	0.18	0.22	0.25

# OF LEDS	72				
NOMINAL WATTAGE	120	145	180	210	215
SYSTEM POWER (W)	120.9	143.2	179.4	210.2	214.8
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	0.96	1.21	1.50	1.75	2.00
208	0.55	0.70	0.87	1.01	1.15
240	0.48	0.60	0.75	0.88	1.00
277	0.42	0.52	0.65	0.76	0.87
347	0.33	0.42	0.52	0.61	0.69
480	0.24	0.30	0.38	0.44	0.50

# OF LEDS	108				
NOMINAL WATTAGE	240	250	280	320	325
SYSTEM POWER (W)	241.7	250.8	278.3	322.1	324.7
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	1.79	2.08	2.33	2.71	3.04
208	1.03	1.20	1.35	1.56	1.75
240	0.90	1.04	1.17	1.35	1.52
277	0.78	0.90	1.01	1.17	1.32
347	0.62	0.72	0.81	0.94	1.05
480	0.45	0.52	0.58	0.68	0.76

# OF LEDS	162				
NOMINAL WATTAGE	365	405	445	485	545
SYSTEM POWER (W)	362.6	403.6	445.1	487.1	543.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	2.67	3.38	3.71	4.04	4.54
208	1.54	1.95	2.14	2.33	2.62
240	1.33	1.69	1.85	2.02	2.27
277	1.16	1.46	1.61	1.75	1.97
347	0.92	1.17	1.28	1.40	1.57
480	0.67	0.84	0.93	1.01	1.14

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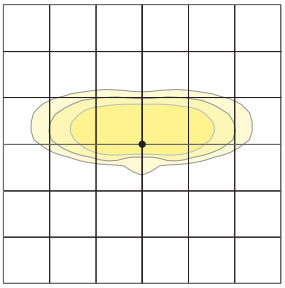
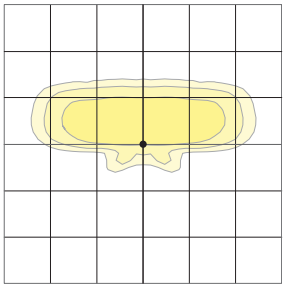
OPTIC STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

Type FR – Front Row/Auto Optic



Type 2



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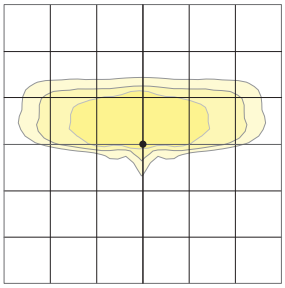
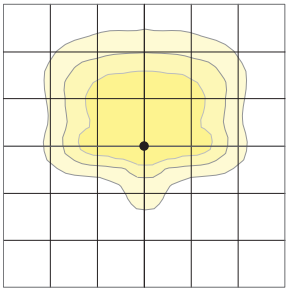
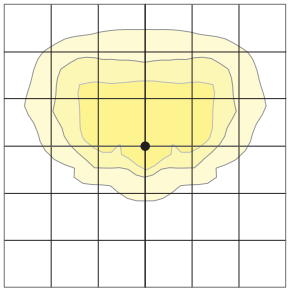


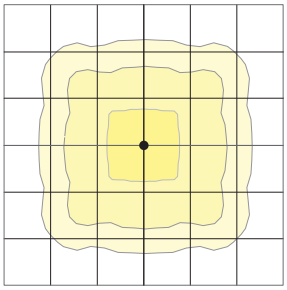
Type 4 Forward



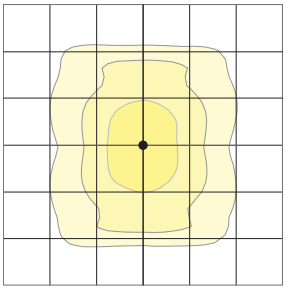
Type 4 Wide



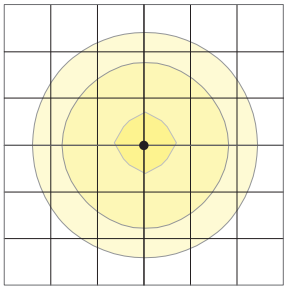
Type 5QM



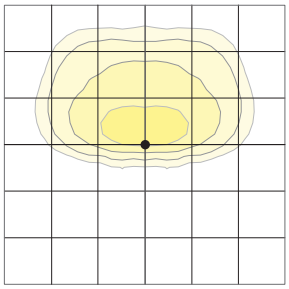
Type 5R (rectangular)



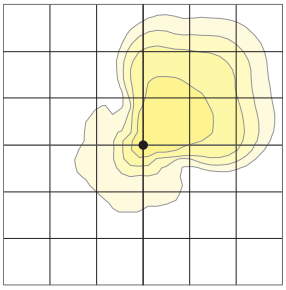
Type 5W (round wide)



Type TC



Type Corner



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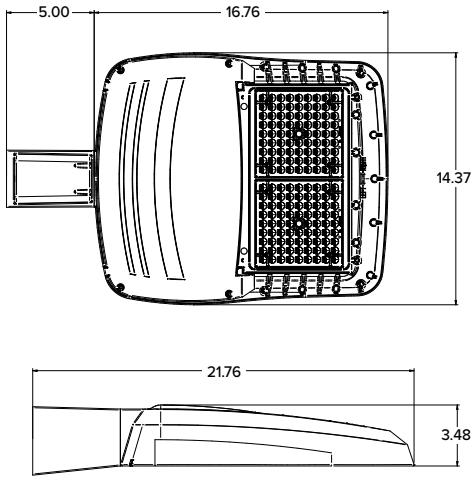
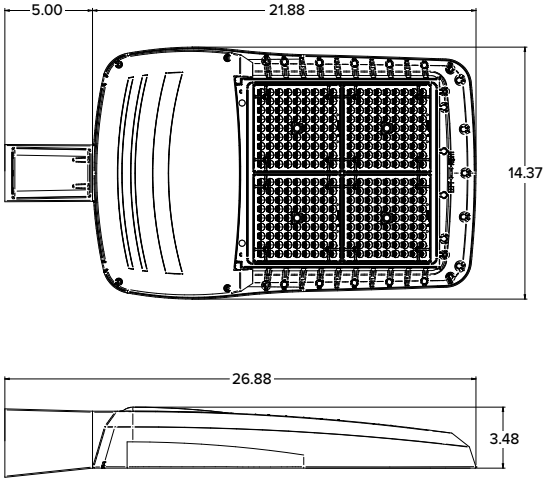
VIPER LUMINAIRE

DIMENSIONS

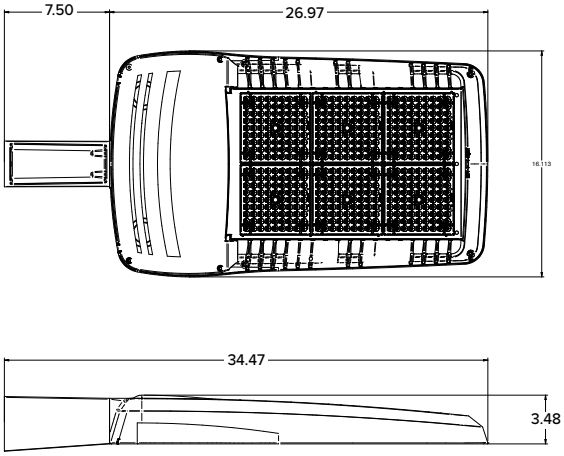
SIZE 1



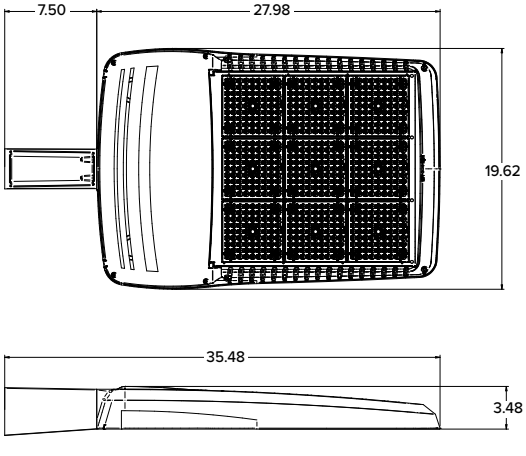
SIZE 2



SIZE 3



SIZE 4



	EPA				
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	Config.
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

	Weight	
	lbs	kgs
VP1 (Size 1)	13.7	6.2
VP2 (Size 2)	16.0	7.26
VP3 (Size 3)	25.9	11.7
VP4 (Size 4)	30.8	13.9

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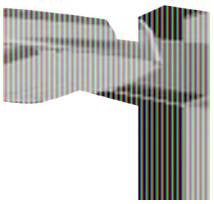
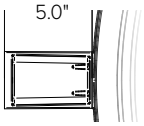
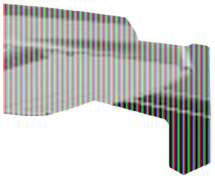
MOUNTING



ASQ–STRAIGHT ARM MOUNT

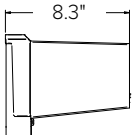
Fixture ships with integral arm for ease of installation. Compatible with Hubbell Outdoor B3 drill pattern. For round poles add applicable suffix (2/3/4/5)

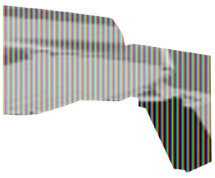




ASQU–UNIVERSAL ARM MOUNT

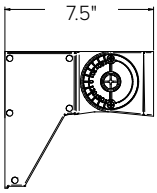
Universal mounting block for ease of installation. Compatible with drill patterns from 2.5" to 4.5" and Hubbell drill pattern S2. For round poles add applicable suffix (2/3/4/5)

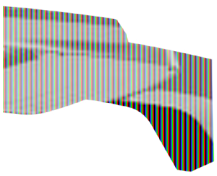




AAU–ADJUSTABLE ARM FOR POLE MOUNTING

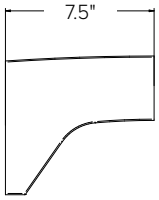
Rotatable arm mounts directly to pole. Compatible with drill patterns from 2.5" to 4.5" and Hubbell drill pattern S2. For round poles add applicable suffix (2/3/4/5). Rotatable in 15˚ aiming angle increments. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.

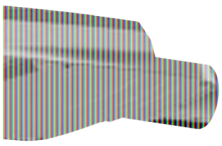




ADU–DECORATIVE UPSWEPT ARM

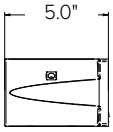
Upswept Arm compatible with drill patterns from 2.5" to 4.5". For round poles add applicable suffix (2/3/4/5).

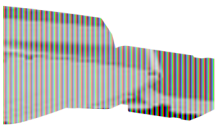




MAF–MAST ARM FITTER

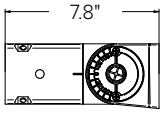
Fits 2-3/8" OD horizontal tenons.

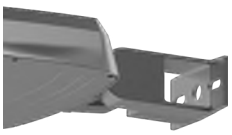




K–KNUCKLE

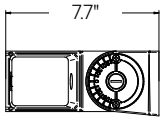
Knuckle mount 15˚ aiming angle increments for precise aiming and control, fits 2-3/8" tenons or pipes. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.





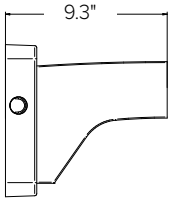
T–TRUNNION

Trunnion for surface and crossarm mounting using (1) 3/4" or (2) 1/2" size through bolts. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.



WM–WALL MOUNT

Compatible with universal arm mount, adjustable arm mount, and decorative arm mount. The WA option uses the same wall bracket but replaces the decorative arm with an adjustable arm.



HUBBELL Lighting

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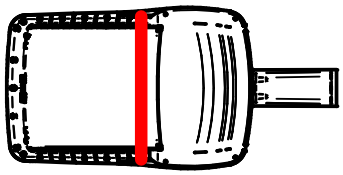
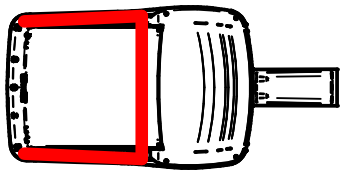
ADDITIONAL INFORMATION (CONTINUED)

HOUSE SIDE SHIELD FIELD INSTALL ACCESSORIES

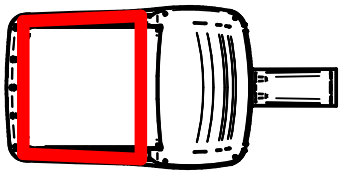
VPR2x HSS-90-B-xx



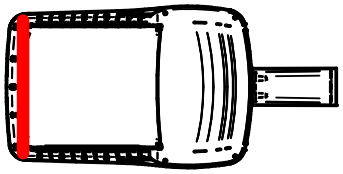
VPR2x HSS-270-BSS-xx



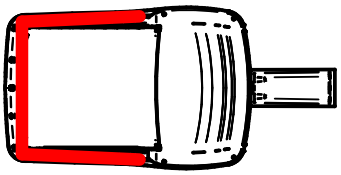
VPR2x HSS-360-xx



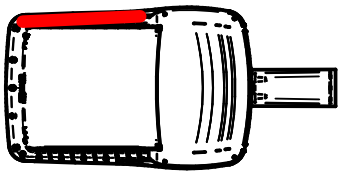
VPR2x HSS-90-F-xx



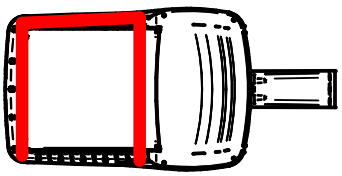
VPR2x HSS-270-FSS-xx



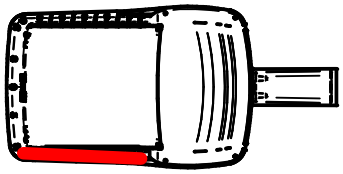
VPR2x HSS-90-S-xx



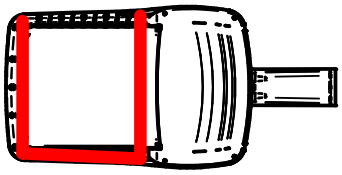
VPR2x HSS-270-FSB-xx



VPR2x HSS-90-S-xx



VPR2x HSS-270-FSB-xx



DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

VIPER Area/Site

VIPER LUMINAIRE

ADDITIONAL INFORMATION (CONTINUED)

PROGRAMMED CONTROLS

ADD-AutoDim Timer Based Options

- Light delay options from 1-9 hours after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1-9 hours after the light has been dimmed previously.

