Date	April 15, 2021
To	Town of Cumberland Planning Board
From	Carla Nixon, Town Planner
Subject	**Planning Board Site Plan Review – Mill Run - Phase 3 Office Building**

1. REQUEST/PROJECT DESCRIPTION:

The applicant is Green SIP Construction, Inc, located at 110 Marginal Way, Suite 193, Portland, Maine 04101. The applicant is requesting Planning Board Site Plan Review for the construction of a two-story, 20,000 sf. office building and associated parking on Condominium Unit # 3 of the West Cumberland Mixed Use Development located at 2 Faraday Drive.

The mixed-use development master plan consists of three phases. The first phase of the project was the development of the existing Casco Systems office building (Condominium Unit 1). Phase 2 consisted of five multiplex townhouse buildings (twenty total residential units) which are nearing completion (Condominium Unit 2). This third phase (Condominium Unit 3) will consist of a two story building with a 10,280 s.f. footprint on a 1.375 acre of land.

The parcel is shown on Tax Assessor Map U20 Lot 73 in the Village Center Commercial (VCC) zoning district.

Peter Beigle, LLA, prepared the site plan and will represent the Applicant at the Planning Board meeting.

This project is subject to review under the provisions of the Site Plan Ordinance and the Route 100 Design Standards.

2. DESCRIPTION:

Proposed Use:	Professional Office Space
Access:	36’ wide paved entrance.
Parking:	65 spaces required; 66 spaces proposed.
# of Employees:	33 (for the three businesses, combined)
Hours of Operation:	7 days/wk. 7:00 am to 9:00 pm
Water:	Public
Sewer:	Septic
Heating:	Propane tanks
Floodplain:	Map # 230162 0015B - Designation: Zone C: minimal flooding
Wetlands:	No hydric soils, vernal pools or wetlands on the site.
Fire Protection:	A sprinkler system is proposed.
Solid Waste Disposal:	A commercial waste hauler will remove trash which be stored inside units until collection.

Outside Agency Approvals:

MDEP Site Location of Development permit: *Permit not yet received.*
MDOT Entrance Permit: On file.
Portland Water District: Letter on file dated 10/26/16
Maine Historic Preservation Commission: Letter on file dated 12/2/15
Maine Dept. of Inland Fisheries & Wildlife: Letter on file dated 12/10/15
Maine Dept. of Agriculture, Conservation and Forestry: Letter on file dated 11/7/15

3. **WAIVER REQUESTS:** Traffic Study Waiver Request. See Attachment 13 (B) of the application.

4. **TOWN PLANNER'S COMMENTS:**

1. Why is landscaping plan along Rt. 100 different for this than for Casco Systems building?
2. There is no outdoor furniture. Could some benches be placed in the landscaped island along Faraday Drive?
3. Where are mailboxes?
4. Why is there is no proposed buffering or landscaping between the new building parking lot and the residential units?
5. What are the building materials and colors?

Response from applicant's representative:

RE: West Cumberland – Phase 3 Professional Office Building (Condominium Unit 3)
Response to Town Staff Comments.

Dear Carla,

We have reviewed the comments and offer the following *responses (comment in italics, response bolded):*

1. *Why is landscaping plan along Rt. 100 different for this than for Casco Systems building?*
   The proposed planting (clump Heritage River Birch with junipers planted around their base) is the same as the originally approved Casco Systems landscaping. The only difference is the Casco planting is on a slight berm which we are not proposing for drainage purposes. I have included a photo of the existing Casco Systems planting below.

2. *There is no outdoor furniture. Could some benches be placed in the landscaped island along Faraday Drive?* **The Owner is happy to install a couple of benches in the landscape island along Faraday Drive.**

3. *Where are mailboxes?* **The mailbox will be identical to the Casco Systems mailbox (see photograph below) and will either be directly across the street or right next to it depending on direction from the Post Office. We have contacted them, but have yet to get a response back.**

4. *Why is there is no proposed buffering or landscaping between the new building parking lot and the residential units?* **There is an existing planted berm which was installed as part of the Multiplex project. Please see the photograph below.**

5. *What are the building materials and colors?* **A materials list is attached to this letter along with an architectural elevation plan reflecting the materials listed.**

Please contact me with any questions or should you need additional information.

Sincerely,

Peter B. Biegel, ASLA
Maine Licensed Landscape Architect

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5. PEER REVIEW ENGINEER'S COMMENTS: Dan Diffin, P.E., Sevee and Maher Engineers.

April 7, 2021

Ms. Carla Nixon, Town Planner
Town of Cumberland
290 Tuttle Road
Cumberland, Maine 04021

Subject: Peer Review for Site Plan Application
Professional Office Building -West Cumberland
Mill Run Condominiums Unit 3
Route 100, Cumberland, Maine

Dear Ms. Nixon:

As requested, Sevee & Maher Engineers, Inc. (SME) has conducted a peer review of the Site Plan Application for the proposed Professional Office Building off Route 100 in Cumberland, Maine. The application materials received by SME were prepared by Land Design Solutions (LDS), and consist of the following:

- Final application package with cover letter prepared by Peter B. Biegel, ASLA., dated March 30, 2021;
- Final project plan set dated March 29, 2021; and
- Updated Master Subdivision Plan dated April 24, 2017.

PROJECT DESCRIPTION

The applicant proposes to construct a two story 10,280 square foot Professional Office Building at the site of the former Allen's Farm convenience store. In December 2015, a 13,000-square-foot manufacturing building was approved by the Planning Board as part of the first phase of a master development plan for Allen's Farm and surrounding properties. In May 2017, the five 4-unit multiplex buildings were approved by the Planning Board as part of the second phase of a master development plan. The Professional Office Building will be served by public water and utility connections from Route 100, and a separate subsurface wastewater disposal system. The Professional Office Building will be accessed by State Route 100 via the same access driveway as the approved manufacturing building and multiplexes.

This project is being reviewed as a Site Plan Review as outlined in Chapter 229 Sections 8 to 10 Site Plan Review of the Town of Cumberland Ordinances, most recently amended and adopted on October 13, 2020.

Chapter 229 Section 10: Site Plan Review – Approval Standard and Criteria

SME has reviewed the applicable subsections of Chapter 229 Section 10 and has provided comments for those subsections not found to be addressed by the Application. The remaining subsections have been reviewed and found to comply with Chapter 229, Section 10 requirements.

Section 10.B – Traffic, circulation and parking

1. SME recommend adding sidewalk around the west side of parking lot to improve pedestrian circulation.

Section 10.C – Stormwater management and erosion control –

2. Please add an invert elevation and cleanout for the underdrain pipe for the Roof Dripline