EX: ADD-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	1-9 Hours	6 - Delay 6 hours
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50% brightness
Auto-Dim Return	Delay 0-9 Hours	R6 - Return to full output after 6 hours

ADT-AutoDim Time of Day Based Option

- Light delay options from 1AM-9PM after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1AM-9PM after the light has been dimmed previously.

EX: ADT-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	12-3 AM and 6-11 PM	6 - Dim at 6PM
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50%
Auto-Dim Return	12-6 AM and 9-11P	R6 - Return to full output at 6AM

USE OF TRADEMARKS AND TRADE NAMES

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Type:	
Project Name:	
Notes:	

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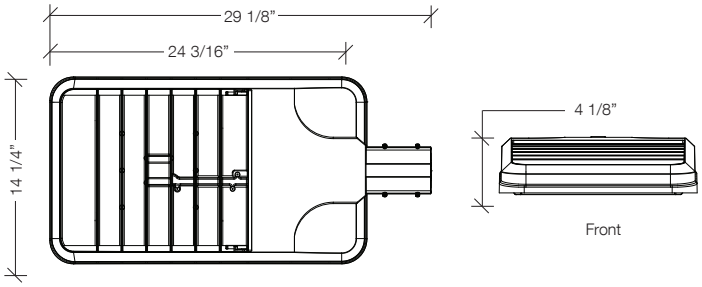
VIPER - LARGE (LED)

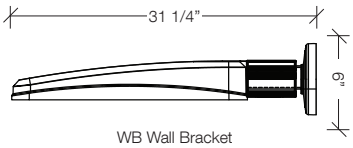
Large Viper Luminaire
Max Weight: 25.0 lbs
Max EPA: 1 sq ft

Sample	*VP-L*	*96NB-280*	*5K*	*T5R*	*UNV*	*PCR-TL*	*SF2*	*BBT*
Ordering		/	/	/	/	/	/	/
	A	**B**	**C**	**D**	**E**	**F**	**G**	**H**

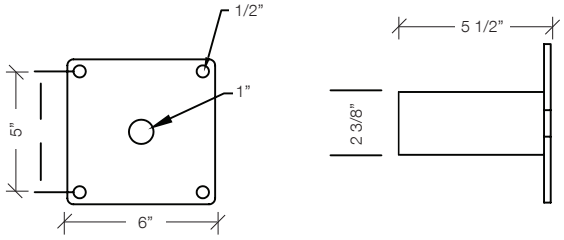
DETAILS

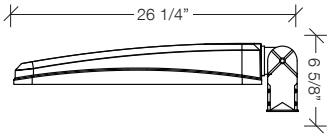


MOUNTING OPTIONS



WB Wall Bracket





PK2 2-3/8" Adjustable Knuckle

Side View *Back View*

SF2 2-3/8" OD Slip Fitter

Side View *Back View*

RA Rectangular Arm

A. MODEL

VP-L	Viper - Large

B. ENGINE-WATTS

64NB-135	135 Watts - LED array
64NB-190	190 Watts - LED array
80NB-180	180 Watts - LED array
80NB-235	235 Watts - LED array
96NB-220	220 Watts - LED array
96NB-280	280 Watts - LED array

C. CCT - COLOR TEMP

5K	5000K (std.)
4K	4000K
3K	3000K

D. OPTICS

T2	type II
T3	type III
T4	type IV
T5R	type V, rectangular
T5QM	type V, square medium
T5W	type V, round wide

E. VOLTAGE

UNV	120-277V
347V	347V
480V	480V

F. ELECTRICAL OPTIONS

PCR-TL	photocell, twist-lock
PCR-SC	photocell, shorting cap
2PF	dual power feed [1,2]

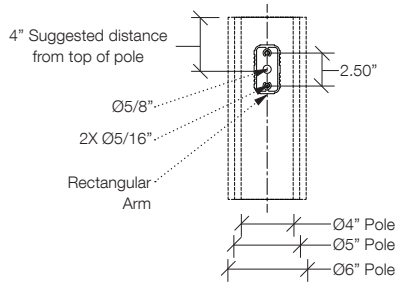
G. MOUNTING OPTIONS

RA	rectangular arm
SF2	2 3/8" OD slip-fitter
PK2	2 3/8" adjustable knuckle
WB	wall bracket

H. COLOR

BBT	basic black textured
BMT	black matte textured
WHT	white textured
MBT	metallic bronze textured
BZT	bronze textured
DBT	dark bronze textured
GYS	gray smooth
DPS	dark platinum smooth
GNT	green textured
MST	metallic silver textured
MTT	metallic titanium textured
OWI	old world iron
RAL	_____

DRILL PATTERN



[1] not available on 64NB-135

[2] not available @ 347V or 480V input

rev. 06.16.2014

VIPER - LARGE (LED)

Large Viper Luminaire
Max Weight: 25.0 lbs
Max EPA: 1 sq ft

General: The Beacon Viper luminaire is available in two sizes with a wide choice of different LED Wattage configurations and optical distributions designed to replace HID lighting up to 1000W MH or HPS and with 5 different mounting options for application in a wide variety of new and existing installations. Luminaires are suitable for wet locations.

Bezel Optic System: Each Viper luminaire is supplied with an one piece optical cartridge system consisting of an LED engine, LED lamps, optics, gasket and stainless steel bezel. The cartridge is held together with internal brass standoffs soldered to the board so that it can be field replaced as a one piece optical system. Two-piece silicone and micro-cellular polyurethane foam gasket ensures a weather-proof seal around each individual LED.

The optical cartridge is secured to the die cast housing with fasteners. The optics are held in place without the use of adhesives. The cartridge assembly is available in various lighting distributions using TIR designed acrylic optical lenses over each LED.

Lifeshield™ Circuit: Thermal circuit shall protect the luminaire from excessive temperature by interfacing with the 0-10V dimmable drivers to reduce drive current as necessary. The factory-preset temperature limits shall be designed to ensure maximum hours of operation to assure L70 rated lumen maintenance. The device shall activate at a specific, factory-preset temperature, and progressively reduce power over a finite temperature range.

A luminaire equipped with the device may be reliably operated in any ambient temperature up to 55ºC (131ºF). The thermal circuit will allow higher maximum Wattages than would be permissible on an unregulated luminaire (if some variation in light output is permissible), without risk of premature LED failure or lumen depreciation. Operation shall be smooth and undetectable to the eye. Thermal circuit shall directly measure the temperature at the LED solder point. Thermal circuit shall consist of surface mounted components mounted on the LED engine (printed circuit board). For maximum simplicity and reliability, the device shall have no dedicated enclosure, circuit board, wiring harness, gaskets, or hardware. Device shall have no moving parts, and shall operate entirely at low voltage. The device shall be located in an area of the luminaire that is protected from the elements. Thermal circuit shall be designed to “fail on”, allowing the luminaire to revert to full power in the event of an interruption of its power supply, or faulty wiring connection to the drivers.

Device shall be able to co-exist with other 0-10V control devices (occupancy sensors, external dimmers, etc.). The device will effectively control the solder point temperature as needed; otherwise it will allow the other control device(s) to function unimpeded.

Printed Circuit Board (PCB): Aluminum thermal clad board with 0.062” thick aluminum base layer, thermally conductive dielectric layer, 0.0014” thick copper circuit layer circuit layer designed with copper pours to minimize thermal impedance across dielectric. Board will be mounted to the heat sink using minimum 12 #4-40 screws to ensure contact with thermal pad and heat sink. Use of thermal grease will not be allowed.

Housing and LED Thermal Management: The Viper’ monolithic housing design creates over 4.5 square feet (small Viper) or 7.7 square feet (large Viper) of heat-sinking surface area. Vertical fins, combined with flow-thru openings prevent sediment and moisture buildup on critical heat sinking surfaces without the need for grates, screens or other debris control tactics. The Viper housing, electrical compartment and fitter are made from die cast aluminum that is pre-treated and powder-coated to meet the most rugged industry standards. The finish is corrosion resistant to meet ASTMB-117, resists cracking or loss of adhesion per ASTM D522, resists surface impacts of up to 160 inch-pound. All external hardware is corrosion resistant. The housing serves as a heat-sink for the LED bezel with a separate compartment for the drivers.

Electrical Assembly: The fixture electrical compartment shall contain all LED driver components and shall be provided with a push-button terminal block for AC power connections. The housing is designed for an optional twist lock photo control receptacle.

Accessibility: Although the Viper luminaire is designed to operate for many years without maintenance, accessibility is a key component in its design. The Drivers are mounted on a removable door that is secured with keyslotted screws and hinges down for convenient access. The drivers are field replaceable using quick disconnects.

Drivers: Luminaires are equipped with an LED driver that accepts 100V through 277V, 50 Hz to 60 Hz (UNIV), or a driver that accepts 347V or 480V input. Power factor is .92 at full load. All electrical components are rated at 50,000 hours at full load and 25°C ambient conditions per MIL- 217F Notice 2. Dimming drivers are standard, with connections for external dimming equipment available upon request. Component-to-component wiring within the luminaire may carry no more than 80% of rated load and is listed by UL for use at 600VAC at 50°C or higher. Plug disconnects are listed by UL for use at 600 VAC, 13A or higher. 13A rating applies to primary (AC) side only.

Surge Protector: The on-board surge protector shall be a UL recognized component for the United States and Canada and have a surge current rating of 20,000 Amps using the industry standard 8/20 pSec wave. The LSP shall have a clamping voltage of 825V and surge rating of 540J. The case shall be a high-temperature, flame resistant plastic enclosure.

Fasteners: All fasteners shall be stainless steel. When tamper resistant fasteners are required, spanner HD (snake eye) style shall be provided (special tool required, consult factory).

Color Rendering Index (CRI): Luminaire shall have a minimum CRI of 67 at 5000K.

Operating Environment: Shall be able to operate normally in ambient temperatures from -40°C to 40°C

Finish: Finish shall be a Beacote V polyester powder-coat electro-statically applied and thermocured. Beacote V finish shall consist of a five stage iron phosphate chemical pretreatment regimen with a polymer primer sealer, oven dry off, and top coated with a thermoset super TGIC polyester powder coat finish. The finish shall meet the AAMA 605.2 performance specification which includes passing a 3000 hour salt spray test for corrosion resistance and resists cracking or loss of adhesion per ASTM D522 and resists surface impacts of up to 160 inch-pound.

Agency Certification: The luminaire shall bear a CSA label and be marked suitable for wet locations.

Warranty: Beacon luminaires feature a 5 year limited warranty. Beacon LED luminaires with LED arrays feature a 5 year limited warranty covering the LED arrays. LED drivers are covered by a 5 year limited warranty. PIR sensors carry a 5 year limited warranty from the sensor manufacturer. See Warranty Information on www.beaconproducts.com complete details and exclusions.

Power/Lumens & Distrubutions

Engine	Wattage	Delivered Lumens (varies by optic)	Delivered LPW	TM21 Calculated % Lumen Maint. at 100,000 hrs
64NB	135	12500-13150	93-97	93.84%
64NB	190	16500-17900	86-94	79.77%
80NB	180	17000-18100	93-100	92.73%
80NB	235	20000-21780	86-93	79.97%
96NB	220	20500-21780	93-100	92.73%
96NB	280	24700-26130	88-93	79.77%

TM21 is the framework for taking LM-80 data and making useful LED lifetime projections. Reported and Calculated Lifetimes shown are based on hours at the time of this printing. For current Reported and Calculated hours please contact factory or Beacon’s web-site.

CCT (COLOR TEMP) Lumen Output Multipliers	**CRI (Color Rendering)**
5000K = 1.0	min 67 CRI
4000K = .92	min 70 CRI
3000K = .75	min 80 CRI

Due to our continued efforts to improve our products, product specifications are subject to change without notice.

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Type:	
Project Name:	
Notes:	

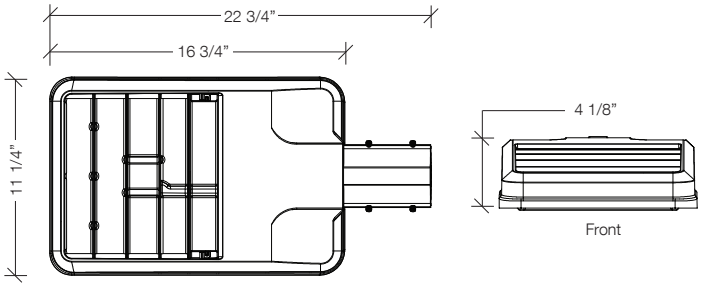
rev. 06.16.2014

VIPER - SMALL (LED)

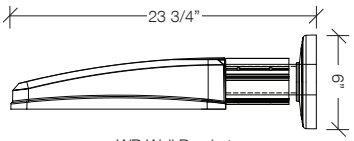
Small Viper Luminaire
Max Weight: 15.0 lbs
Max EPA: 0.67 sq ft

Sample	*VP-S*		*30NB-90*		*5K*		*T5R*		*UNV*		*PCR-TL*		*SF2*		*BBT*
Ordering		/		/				/		/		/		/	
	A		**B**		**C**		**D**		**E**		**F**		**G**		**H**

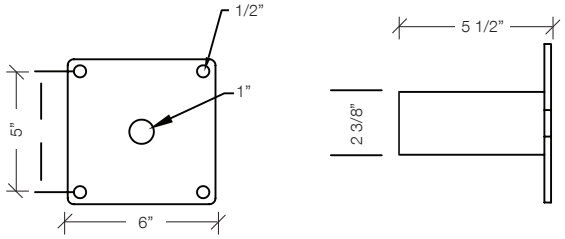
DETAILS

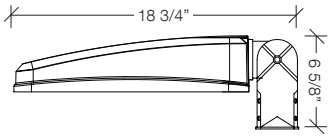


MOUNTING OPTIONS



WB Wall Bracket





PK2 2-3/8" Adjustable Knuckle

SF2 2-3/8" OD Slip Fitter

RA Rectangular Arm

A. MODEL

VP-S	Viper - Small

B. ENGINE-WATTS

22NB-50	50 Watts - LED array
22NB-70	70 Watts - LED array
30NB-70	70 Watts - LED array
30NB-90	90 Watts - LED array

C. CCT - COLOR TEMP

5K	5000K (std.)
4K	4000K
3K	3000K

D. OPTICS

T2	type II
T3	type III
T4	type IV
T5R	type V, rectangular
T5QM	type V, square medium
T5W	type V, round wide

E. VOLTAGE

UNV	120-277V
347V	347V
480V	480V

F. ELECTRICAL OPTIONS

PCR-TL	photocell, twist-lock
PCR-SC	photocell, shorting cap
2PF	dual power feed [1,2]

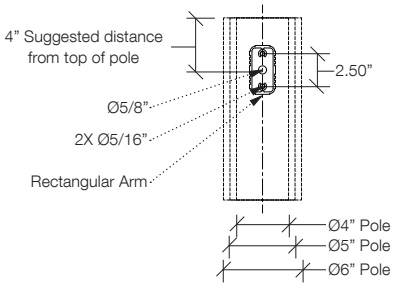
G. MOUNTING OPTIONS

RA	rectangular arm
SF2	2 3/8" OD slip-fitter
PK2	2 3/8" adjustable knuckle
WB	wall bracket

H. COLOR

BBT	basic black textured
BMT	black matte textured
WHT	white textured
MBT	metallic bronze textured
BZT	bronze textured
DBT	dark bronze textured
GYS	gray smooth
DPS	dark platinum smooth
GNT	green textured
MST	metallic silver textured
MTT	metallic titanium textured
OWI	old world iron
RAL	_____

DRILL PATTERN



[1] not available with 30NB-90

[2] not available @ 347V or 480V input

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VIPER - SMALL (LED)

Small Viper Luminaire
Max Weight: 15.0 lbs
Max EPA: 0.67 sq ft

General: The Beacon Viper luminaire is available in two sizes with a wide choice of different LED Wattage configurations and optical distributions designed to replace HID lighting up to 1000W MH or HPS and with 5 different mounting options for application in a wide variety of new and existing installations. Luminaires are suitable for wet locations.

Bezel Optic System: Each Viper luminaire is supplied with an one piece optical cartridge system consisting of an LED engine, LED lamps, optics, gasket and stainless steel bezel. The cartridge is held together with internal brass standoffs soldered to the board so that it can be field replaced as a one piece optical system. Two-piece silicone and micro-cellular polyurethane foam gasket ensures a weather-proof seal around each individual LED.

The optical cartridge is secured to the die cast housing with fasteners. The optics are held in place without the use of adhesives. The cartridge assembly is available in various lighting distributions using TIR designed acrylic optical lenses over each LED.

Lifeshield™ Circuit: Thermal circuit shall protect the luminaire from excessive temperature by interfacing with the 0-10V dimmable drivers to reduce drive current as necessary. The factory-preset temperature limits shall be designed to ensure maximum hours of operation to assure L70 rated lumen maintenance. The device shall activate at a specific, factory-preset temperature, and progressively reduce power over a finite temperature range.

A luminaire equipped with the device may be reliably operated in any ambient temperature up to 55ºC (131ºF). The thermal circuit will allow higher maximum Wattages than would be permissible on an unregulated luminaire (if some variation in light output is permissible), without risk of premature LED failure or lumen depreciation. Operation shall be smooth and undetectable to the eye. Thermal circuit shall directly measure the temperature at the LED solder point. Thermal circuit shall consist of surface mounted components mounted on the LED engine (printed circuit board). For maximum simplicity and reliability, the device shall have no dedicated enclosure, circuit board, wiring harness, gaskets, or hardware. Device shall have no moving parts, and shall operate entirely at low voltage. The device shall be located in an area of the luminaire that is protected from the elements. Thermal circuit shall be designed to “fail on”, allowing the luminaire to revert to full power in the event of an interruption of its power supply, or faulty wiring connection to the drivers.

Device shall be able to co-exist with other 0-10V control devices (occupancy sensors, external dimmers, etc.). The device will effectively control the solder point temperature as needed; otherwise it will allow the other control device(s) to function unimpeded.

Printed Circuit Board (PCB): Aluminum thermal clad board with 0.062” thick aluminum base layer, thermally conductive dielectric layer, 0.0014” thick copper circuit layer circuit layer designed with copper pours to minimize thermal impedance across dielectric. Board will be mounted to the heat sink using minimum 12 #4-40 screws to ensure contact with thermal pad and heat sink. Use of thermal grease will not be allowed.

Housing and LED Thermal Management: The Viper’ monolithic housing design creates over 4.5 square feet (small Viper) or 7.7 square feet (large Viper) of heat-sinking surface area. Vertical fins, combined with flow-thru openings prevent sediment and moisture buildup on critical heat sinking surfaces without the need for grates, screens or other debris control tactics. The Viper housing, electrical compartment and fitter are made from die cast aluminum that is pre-treated and powder-coated to meet the most rugged industry standards. The finish is corrosion resistant to meet ASTMB-117, resists cracking or loss of adhesion per ASTM D522, resists surface impacts of up to 160 inch-pound. All external hardware is corrosion resistant. The housing serves as a heat-sink for the LED bezel with a separate compartment for the drivers.

Electrical Assembly: The fixture electrical compartment shall contain all LED driver components and shall be provided with a push-button terminal block for AC power connections. The housing is designed for an optional twist lock photo control receptacle.

Accessibility: Although the Viper luminaire is designed to operate for many years without maintenance, accessibility is a key component in its design. The Drivers are mounted on a removable door that is secured with keyslotted screws and hinges down for convenient access. The drivers are field replaceable using quick disconnects.

Drivers: Luminaires are equipped with an LED driver that accepts 100V through 277V, 50 Hz to 60 Hz (UNIV), or a driver that accepts 347V or 480V input. Power factor is .92 at full load. All electrical components are rated at 50,000 hours at full load and 25°C ambient conditions per MIL- 217F Notice 2. Dimming drivers are standard, with connections for external dimming equipment available upon request. Component-to-component wiring within the luminaire may carry no more than 80% of rated load and is listed by UL for use at 600VAC at 50°C or higher. Plug disconnects are listed by UL for use at 600 VAC, 13A or higher. 13A rating applies to primary (AC) side only.

Surge Protector: The on-board surge protector shall be a UL recognized component for the United States and Canada and have a surge current rating of 20,000 Amps using the industry standard 8/20 pSec wave. The LSP shall have a clamping voltage of 825V and surge rating of 540J. The case shall be a high-temperature, flame resistant plastic enclosure.

Fasteners: All fasteners shall be stainless steel. When tamper resistant fasteners are required, spanner HD (snake eye) style shall be provided (special tool required, consult factory).

Color Rendering Index (CRI): Luminaire shall have a minimum CRI of 67 at 5000K.

Operating Environment: Shall be able to operate normally in ambient temperatures from -40°C to 40°C

Finish: Finish shall be a Beacote V polyester powder-coat electro-statically applied and thermocured. Beacote V finish shall consist of a five stage iron phosphate chemical pretreatment regimen with a polymer primer sealer, oven dry off, and top coated with a thermoset super TGIC polyester powder coat finish. The finish shall meet the AAMA 605.2 performance specification which includes passing a 3000 hour salt spray test for corrosion resistance and resists cracking or loss of adhesion per ASTM D522 and resists surface impacts of up to 160 inch-pound.

Agency Certification: The luminaire shall bear a CSA label and be marked suitable for wet locations.

Warranty: Beacon luminaires feature a 5 year limited warranty. Beacon LED luminaires with LED arrays feature a 5 year limited warranty covering the LED arrays. LED drivers are covered by a 5 year limited warranty. PIR sensors carry a 5 year limited warranty from the sensor manufacturer. See Warranty Information on www.beaconproducts.com complete details and exclusions.

Power/Lumens & Distrubutions

Engine	Wattage	Delivered Lumens (varies by optic)	Delivered LPW	TM21 Calculated % Lumen Maint. at 100,000 hrs
22NB	50	4700-5020	93-103	96.19%
22NB	70	5780-6200	82-103	85.79%
30NB	70	6408-6850	91-103	95.02%
30NB	90	7700-8260	85-97	85.79%

TM21 is the framework for taking LM-80 data and making useful LED lifetime projections. Reported and Calculated Lifetimes shown are based on hours at the time of this printing. For current Reported and Calculated hours please contact factory or Beacon’s web-site.

CCT (COLOR TEMP) Lumen Output Multipliers	**CRI (Color Rendering)**
5000K = 1.0	min 67 CRI
4000K = .92	min 70 CRI
3000K = .75	min 80 CRI

Due to our continued efforts to improve our products, product specifications are subject to change without notice.

Attachment 7

Other Agency Permits

Attachment 7: Other Agency Permits

Please see this Attachment for other permit applications sent to state agencies.

Date Received:	**APPLICATION FOR DRIVEWAY/ENTRANCE PERMIT** **MAINE DEPARTMENT OF TRANSPORTATION** **P.O. Box 358** **Scarborough, ME 04070** **Phone: (207)-885-7000 FAX: (207)-883-3806**
Application No. _____	

Application is hereby made to construct, change location, grade or use served by a driveway or entrance to property in accordance with Title 23 M.R.S.A. § 704 and §705.

Section A Property Owner Information

1. Land Owner's Name: Port Harbor Holdings I Phone# 207-767-3254
2. Land Owner's Mailing Address: 1 Spring Point Dr South Portland, ME 04106
   (Address / Town/City / State / Zip Code)
3. Applicant or Agent's Name: Sebago Technics, Rob McSorley Phone # 207-200-2074
4. Applicant/Agent Mailing Address: 75 John Roberts Rd S Portland ME 04106
   (Address / Town/City / State / Zip Code)
5. Other contact information: _____ Work _____ Cell _____

Section B Property Location Information

6. Directions to property: From the intersection of Tandberg Trail (SR 115) and Roosevelt Trail (R 305) in Windham, go 4.7 miles N on 302, project on the left
7. Route No. 302 Road Name: Roosevelt Trail
8. ❒North ❒ South ❒East ☒West – side of highway
9. City/Town: Raymond County: Cumberland
10. Distance from nearest intersection: 0 miles *(estimated in tenths of a mile)* Name of Intersection: Roosevelt Trl & Hartley Ln
11. Nearest Utility Pole #: CMP/24 Attach Survey Data *(if available)*
12. Map and Lot number 51/2 (**MUST** provide copy of tax map) Lot prior to May 25,2002? X Yes ____No

Proposed Location of Driveway/Entrance shall be staked and flagged by applicant.

Section C Driveway/ Entrance Information

13. Desired width of Driveway/Entrance: 25' (feet) Type of Surface: bituminous pavement (gravel, pavement, etc.)
14. Will the development associated with this driveway/entrance have more than 10,000 square feet of impervious surface draining towards the highway? YES _____ NO X "Impervious surfaces" are the footprint of buildings, pavement, gravel, or other low-permeability or compacted surfaces, not including natural or man-made water bodies.
15. Does your property have an existing access? X yes _____no (If no go to line 18)
16. If this is an existing access and you are changing its use, please describe Currently a residential Drive. Will become a driveway for the expansion of existing marina. Go to Section D.
17. If this is an existing access and you are physically modifying, please describe: Will be closing one of two drives and widening/regarding other driveway Go to Section D.
18. Proposed Driveway/Entrance Purpose: ❒ Single Family Residence ❒ Home Business ☒ Commercial/Industrial
    ❒ Subdivision or Development ❒ Multi-family with 5 or less units ❒ Multifamily with more than 5 units
    ❒ Retail ❒ Office ❒School ❒Business Park ❒ Mall ❒ Other (explain) _____
    # employees/day 4 # customers/day 12 Busiest time of day Saturday AM # of Lots N/A

Section D Construction Information

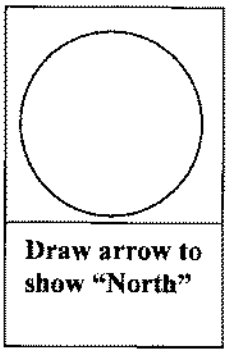
19. Construction expected to begin on Spring 2023 (date) and be completed on Spring/Summer 2023 (date)
20. Person/Company constructing entrance Port Harbor Holdings I
21. Construction contacts name TBD Phone _____

Site Sketch or attach Site Plan

SEE ATTACHED PLAN

THE OWNER HEREBY AGREES

1) Provide, erect and maintain all necessary barricades, lights, warning signs and other devices to direct traffic safely while the work is in progress.
2) **At no time cause the highway to be closed to traffic.**
3) Where the drive/entrance is located within a curb, curb and gutter, and/or sidewalk section, completely remove the existing curb, curb and gutter, and/or sidewalk as may be required to create the drive/entrance and restore drainage. All driveways/entrances abutting sidewalk sections shall meet the requirements set forth in the Americans with Disabilities Act of 1990, 42 U.S.C. §§ 12132 et seq.
4) Obtain, deliver to site and install any culverts and/or drainage structures necessary for drainage; the size, type and length of such culverts or structures shall be as specified in the permit pursuant to 23 M.R.S.A. § 705. **All culverts and/or drainage structures shall be new.**
5) Complete construction of proposed driveway/entrance within twelve months of commencement of construction.
6) <u>COMPLY WITH ALL FEDERAL, STATE AND MUNICIPAL LAWS AND ORDINANCES.</u>
7) Not alter, without the express written consent of the MDOT, any culverts, drainage patterns or swales within MDOT right-of-way.
8) File a copy of the approved driveway/entrance permit with the affected municipality or LURC, as appropriate, within 5 business days of receiving the MDOT approval.
9) Shall construct and maintain the entrance side slopes to be no steeper than the adjacent roadway side slopes, but in no case to be steeper than 3 horizontal to 1 vertical, unless the side slope is behind existing roadway guardrail, in which case it shall be no steeper than 2 horizontal to 1 vertical.
10) Notify the MeDOT(in writing) of a proposed change to use served by driveway/entrance when increase in traffic flow is expected to occur. This does not exempt the need for obtaining a Traffic Movement Permit (TMP) if trip generation meets or exceeds 100 passenger car equivalents (pce) during the peak hour of the day.



Draw arrow to show "North"

FURTHER CONDITION OF THE PERMIT:

The owner shall assume the defense of, and pay all damages, fines, and penalties for which he/she shall become liable, and shall indemnify and safe harmless said Department, its representatives, agents and employees from liability, actions against all suite, claims, damages for wrongful death, personal injuries or property damage suffered by any person or association which results from the willful or negligent action or inaction of the owner/applicant/agent and in proceedings of every kind arising out of the construction and maintenance of said entrance(s), including snow removal. Nothing herein shall, nor is intended to, waive and defense, immunity or limitation of liability which may be available to the MDOT, their officers, agents or employees under the Maine Tort Claims Act or any other privileges and/or immunities provided by law.

The submission of false or misleading statements on or with this application, or the omission of information necessary to prevent statements submitted herein or herewith from being misleading, is a crime punishable under Chapter 19 of the Maine Criminal Code, and any permit issued in reliance thereon will be considered null and void without notice or further action by the Department.

Date Filed: 8/10/22

Signature of Owner

Signature of Applicant

☐ **By signing and checking this box I hereby certify that I have been granted permission from the property owner to act in their behalf.**

Maine Department of Transportation

Highway Opening Application

Applicant Information: Date: 08/08/22

Name: Port Harbor Holdings I | Phone: (207) 767-3254 | Pager/Cell:

Address: 1 Spring Street | Town: South Portland | State: ME | ZIP: 04106

Primary Contact Information: *(Write "SAME" if the primary contact for on-site work will be the Applicant)*

Name: Sebago Technics, Robert McSorley | Phone: 207-200-2074 | Pager/Cell:

Address: 75 John Roberts Rd Suite 4A | Town: South Portland | State: ME | ZIP: 04106

Proposed Work Information:

Highway Number (if known): Route 302

Town: Raymond | Road Name: Roosevelt Trail

Type of Work Proposed: Extension of water main to servce project | **Please attach a sketch plan**

Who will perform the work? Contractor, TBD

Anticipated work schedule: Starting Date: Spring 2023/2025 | Completion Date: Spring 2023/2025

If this work is for a utility, has an application for a *Utility Location Permit* been submitted? ☐ Yes ☑ No ☐ N/A

Is this work intended to be performed under the Funding Agency Addendum requirements? ☐ Yes ☑ No ☐ N/A

Have all existing utilities in the work area been notified of the proposed work and given an opportunity to comment? ☐ Yes ☑ No

GPS Coordinates of Work Location: (Please enter coordinates in Decimal Degrees, WGS 1984)

	Latitude (ex: 44.3074199)	Longitude (ex: -69.7775613)
Starting Point:	43.89292243	-70.464818
Ending Point:	43.892979	-70.464622

Impact & Fee Information:

Surface Type:	*(A) Unit Cost:*	*(B) Estimated Area*	*Impact Value (A)x(B)*
Paved Surface: Bituminous Concrete or treated surface/shoulders *(Min. fee $50, see below)*	$50.00 per Sq. Yard	39.5 *Sq. Yard(s)*	$ 1,975.00
Concrete Surface: Portland Cement Concrete or Bituminous on concrete. *(Min. fee $75, see below)*	$75 per Sq. Yard	*Sq. Yard(s)*	$
All Other Surfaces: Plain gravel surface or shoulder or area outside roadbed. *(Min. fee $25, see below)*	$5.00 per Sq. Yard	*Sq. Yard(s)*	$
Direct Buried Cable: (Low-impact installation of cable outside of the traveled way/shoulder)	$0.20 per Lineal Foot	*Lineal Feet*	$
Other Work in addition to replacing pavement (Specify) Grading/Riprap/Seed&Mulch		70.5 SY	$ 4,375.00
		Total Impact Value (Sum of all Impact Values)	$ 6,350.00
Permit Fee (10% of Total Impact Value, OR, if the calculated Permit Fee is less than the highest minimum fee specified above for the surface type impacted, than the highest applicable minimum fee shall be used. (Example: if you impact a paved and a non-paved surface, the applicable minimum fee is $50).			$ 635.00

Instructions for Payment:

If you are a licensed utility, a municipality or any other governmental entity AND the TOTAL IMPACT VALUE calculated above is $5,000 or less, please include payment in the amount of the Permit Fee with this application, made out to ***Treasurer, State of Maine.***

If you are NOT a licensed utility, a municipality or any other governmental entity, AND the TOTAL IMPACT VALUE calculated above is $2,500 or less, AND you will not be impacting the paved or concrete surface of the highway, please include payment in the amount of the Permit Fee with this application. If you ARE proposing to impact the paved or concrete surface of the highway, please include payment in the amount of the TOTAL IMPACT VALUE and all but 10% will be returned to you upon satisfactory completion of the work.

If the TOTAL IMPACT VALUE **exceeds $5,000** for licensed utilities, municipalities or other governmental entities, OR **$2,500** for all other applicants, a *SPECIAL OPENING PERMIT* as described in section II E of the ***Rules, Regulations and Policies*** shall also apply. In this circumstance, an escrow account will be established and there is no direct payment submitted with this application.

Do you request refund of the entire permit fee contingent on a full width overlay per Section II, A. of the Special Opening Permits?

NOTICE TO APPLICANT: the Applicant is hereby notified that, upon approval of this application, all work shall comply with the following requirements, as applicable: (1) all conditions specified in the Highway Opening Permit; (2) the Department's Highway Opening Rules, Regulations and Policies; (3) the Department's Utility Accommodation Rule (17-229 CMR 210); (4) all conditions of a Utility Location Permit issued pursuant to 17-229 CMR 210; and (5) local ordinances and federal and state laws. In the event of a conflict between any applicable requirements, the more stringent requirement shall govern unless otherwise directed by the Department. Specific attention is directed to the following requirements: (1) Work zone traffic control standards as defined by the Manual on Uniform Traffic Control Devices (MUTCD); (2) Occupational Safety & Health Administration (OSHA) trenching and excavation standards; and (3) 23 MRSA Section 3360-A, Protection of Underground Facilities (a.k.a. "The Dig Safe® Law") which requires notification to various entities at least three working days prior to making any excavation. Additional information may be found at: http://mutcd.fhwa.dot.gov , http://www.osha.gov/SLTC/trenchingexcavation/ , and www.digsafe.com respectively. **The applicant further agrees that, upon approval and issuance of a permit, the Department will be notified at least 48 hours in advance of the start of any work.** The Applicant shall be responsible for all final restoration of the affected area to the satisfaction of the Department of Transportation.

Applicant's Signature: [signature] Date: 8/10/22

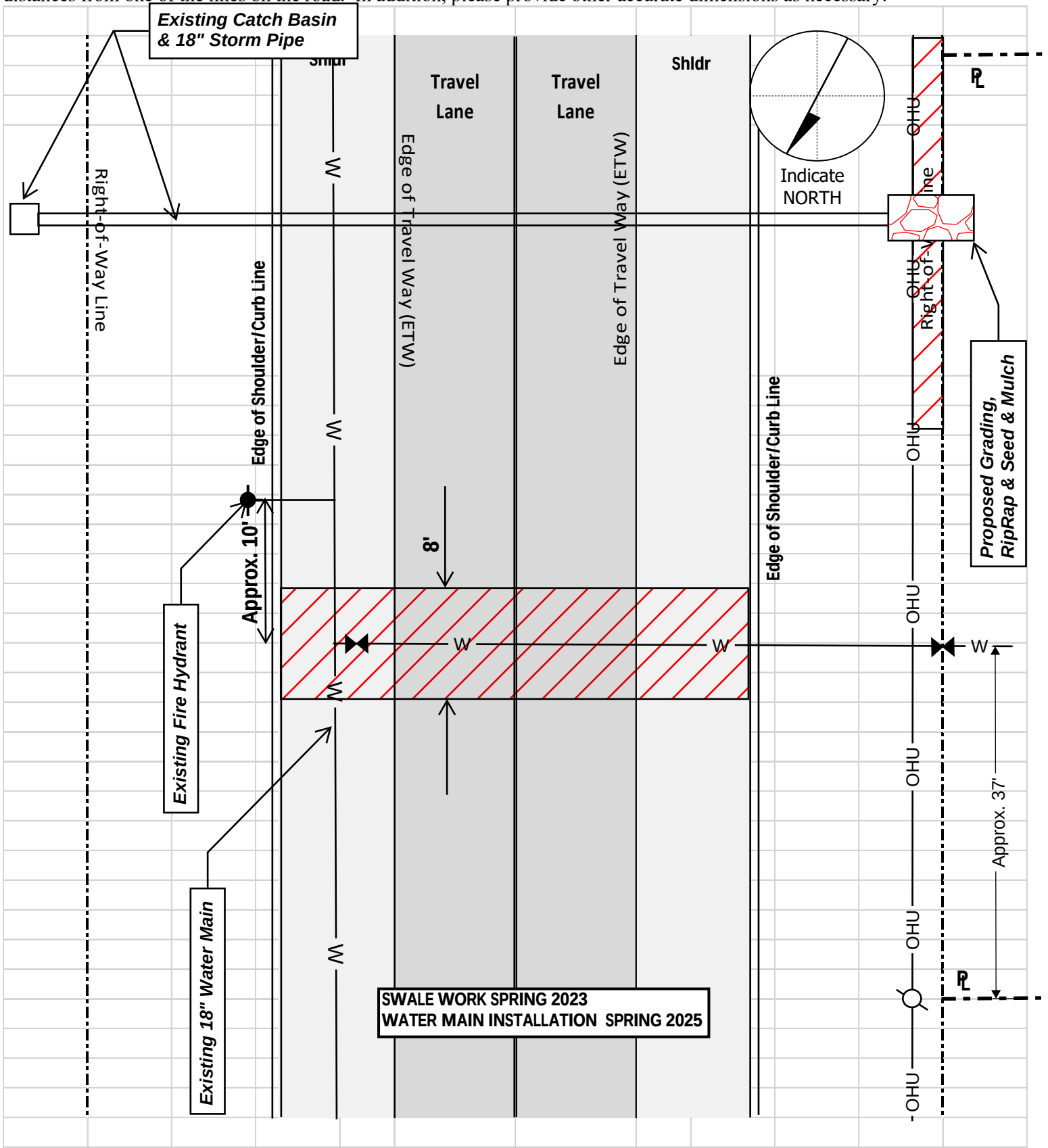
Mike Soucy

Version 0721

Highway Opening Application Sketch Plan

Applicant Name: Port Harbor Holdings I Town: Raymond

The purpose of this "Sketch Plan" is to show the location of the proposed opening in relation to the highway. This plan is not intended to be drawn to scale, however, you must accurately reference the proposed facility and excavation with offset distances from one of the lines on the road. In addition, please provide other accurate dimensions as necessary.



Department of Environmental Protection
Bureau of Land & Water Quality
17 State House Station
Augusta, Maine 04333
Telephone: 207-287-7688

FOR DEP USE
ATS #_____
L- _____
Total Fees: _____
Date: Received _____

APPLICATION FOR A NATURAL RESOURCES PROTECTION ACT PERMIT

➔**PLEASE TYPE OR PRINT IN *BLACK INK ONLY***

1. Name of Applicant:	Port Harbor Holdings I, LLC Mike Soucy	**5.Name of Agent:**	Sebago Technics, Inc. c/o Robert McSorley, P.E.
2. Applicant's Mailing Address:	1 Spring Point Dr. South Portland, ME 04106	**6. Agent's Mailing Address:**	75 John Roberts Rd., Suite 4A South Portland, ME 04106
3. Applicant's Daytime Phone #:	207-767-3254	**7. Agent's Daytime Phone #:**	207-200-2074
4. Applicant's Email Address (Required from *either* applicant or agent):		**8. Agent's Email Address:**	rmcsorley@sebagotechnics.com

9. Location of Activity: (Nearest Road, Street, Rt.#)	1326 Roosevelt Trail (Rt. 302)	**10. Town:**	Raymond	**11. County:**	Cumberland

12. Type of Resource: (Check all that apply)
- ❑ River, stream or brook
- ❑ Great Pond
- ❑ Coastal Wetland
- ■ Freshwater Wetland
- ❑ Wetland Special Significance
- ❑ Significant Wildlife Habitat
- ❑ Fragile Mountain

13. Name of Resource: Unnamed Freshwater wetland

14. Amount of Impact: (Sq.Ft.) 36,119
Fill: 89,600 CF
Dredging/Veg Removal/Other: 1,028 CF Cut

15. Type of Wetland: (Check all that apply)
- ❑ Forested
- ❑ Scrub Shrub
- ❑ Emergent
- ❑ Wet Meadow
- ❑ Peatland
- ❑ Open Water
- ❑ Other_____

FOR FRESHWATER WETLANDS

Tier 1	*Tier 2*	*Tier 3*
❑ 0 - 4,999 sq ft. ❑ 5,000-9,999 sq ft ❑ 10,000-14,999 sq ft	■ 15,000 – 43,560 sq. ft.	❑ > 43,560 sq. ft. or ❑ smaller than 43,560 sq. ft., not eligible for Tier 1

16. Brief Activity Description: Fall 2022/Spring 2023, a 2.5-acre expansion of the existing Jordan Bay Marina onto the adjacent property at 1326 Roosevelt Trail for maintenance, sales, services, and storage

17. Size of Lot or Parcel & UTM Locations: ☐ _____square feet, or ☑ 5.9 acres UTM Northing: 4860985.21 UTM Easting: 382327.89

18. Title, Right or Interest: ■ own ❑ lease ❑ purchase option ❑ written agreement

19. Deed Reference Numbers:	Book#: 37597 Page: 223 ❑	**20. Map and Lot Numbers:**	Map #: 51	Lot #: 2	
21. DEP Staff Previously Contacted:	Alison Sirois	**22. Part of a larger project:**	❑ Yes ■ No	**After-the-Fact:**	❑ Yes ■ No
23. Resubmission of Application?:	❑ Yes➔ ■ No	**If yes, previous application #**		**Previous project manager:**	
24. Written Notice of Violation?:	❑ Yes ➔ ■ No	**If yes, name of DEP enforcement staff involved:**		**25. Previous Wetland Alteration:**	❑ Yes ❑ No

26. Detailed Directions to the Project Site: I-95 North to Exit 48, Riverside Street to 302 West, continue for roughly 8 miles and the destination is on your left - Port Harbor Marine of Raymond.

27. TIER 1
- ❒ Title, right or interest documentation
- ❒ Topographic Map
- ❒ Narrative Project Description
- ❒ Plan or Drawing (8 1/2" x 11")
- ❒ Photos of Area
- ❒ Statement of Avoidance & Minimization
- ❒ Statement/Copy of cover letter to MHPC

TIER 2/3 AND INDIVIDUAL PERMITS
- ■ Title, right or interest documentation
- ■ Topographic Map
- ■ Copy of Public Notice/Public Information Meeting Documentation
- ■ Wetlands Delineation Report (Attachment 1) that contains the Information listed under Site Conditions
- ■ Alternatives Analysis (Attachment 2) including description of how wetland impacts were Avoided/Minimized
- ■ Erosion Control/Construction Plan
- ■ Functional Assessment (Attachment 3), if required
- ■ Compensation Plan (Attachment 4), if required
- ■ Appendix A and others, if required
- ■ Statement/Copy of cover letter to MHPC
- ❒ Description of Previously Mined Peatland, if required

28. FEES Amount Enclosed: (36,119 x 0.0274) + (36,119 x 0.0091) = $1,318

CERTIFICATIONS AND SIGNATURES LOCATED ON PAGE 2

IMPORTANT: IF THE SIGNATURE BELOW IS NOT THE APPLICANT'S SIGNATURE, ATTACH LETTER OF AGENT AUTHORIZATION SIGNED BY THE APPLICANT.

By signing below the applicant (or authorized agent), certifies that he or she has read and understood the following :

DEP SIGNATORY REQUIREMENT

PRIVACY ACT STATEMENT

Authority: 33 USC 401, Section 10; 1413, Section 404. Principal Purpose: These laws require permits authorizing activities in or affecting navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. Disclosure: Disclosure of requested information is voluntary. If information is not provided, however, the permit application cannot be processed nor a permit be issued.

CORPS SIGNATORY REQUIREMENT

USC Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry shall be fines not more than $10,000 or imprisoned not more than five years or both. I authorize the Corps to enter the property that is subject to this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein.

DEP SIGNATORY REQUIREMENT

"I certify under penalty of law that I have personally examined the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I authorize the Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Further, I hereby authorize the DEP to send me an electronically signed decision on the license I am applying for with this application by emailing the decision to the address located on the front page of this application (see #4 for the applicant and #8 for the agent)."

E. Eng

SIGNATURE OF AGENT/APPLICANT

Date: 8/10/22

NOTE: Any changes in activity plans must be submitted to the DEP and the Corps in writing and must be approved by both agencies prior to implementation. Failure to do so may result in enforcement action and/or the removal of the unapproved changes to the activity.

DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RESOURCES

FOR DEP USE
L-_____
ATS# _____
FEES PAID _____
DATE RECEIVED _____

Stormwater Application Form

PLEASE TYPE OR PRINT IN INK

This application is for (Check the one that applies):	■ **New application** ❑ **Amendment**		
1. Name of Applicant:	Port Harbor Holdings I, LLC., Mike Soucy	**5. Name of Agent:**	Sebago Technics, Inc., Robert McSorley
2. Applicant's Mailing Address:	1 Spring Point Dr South Portland, ME 04106	**6. Agent's Mailing Address:**	75 John Roberts Road, Suite 4A South Portland, ME 04106
3. Applicant's Phone #:	207-767-3254	**7. Agent's Phone #:**	207-200-2065
4. Email address (REQUIRED-license will be sent via email:	mikesoucy@ portharbormarine.com	**8.E-mail address (REQUIRED-license will be sent via email**	rmcsorley@sebagotechnics.com
9. Location of Project: (Road, Street, Rt.#)	1326 Roosevelt Trail	**10. Town:**	Raymond
		11. County:	Cumberland
12. Type of Direct Watershed: (Check all that apply)	❑ Lake not most at risk ■ Lake most at risk ❑ Lake most at risk, severely blooming ❑ River, stream or brook ❑ Urban impaired stream ❑ Freshwater wetland ❑ Coastal wetland ❑ Wellhead of public water supply	**13. Amount of Disturbed Area:**	Total Amt.= 3.69 acres
		14. Amount of Developed Area:	■ 1 or more acres, but less than 5 acres ❑ 5 acres or more Total Amt.= 2.76 acres
		15. Amount of Impervious Area:	❑ less than 20,000 sq. ft. ❑ 20,000 sq. ft. to 1 acre ■ 1 to 3 acres ❑ 3 or more acres Total Amount of Impervious Acres =
16. Applicable Standards: (Check all that apply)	❑ Stormwater PBR ■ Basic standards ■ General standards: BMP ❑ General standards: phosphorus ❑ Flooding standard ❑ Urban impaired stream standards ❑ Other:_____	**17. Type of Stormwater Control:**	❑ Vegetative (e.g. buffers) ■ Structural (e.g. underdrained filters, ponds, infiltration structures)

18. Exceptions &/or Waivers Requested:	**BMP Standards▼**	**Urban impaired stream standard▼**	**Flooding Standard▼**
	❑ Pretreatment measures ❑ Discharge to ocean/major river segment ❑ Linear portion of project ❑ Utility corridor ❑ Redevelopment	❑ Developed area not landscaped or impervious ❑ Redevelopment	❑ Discharge to ocean/major river segment ❑ Insignificant increase in peak flow

19. Proposed Start Date and Brief Project Description:	Winter 2022/Spring 2023, a 2.5-acre expansion of the existing Jordan Bay Marina onto the adjacent property at 1326 Roosevelt Trail for maintenance, sales, services, and storage					
20. Size of Lot or Parcel:	❑____ sq. ft., or	5.9 acres	**UTM Easting:**	382327.89	**UTM Northing:**	4860985.21
21. Title, Right or Interest:	■ own	❑ lease	❑ purchase option		❑ written agreement	
22. Deed Reference Numbers:	Book#: 37597	Page: 223	**24. Map and Lot Numbers:**		Map #: 51	Lot #: 2
23. DEP Staff Previously Contacted:	Alison Sirois		**25. Project started prior to application?**	❑ Yes ☒ No	**Completed?**	❑ Yes ☒ No

SIGNATURES / CERTIFICATIONS ON PAGE 2

26. Resubmission of Application?	☐ Yes➔ ■ No	If yes, previous application #		Previous project manager:	
27. Written Notice of Violation?	☐ Yes➔ ■ No	If yes, name of DEP enforcement staff involved:			
28. Detailed Directions to the Project Site:	From the intersection of Tandberg Trail (SR 115) and Roosevelt Trail (R 305) in Windham, go 4.7 miles N on 302,project on the left				

29. Stormwater Permit by Rule Submissions▼	30. Stormwater Application Submissions▼	
☐ This form (including signature page)	■ This form (including signature page)	■ Professional & Notice Certification
☐ Fee	■ Fee	■ Basic standards submissions
☐ Topographic Map	■ Proof of title, right or interest	■ General standards submissions
☐ Plan or Drawing	■ Certificate of good standing (if applicable)	☐ Flooding standard submissions
☐ Photos of Area	■ Photos of Area	☐ Other standard submissions
	■ Copy of Public Notice	☐ Compensation Fee (if required)

31. FEES, Amount Enclosed:	$1,326
Does the agent have an interest in the project? If yes, what is the interest?: ☐ Yes➔ ■ No	

IMPORTANT: IF THE SIGNATURE BELOW IS NOT THE APPLICANT'S SIGNATURE, ATTACH LETTER OF AGENT AUTHORIZATION SIGNED BY THE APPLICANT.

By signing below the applicant (or authorized agent), certifies that he or she has read and understood the following:

CERTIFICATIONS/ SIGNATURES

"I certify under penalty of law that I have personally examined the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment. I authorize the Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein.

Further, I hereby authorize the DEP to send me an electronically signed decision on the license I am applying for with this application by
E-mailing the decision to the electronic address located on the front page of this application (see #4 for the applicant and #9 for the agent."

Signed: _____ **Title** Manager **Date:** 8/10/22

Mike Soucy

Notice of Intent to Comply with Maine Construction General Permit	**With this Stormwater Law application form and my signature below, I am filing notice of my intent to carry out work which meets the requirements of the Maine Construction General Permit (MCGP). I have read and will comply with all of the MCGP standards.** **Signed** _____ **Date:** 8/10/22

NOTE: If a Notice of Intent is required, you must file a Notice of Termination (attached as Form G) within 20 days of completing permanent stabilization of the project site.

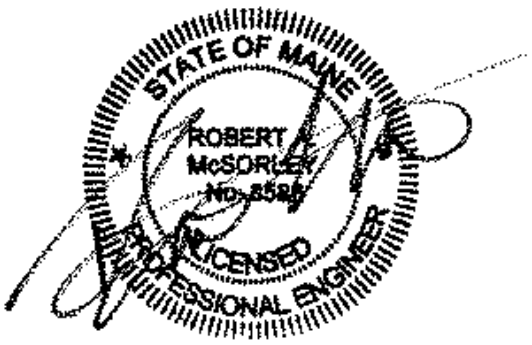
ADDITIONAL SIGNATURES/CERTIFICATIONS

The person responsible for preparing this application and/or attaching pertinent site and design information hereto, by signing below, certifies that the application for stormwater approval is complete and accurate to the best of his/her knowledge.

Signature: _____

Name (print): Robert A. McSorley, P.E.

Date: _____



August 10, 2022

Re/Cert/Lic No: 8588

Engineer X

Geologist _____

Soil Scientist _____

Land Surveyor _____

Site Evaluator _____

Active Member of the Maine Bar _____

Professional Landscape Architect _____

FORM E 05/06

Submittal Checklist

Submissions for all stormwater projects, as applicable, except stormwater PBR:

- ☒ Completed application form with signatures
- ☒ Fee worksheet & fee
- ☒ Professional & notice certification
- ☒ Notice of intent to file
- ☒ Proof of title, right, or interest
- ☒ Certificate of Good Standing (corporations only)
- ☒ Photos of the project site

Basic standards submissions:

- ☒ Erosion and sedimentation control plan
    - Location plan
    - Site details
- ☒ Inspection and maintenance plan
    - List of measures
    - Inspection & maintenance tasks
    - Task frequency
    - Responsible parties
    - Maintenance plans
- ☒ Housekeeping plan

General standards submissions:

- ☒ Narrative
- ☒ Drainage plans
- ☒ Calculations
    - Water volume
    - Buffer sizing
- ☒ Details, designs, and specification
    - Ponds
    - Underdrained vegetated filters
    - Infiltration systems
    - Buffers
- ☐ Phosphorus export calculations
- ☐ Maintenance contract

Flooding standard submissions:

- ☐ Control of peak flows
- ☐ Details, designs, and specifications

Maine Department of Transportation

Janet T. Mills
Governor

Driveway/Entrance Permit

Bruce A. Van Note
Commissioner

Permit Number: 35380 - **Entrance ID:** 1

OWNER

Name: **Port Harbor Holdings I**
Address: **1 Spring Point Drive**
South Portland, ME 04106
Telephone: **(207)200-2074**

Date Printed: **January 05, 2023**

LOCATION

Route: **0302X, Roosevelt Trail**
Municipality: **Raymond**
County: **Cumberland**
Tax Map: **51** Lot Number: **2**
Culvert Size: **inches**
Culvert Type: **N/R**
Culvert Length: **feet**
Date of Permit: **January 05, 2023**
Approved Entrance Width: **25 feet**

In accordance with rules promulgated under 23 M.R.S.A., Chapter 13, Subchapter I, Section 704, the Maine Department of Transportation (MaineDOT) approves a permit and grants permission to perform the necessary grading to construct, in accordance with sketch or attached plan, **an Entrance** to **Commercial Industrial** at a point **1225** feet **North** from **Webbs Mills Road**, subject to the Chapter 299 Highway Driveway and Entrance Rules, standard conditions and special conditions (if any) listed below.

Conditions of Approval:

This Permittee acknowledges and agrees to comply with the Standard Conditions and Approval attached hereto and to any Specific Conditions of Approval shown here.

(G = GPS Location; W = Waiver; S = Special Condition)

G - THE ENTRANCE SHALL BE LOCATED AT GPS COORDINATES: 43.892701N, -70.464661W.

S - In the Town of Raymond, on the southwesterly side of Route 302 / Roosevelt Trail, the centerline being approximately 1225 feet north of the centerline of Webbs Mills Road and approximately 22 feet south of utility pole 25.

S - Adjacent existing drive on the lot located approximately 80 feet to the north must be permanently removed by either curbing, ditching, and/or placing loam and seed to ensure access is limited to the approved entrance only.

S - The entrance shall be paved, at a minimum, from the edge of the existing highway pavement to the edge of the highway right-of-way.

S - The existing bituminous curb on either side of the driveway opening must be cut at a slope so as to produce a terminal end four (4) feet in length, conforming to MaineDOT Standard Specifications 609.

Approved by: Van Tall Date: 1-5-2023

STANDARD CONDITIONS AND APPROVAL

1. Provide, erect and maintain all necessary barricades, lights, warning signs and other devices as directed by MaineDOT to properly safeguard traffic while the construction is in progress.

2. At no time cause the highway to be closed to traffic

3. Where the driveway is located within a curb, curb and gutter, and/or sidewalk section, completely remove the existing curb, curb and gutter, and/or sidewalk as may be required to create the driveway and restore drainage. All driveways abutting sidewalk sections shall meet the requirements set forth in the Americans with Disabilities Act of 1990, 42 U.S.C. Sec. 12131 et seq.

4. Obtain, have delivered to the site, and install any culverts and/or drainage structures which may be necessary for drainage, the size, type and length as called for in the permit pursuant to 23 M.R.S.A. Sec. 705. All culverts and/or drainage structures shall be new.

5. Start construction of the proposed driveway within twenty-four (24) months of the date of permit issuance and substantially complete construction of the proposed driveway within twelve months of commencement of construction.

6. Comply with all applicable federal, state and municipal regulations and ordinances.

7. Do not alter, without the express written consent of the MaineDOT, any culverts or drainage swales within the MaineDOT right of way.

8. File a copy of the approved driveway permit with the affected municipality or LURC, as appropriate within 5 business days of receiving the MaineDOT approval.

9. Construct and maintain the driveway side slopes to be no steeper than the adjacent roadway side slopes, but in no case to be steeper than 3 horizontal to 1 vertical, unless the side slope is behind existing roadway guardrail, in which case it shall be no steeper than 2 horizontal to 1 vertical.

10. Notify the MaineDOT of a proposed change of use served by the driveway when increase in traffic flow is expected to occur. This does not exempt the need for obtaining a Traffic Movement Permit (TMP) if trip generation meets or exceeds 100 passenger car equivalents (PCE) during the peak hour of the day.

11. Construct or implement and maintain erosion and sedimentation measures sufficient to protect MaineDOT facilities.

12. Driveways shall be designed such that all maneuvering and parking of any vehicles will take place outside the highway right-of-way and where vehicles will exit the premises without backing onto the highway traveled way or shoulders. All driveways will have a turnaround area to accomodate vehicles using the premises.

13. Closing any portion of a highway or roadway including lanes, shoulders, sidewalks, bike lanes, or ATV access routes is not permitted without MaineDOT approval.

FURTHER CONDITION OF THE PERMIT

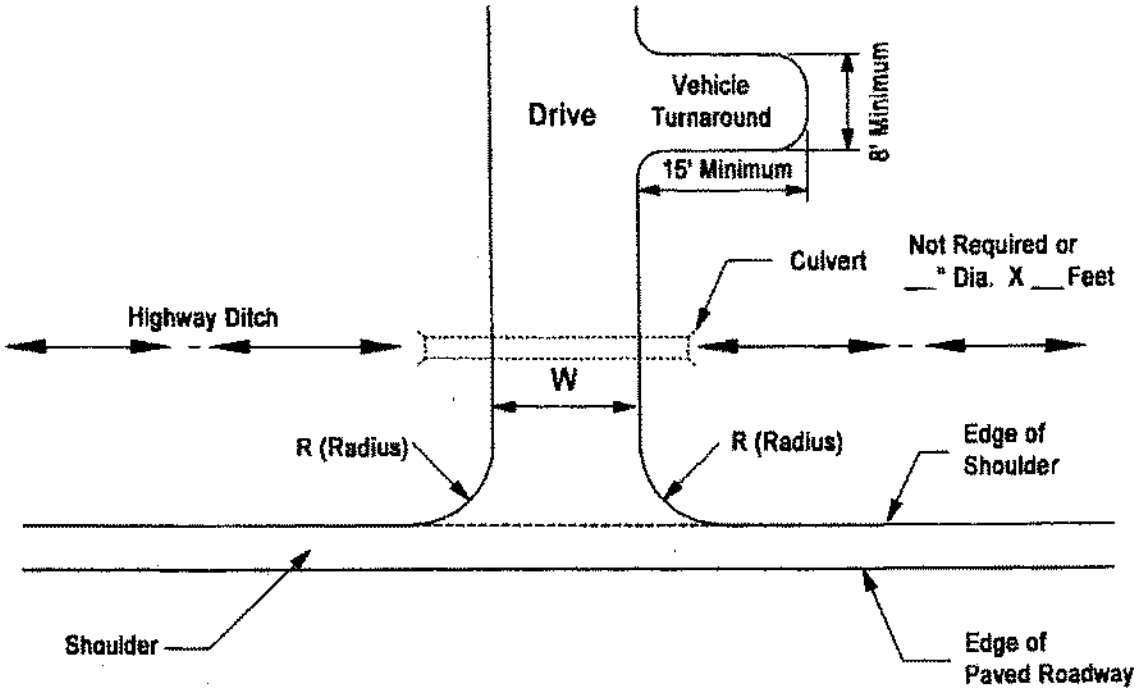
The owner shall assume, the defense of, and pay all damages, fines, and penalties for which he/she shall become liable, and shall indemnify and safe harmless said Department, its representatives, agents and employees from liability, actions against all suits, claims, damages for wrongful death, personal injuries or property damage suffered by any person or association which results from the willful or negligent action or inaction of the owner/applicant (agent) and in proceedings of every kind arising out of the construction and maintenance of said entrance(s), including snow removal.

Nothing herein shall, nor is intended to, waive any defense, immunity or limitation of liability which may be available to the MaineDOT, their officers, agents or employees under the Maine Tort Claims Act or any other privileges and/or immunities provided by law. It is a further condition that the owner will agree to keep the right of way inviolate for public highway purposes and no signs (other than traffic signs and signals), posters, billboards, roadside stands, culvert end walls or private installations shall be permitted within Right of Way limits.

State of Maine
Department of Transportation

Entrance / Driveway Details

PLAN

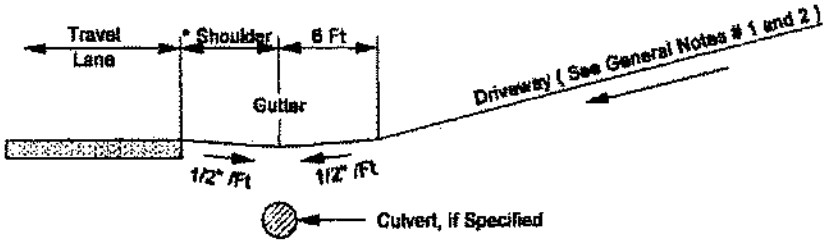


GENERAL NOTES -

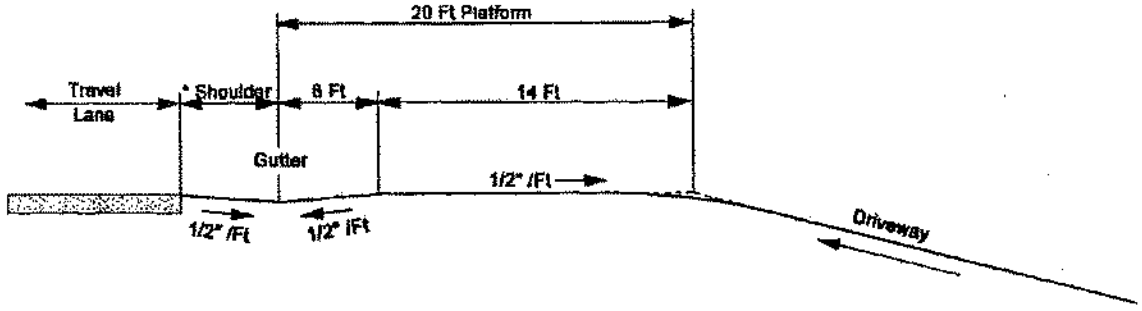
1. ALL RESIDENTAL OR COMMERCIAL DRIVES WITH 10% GRADE OR MORE SLOPING DOWN TOWARDS THE HIGHWAY SHALL BE PAVED TO THE RIGHT OF WAY LINE, AS A MINIMUM, INCUDING SHOULDER, IF GRAVEL AND HAVE DITCHES TO CONTROL RUNOFF.
2. DRIVES SLOPING TO THE HIGHWAY SHALL BE CROWNED (1/2" PER FT. MINIMUM).
3. TO THE MAXIMUM EXTENT PRACTICAL, THE ENTRANCE MUST BE CONSTRUCTED PERPENDICULAR TO THE HIGHWAY AT THE POINT OF ACCESS. EXCEPT WHERE CURBING EXISTS OR IS PROPOSED, THE MINIMUM RADIUS ON THE EDGES OF THE ENTRANCE MUST BE 10 FEET OR AS OTHERWISE REQUIRED AS SHOWN.
4. ENTRANCES/DRIVEWAYS WILL BE BUILT WITH AN ADEQUATE TURN-AROUND AREA ON SITE TO ALLOW ALL VEHICLES TO MANUVER AND PARK WITHOUT BACKING ONTO THE HIGHWAY. THIS TURN-AROUND SHALL BE AT LEAST 8 FEET WIDE BY 15 FEET LONG.
5. ENTRANCES/DRIVEWAYS AND OTHER ASSOCIATED SITE WORK WHICH DIRECTS WATER (RUNOFF) TOWARD THE HIGHWAY MUST BE CONSTRUCTED, CROWNED STABILIZED AND MAINTAINED WITH MATERIALS AND APPROPRIATE TEMPORARY/PERMANENT EROSION CONTROL MATERIALS IN ACCORDANCE WITH MDOT BEST MANAGEMENT PRACTICES.
6. THE PROFILE OF THE ENTRANCES MUST COMPLY WITH THE DETAILS SHOWN ON PAGE 2.

MDOT Entrance / Driveway Details, Continued

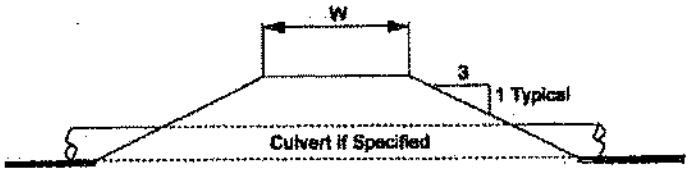
PROFILE
Details

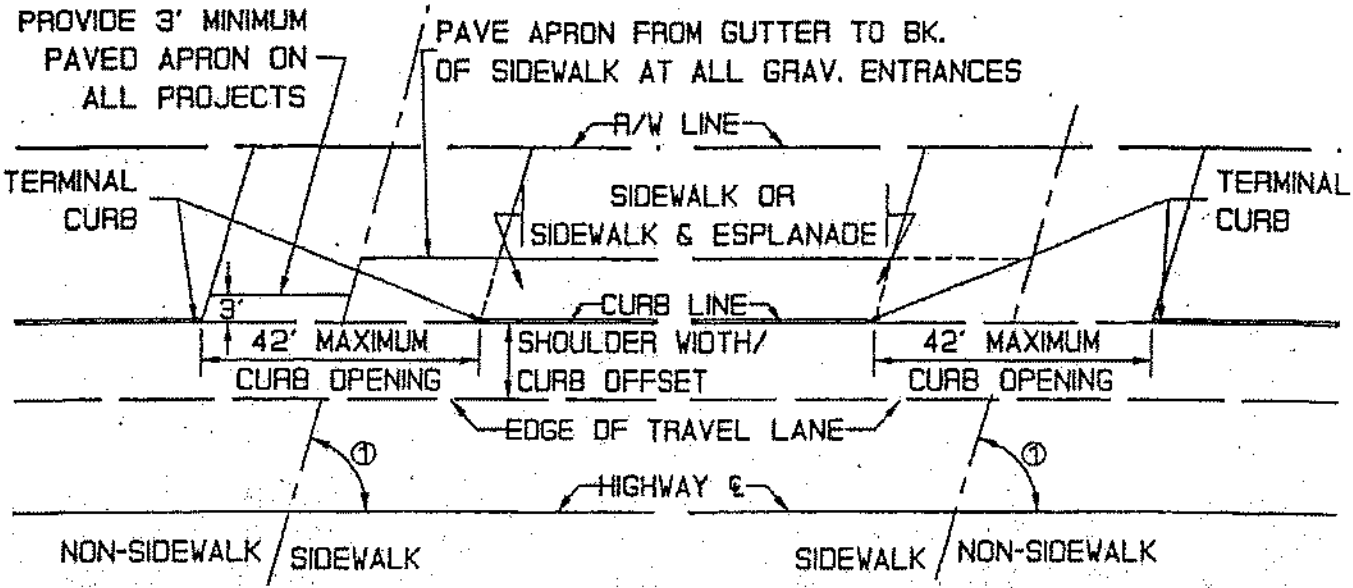


NOTE :
Grade of Existing Shoulder Should Be Maintained To Create A Gutter With a Minimum Of Three Inches Below The Edge Of Traveled Way.
* Distance Of The Gutter From The Edge Of Traveled Way Should Be The Same As Existing Shoulder Or A Minimum Of 4 Feet.



Driveway Cross Section





GRAVEL ENTRANCE

PAVED ENTRANCES

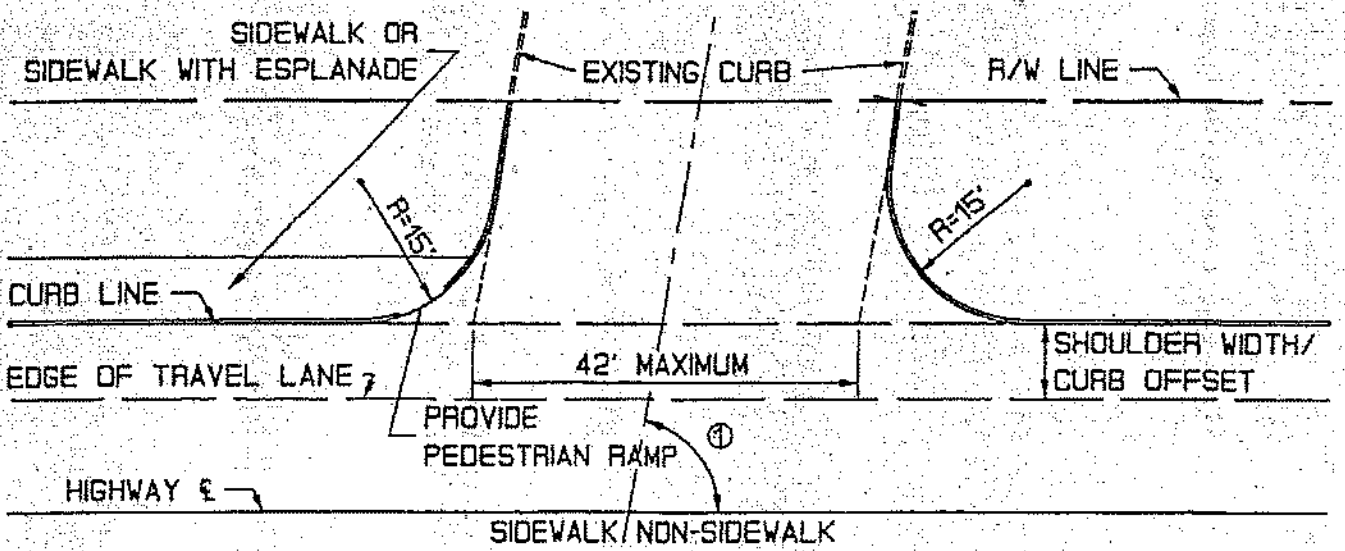
① MINIMUM ENTRANCE ANGLE IS 45° WHERE THE SHOULDER WIDTH ≥ 6' AND 60° WHERE THE SHOULDER WIDTH < 6'.

② IF THERE ARE HIGH TRUCK TURNING VOLUMES, THE DESIGNER SHOULD CONSIDER PROVIDING TURNING RADII OF 15' - 25' AND/OR A WIDER OPENING AND/OR LIMITING THE ANGLE OF TURN TO ACCOMODATE TRUCKS.

UNCURBED COMMERCIAL/INDUSTRIAL ENTRANCE ONTO CURBED HIGHWAY

(WITH/WITHOUT SIDEWALK)

EN007



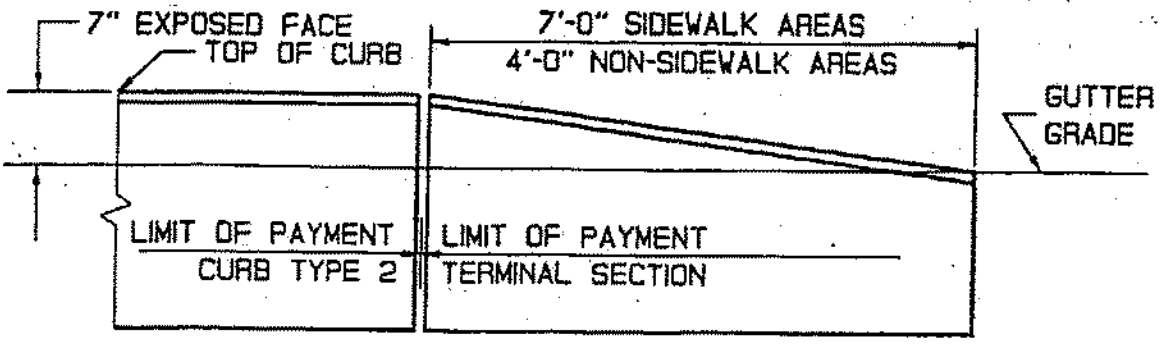
PAVED ENTRANCE

① MINIMUM ENTRANCE ANGLE IS 45° WHERE THE SHOULDER WIDTH ≥ 6' AND 60° WHERE THE SHOULDER WIDTH < 6'.

CURBED COMMERCIAL/INDUSTRIAL ENTRANCE ONTO CURBED HIGHWAY

(WITH/WITHOUT SIDEWALK)

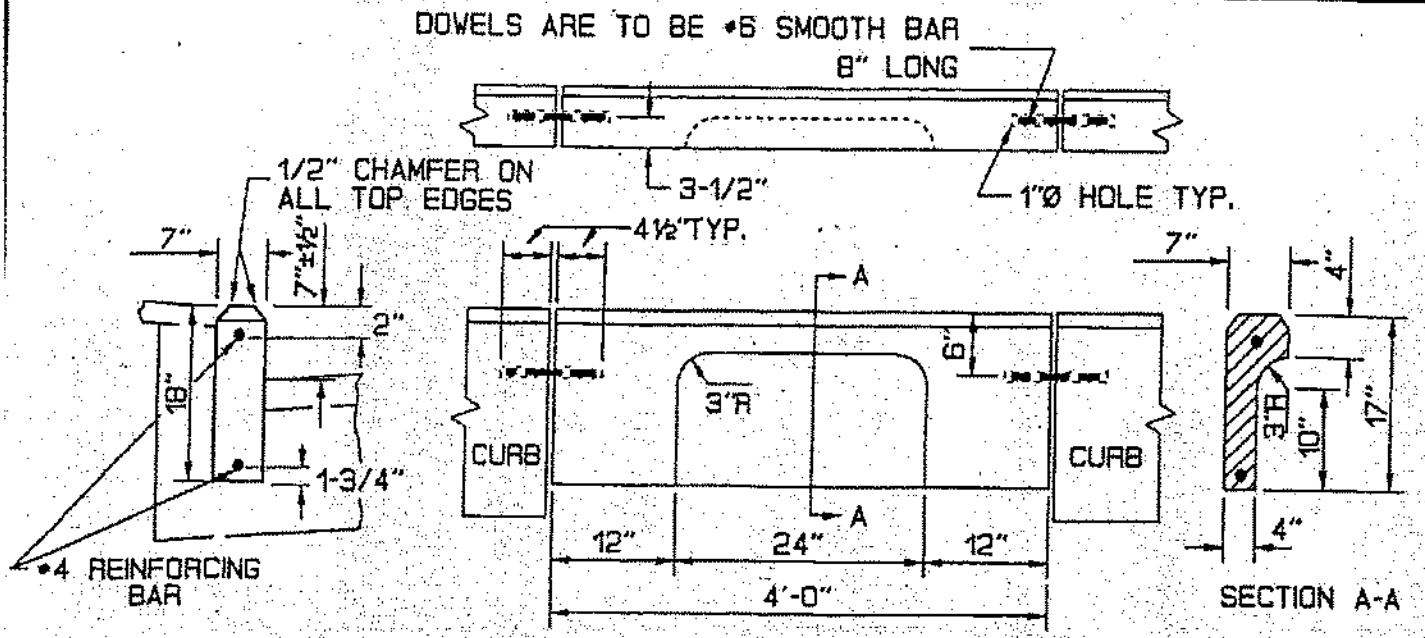
EN008



SPEC. 609

TERMINAL SECTION TYPE "2"

CU005



VERTICAL CURB TYPE 2

CURB INLET TYPE 2

SPEC. 609

CURB

CU006

REVISIONS	APPROVED	
Description	Me. DOT	FHWA
ORIGINAL PLAN	OCT. 92	
MS001 - ADDED DIM.	JAN. 93	
MS003 - ALT. NOTE 2	FEB. 94	
CU005 - TYPE 2	JAN. 95	
CU006 - TYPE 2	JAN. 95	
CU001	APR. 95	
CU002	APR. 95	
MS001	APR. 95	

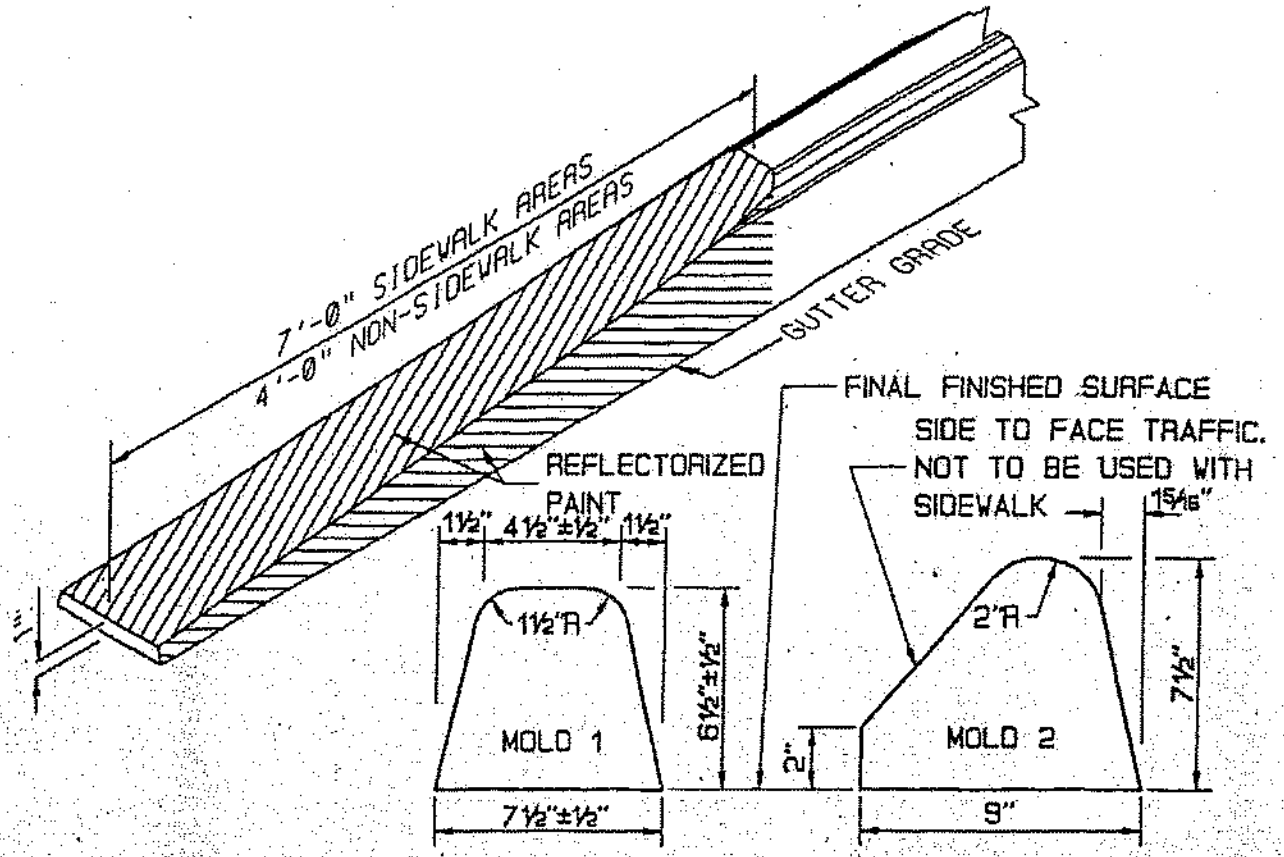
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STANDARD DETAILS

CURBING, MUCK EXCAVATION AND WASTE DISPOSAL & MAILBOX POST ASSEMBLIES

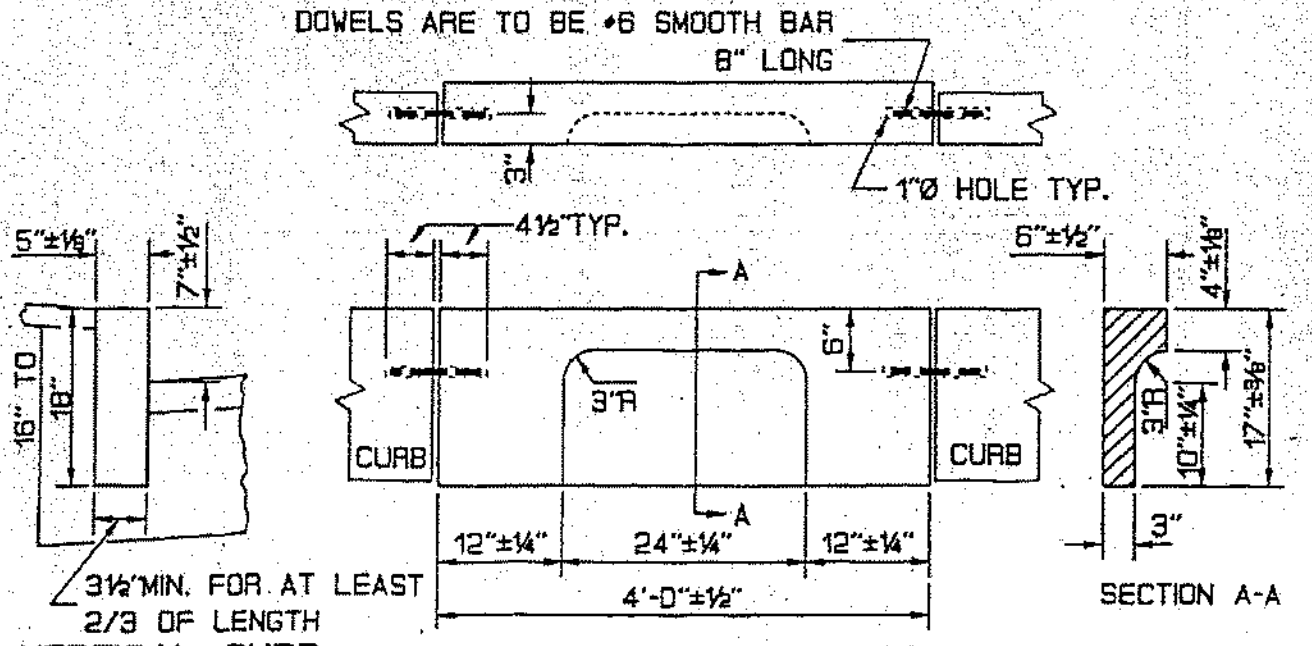
SHEET OF AUGUSTA, MAINE

HD-4



CURB MOLD 2 WILL BE USED IN ALL SITUATIONS EXCEPT FOR WHERE THE CURB FORMS THE EDGE OF THE SIDEWALK. MOLD 1 SHALL BE USED IN CONJUNCTION WITH SIDEWALKS OR WHERE THERE IS A POTENTIAL FOR SIDEWALKS.

CURB TYPE 3



VERTICAL CURB TYPE 1 & 2

CURB INLET

SPEC. 609

CURB

CU003

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

REPLY TO ATTENTION OF

MAINE GENERAL PERMITS (GPs)
AUTHORIZATION LETTER AND SCREENING SUMMARY

Mr. Mike Soucy
Port Harbor Holdings I, LLC
1 Spring Point Dr.
South Portland, ME 04106

CORPS PERMIT # NAE-2022-01933
CORPS GP# 8
STATE ID# NRPA

DESCRIPTION OF WORK:
The project involves the placement of fill in about 36,199 sq. ft. (0.83 acre) of adjacent wetlands to Sebago Lake in conjunction with the expansion of an adjacent property to the existing Jordan Bay Marina for maintenance, sales, services and storage located at 1326 Roosevelt Trail in Raymond, Maine. Work is shown on the attached fourteen sheets titled "JORDAN BAY MARINA", dated "06/22/2022" and revised "08/10/2022", and dated "07-21-22".
See GENERAL & SPECIAL CONDITIONS attached

LAT/LONG COORDINATES: 43.891823 N -70.464802° W **USGS QUAD:** RAYMOND, MAINE

I. CORPS DETERMINATION:
Based on our review of the information you provided, we have determined that your project will have only minimal individual and cumulative impacts on waters and wetlands of the United States. **Your work is therefore authorized by the U.S. Army Corps of Engineers under the Federal Permit, the Maine General Permits (GPs) which can be found at:** https://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Maine-General-Permit/ Accordingly, we do not plan to take any further action on this project.

You must perform the activity authorized herein in compliance with all the terms and conditions of the GP [including any attached Special Conditions and any conditions placed on the State 401 Water Quality Certification including any required mitigation. Please review the GPs, including the GPs conditions beginning on page 5, to familiarize yourself with its contents. You are responsible for complying with all of the GPs requirements; therefore you should be certain that whoever does the work fully understands all of the conditions. You may wish to discuss the conditions of this authorization with your contractor to ensure the contractor can accomplish the work in a manner that conforms to all requirements.

If you change the plans or construction methods for work within our jurisdiction, please contact us immediately to discuss modification of this authorization. This office must approve any changes before you undertake them.

Condition 45 of the GPs (page 19) provides one year for completion of work that has commenced or is under contract to commence prior to the expiration of the GPs on October 14, 2025. You will need to apply for reauthorization for any work within Corps jurisdiction that is not completed by October 14, 2026.

This authorization presumes the work shown on your plans noted above is in waters of the U.S. Should you desire to appeal our jurisdiction, please submit a request for an approved jurisdictional determination in writing to the undersigned.

No work may be started unless and until all other required local, State and Federal licenses and permits have been obtained. **This includes but is not limited to a Flood Hazard Development Permit issued by the town if necessary.**

II. STATE ACTIONS: PENDING [X], ISSUED [ ], DENIED [ ] DATE_____

APPLICATION TYPE: PBR:___, TIER 1:_____, TIER 2 :___X___, TIER 3:_____, INDIV ___ LURC: _____ DMR LEASE: _____ NA: _____

III. FEDERAL ACTIONS:

JOINT PROCESSING MEETING: 25 AUG 2022 LEVEL OF REVIEW: SELF-VERIFICATION:_ PRE-CONSTRUCTION NOTIFICATION: X
AUTHORITY (Based on a review of plans and/or State/Federal applications): SEC 10_____, 404___X___ 10/404_____, 103_____

EXCLUSIONS: The exclusionary criteria identified in the general permit do not apply to this project.

FEDERAL RESOURCE AGENCY OBJECTIONS: EPA_NO__, USF&WS_NO__, NMFS_NO__

If you have any questions on this matter, please contact my staff at 978-318-8486 at our Augusta, Maine Project Office. In order for us to better serve you, we would appreciate your completing our Customer Service Survey located at: http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0

Amanda L. T. Sayles
Digitally signed by Amanda L. T. Sayles
Date: 2022.10.06 14:56:23 -04'00'

AMANDA L. T. SAYLES
PROJECT MANAGER

Frank J Del Giudice
Digitally signed by Frank J Del Giudice
Date: 2022.10.11 06:34:23 -04'00'

FRANK J. DEL GIUDICE
CHIEF, PERMITS & ENFORCEMENT BRANCH
REGULATORY DIVISION

US Army Corps
of Engineers
New England District

PLEASE NOTE THE FOLLOWING GENERAL AND SPECIAL CONDITIONS FOR
DEPARTMENT OF THE ARMY
MAINE GENERAL PERMIT 8
PERMIT NO. NAE-2022-01933

[redacted]

GENERAL CONDITIONS

27. Heavy Equipment in Wetlands or Mudflats. Operating heavy equipment (drill rigs, fixed cranes, etc.) within wetlands shall be minimized, and to the maximum extent practicable such equipment shall not be stored, maintained or repaired in wetlands. Where construction requires heavy equipment operation in wetlands, the equipment shall: a) have low ground pressure (typically <3 psi); b) be placed on swamp/construction/timber mats (herein referred to as "mats") that are adequate to support the equipment in such a way as to minimize disturbance of wetland soil and vegetation; or c) be operated on adequately dry or frozen wetlands such that shear pressure does not cause subsidence of the wetlands immediately beneath equipment and upheaval of adjacent wetlands. Mats are to be placed in the wetland from the upland or from equipment positioned on mats if already working within a wetland. Other support structures that are capable of safely supporting equipment may be used with written Corps authorization. Similarly, the permittee may request written authorization from the Corps to waive use of mats during frozen or dry conditions. Construction mats should be managed in accordance with construction mat best management practices (BMPs) found at: www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Maine-General-Permit

33. Permit(s)/Authorization Letter On-Site. The permittee shall ensure that a copy of the terms and conditions of these GPs and any accompanying authorization letter with attached plans are at the site of the work authorized by these GPs whenever work is being performed and that all construction personnel performing work which may affect waters of the U.S. are fully aware of the accompanying terms and conditions. The entire permit authorization shall be made a part of any and all contracts and subcontracts for work that affects areas of Corps jurisdiction at the site of the work authorized by these GPs. This shall be achieved by including the entire permit authorization in the specifications for work. The term "entire permit authorization" means all terms and conditions of the GPs, the GPs, and the authorization letter (including its drawings, plans, appendices and other attachments) and subsequent permit modifications as applicable. If the authorization letter is issued after the construction specifications, but before receipt of bids or quotes, the entire permit authorization shall be included as an addendum to the specifications. If the authorization letter is issued after receipt of bids or quotes, the entire permit authorization shall be included in the contract or subcontract. Although the permittee may assign various aspects of the work to different contractors or subcontractors, all contractors and subcontractors shall be obligated by contract to comply with all environmental protection provisions contained within the entire GP authorization, and no contract or subcontract shall require or allow unauthorized work in areas of Corps jurisdiction.

34. Inspections. The permittee shall allow the Corps to make periodic inspections at any time deemed necessary in order to ensure that the work is eligible for authorization under these GPs, is being, or has been performed in accordance with the terms and conditions of these GPs. To facilitate these inspections, the permittee shall complete and return to the Corps the Work-Start Notification Form and the Compliance Certification Form when either is provided with an authorization letter. These forms are attached after the plans.

SPECIAL CONDITIONS

1. Compensatory mitigation for unavoidable impacts to palustrine-forested wetlands shall consist of purchasing 0.83 credit from the Maine Natural Resource Conservation Fund. As of the date of this authorization letter, the current cost to purchase this credit is $212,379.72. The attached completed In-Lieu-Fee (ILF) Project Data Worksheet shall be mailed with a cashier's check or bank draft made out to "Treasurer, State of Maine", with Corps file number "NAE-2022-01933" and "For ILF accountant only" clearly noted on the check. The check and worksheet shall be mailed to Maine Department of Environmental Protection, Attention: ILF Program Administrator, 17 State House Station, Augusta, Maine 04333. No impacts authorized by this permit shall begin until the Corps receives a copy of the letter from the Maine Department of Environmental Protection (Maine DEP) to the permittee stating that the Maine DEP has received the check and accepts responsibility for mitigation. The in-lieu-fee amount is valid for one year from the date of this authorization letter and is subject to change.

MAINE IN-LIEU-FEE (ILF)
PROJECT IMPACT WORKSHEET

DEP Invoice # *Filled in by ILF Administrator in Augusta*

Project name: Port Harbor Holdings I, LLC

Permittee: Port Harbor Holdings I, LLC (attn. Mr. Mike Soucy)

DEP/Corps permit #: NRPA
NAE-2022-01933 *Attach a copy of the permit*

DEP/Corps Project Manager: Alison Sirois/ Amanda Sayles

ILF Fee Amount: (36,119 sq. ft. x ($5.05 sq. ft. + $0.83 sq. ft.)) x (1) = $212,379.72

Check Date: *Filled in by ILF Administrator in Augusta*

Project address: 1326 Roosevelt Trail (Route 302)
Raymond, Maine *Attach a locus map*

Biophysical region - Section: Southern Maine

Biophysical region - Subsection: Sebago Ossipee Hills and Plain

Total impact area subject to compensation: 36,119 SF (0.83 acre) (SF impacted x 1 multiplier)

Resource(s) impacted:

Resource Types (list all that apply)	**Functions & Values** (for wetland impacts) (list all that apply, by resource type)	**Types of Impacts** (list all that apply, by resource type)	**SF Impacted** (by resource type)	**Linear FT of Streams Impacted (for Corps use)**
PFO	GR/D, STR, NR, PE, WH	Fill	36,119	
		Total impacts:	36,119	

Resource Types: Wetlands by NWI Type (PEM, PFO, PSS, PUB, M1, M2, E1, E2, etc), significant vernal pool depression (SVP), significant vernal pool critical terrestrial habitat (VPCTH), shorebird feeding & staging habitat (shorebird), inland waterfowl & wading bird habitat (IWWH), Tidal waterfowl & wading bird habitat (TWWH), lake or pond (L1, L2), river/stream/brook (RSB)
Wetland Functions & Values: Groundwater recharge/discharge (GWR); floodflow alteration (FF); fish & shellfish habitat (FSH); sediment toxicant retention (STR); nutrient removal (NR); production export (PE); sediment/shoreline stabilization (SS); recreation (R); education/scientific value (ESV); uniqueness/heritage (UH); and visual quality/aesthetics (VQ); wildlife habitat (WH)
Types of Impacts: May include: filling, dredging, vegetation conversion (e.g. forested to shrub/scrub), excavation with associated discharge, etc.

US Army Corps of Engineers ®
New England District

GENERAL PERMIT
WORK-START NOTIFICATION FORM
(Minimum Notice: Two weeks before work begins)

EMAIL TO: Amanda.L.Sayles@usace.army.mil

-or-

MAIL TO: Amanda. L. T. Sayles
U.S. Army Corps of Engineers, New England District
Maine Project Office
442 Civic Center Drive, Suite 350
Augusta, Maine 04330

A Corps of Engineers Permit (NAE-2022-01933) was issued to Port Harbor Holdings I, LLC. The permit authorized the permittees to place and maintain about 36,199 sq. ft. (0.83 acre) of adjacent wetlands to Sebago Lake in conjunction with the expansion of an adjacent property to the existing Jordan Bay Marina for maintenance, sales, services and storage located at 1326 Roosevelt Trail in Raymond, Maine.

The people (e.g., contractor) listed below will do the work, and they understand the permit's conditions and limitations.

PLEASE PRINT OR TYPE

Name of Person/Firm: _____

_____

_____

Business Address: _____

_____

_____

Telephone: (____) _____ (____) _____

Proposed Work Dates: Start: _____

Finish: _____

PERMITTEE'S SIGNATURE: _____ DATE: _____

PRINTED NAME: _____ TITLE: _____

FOR USE BY THE CORPS OF ENGINEERS

PM: SAYLES Submittals Required: No

Inspection Recommendation: Random Maine General Permit Compliance

US Army Corps of Engineers ®
New England District

(Minimum Notice: Permittee must sign and return notification within one month of the completion of work.)

COMPLIANCE CERTIFICATION FORM

Corps of Engineers Permit No: NAE-2022-01933

Name of Permittee: Port Harbor Holdings I, LLC

Permit Issuance Date: October 7, 2022

Please sign this certification and return it to the following address upon completion of the activity and any mitigation required by the permit. You must submit this aft.er the mitigation is complete, but not the mitigation monitoring, which requires separate submittals.

****

EMAIL TO: Amanda.L.Sayles@usace.army.mil
OR
MAIL TO: Amanda. L. T. Sayles
U.S. Army Corps of Engineers, New England District
Maine Project Office
442 Civic Center Drive, Suite 350
Augusta, Maine 04330

****

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit was completed in accordance with the terms and conditions of the above referenced permit, and any required mitigation was completed in accordance with the permit conditions.

_____	_____
Signature of Permittee	Date
_____	_____
Printed Name	Date of Work Completion
( ) _____	( ) _____
Telephone Number	Telephone Number

Robert McSorley

From: Ken P. Brown <Ken.Brown@pmpl.com>
Sent: Wednesday, October 12, 2022 12:53 PM
To: Robert McSorley
Cc: Jesse Magee; Nicholas Payeur; Jeff M. Leary; Chris J. Gillies
Subject: RE: Jordan Bay Marina, PPLC Right of Way Parcel 102, Port Harbor Holdings I, MP 22.3, Raymond, ME
Attachments: Figure 7-1 Construction Practices PPLC.pdf

Rob -

Portland Pipe Line Corporation (PPLC) appreciates the plan revisions that Sebago Technics, Inc. has made during design reviews with PPLC. We are in general agreement with the proposal as depicted on the plan set dated September 14, 2022, as posted on the Town of Raymond Planning Board website.

Once the plans are final, we intend to provide the landowner with a letter of authorization for the proposed work near the pipelines and within the pipeline easement. The authorization will be conditional to conformance with our attached Construction Practices guidelines, and conditional to final plans, including those recorded at the Registry of Deeds, including notes clarifying that there will be no storage of any kind including snow storage over the pipelines and clarifying that the "pipeline corridor" that is depicted on the drawings for planning purposes does not represent the deeded easement on this parcel.

Thank you for coordinating this work with PPLC in advance.

Thanks -

- Ken

Ken P. Brown | Portland Pipe Line Corporation / Montreal Pipe Line Limited | p. 207.767.0449 | c. 207.233.6349 | ken.brown@pmpl.com

From: "Robert McSorley" <rmcsorley@sebagotechnics.com>
To: "Jesse Magee" <Jesse.Magee@pmpl.com>
Cc: "Ken P. Brown" <Ken.Brown@pmpl.com>, "Nicholas Payeur" <nicholas.payeur@pmpl.com>, "Randy A. Hughes" <randy.hughes@pmpl.com>
Date: 08/22/2022 12:26 PM
Subject: RE: Jordan Bay Marina

Jay,

Following up on your email. Would you like to do an online meeting with Ken.

Thanks, Rob

Robert McSorley, PE *Senior Project Manager*
Sebago Technics, Inc. | An Employee-Owned Company
75 John Roberts Rd., Suite 4A, South Portland, ME 04106
Office: 207.200.2100 | Direct: 207.200.2074 | Mobile: 207.939.1809
rmcsorley@sebagotechnics.com | www.sebagotechnics.com

From: Jesse Magee <Jesse.Magee@pmpl.com>
Sent: Thursday, August 4, 2022 11:19 AM
To: Robert McSorley <rmcsorley@sebagotechnics.com>
Cc: Ken P. Brown <Ken.Brown@pmpl.com>; Nicholas Payeur <nicholas.payeur@pmpl.com>; Randy A. Hughes <randy.hughes@pmpl.com>
Subject: Re: Jordan Bay Marina

Hello Bob:

Thanks for making the design changes.

I will review the design with Ken Brown when he returns from Vacation next Thursday.

Regards:

Jesse G. Magee III
Senior Engineer
Portland Pipe Line Corporation
PH: 207-767-0415
MB:207-233-4002

From: "Robert McSorley" <rmcsorley@sebagotechnics.com>
To: "Jay MaGee (Jesse.magee@pmpl.com)" <Jesse.magee@pmpl.com>
Cc: "Mike Soucy (mikesoucy@portharbormarine.com)" <mikesoucy@portharbormarine.com>

Date: 08/03/2022 04:39 PM
Subject: Jordan Bay Marina

Good afternoon Jay,

Reaching back out to relative to the proposed expansion of the Jordan Bay Marina with the following:

- We pulled back the pavement from over the oil pipelines. There is no longer any parking shown over the pipelines.

- We made sure that the grading allows Portland Pipeline to straddle either line with a backhoe and trench box if needed for work on the pipe as requested.

- The line are now labeled as CO for Crude Oil.

- The easement callout has not been removed yet; it is intended to change the wording to from “easement” to “corridor.”

- I have indicted the pipeline elevations that we found when the test pit was dug. Unfortunately, the perfect elevation for our drainage pipe is right through the pipelines. Going under the pipelines is not as option as the pipe will never break out and hit the ground surface. We have revised our stormwater design to minimize the discharge pipe size (8”)and sketched the pipe going over with 1’ of clearance with oil pipeline (12”) with minimal adequate cover for frost and for heavy vehicle traffic. It requires us to raise the our treatment filter 0.5’impacting more of site and impacting more wetlands (3,500 sf+) but it works.

Give me a call to discuss after you have reviewed.

Thanks, Rob

Robert McSorley, PE *Senior Project Manager*
Sebago Technics, Inc. | An Employee-Owned Company
75 John Roberts Rd., Suite 4A, South Portland, ME 04106
Office: 207.200.2100 | Direct: 207.200.2074 | Mobile: 207.939.1809
rmcsorley@sebagotechnics.com | www.sebagotechnics.com
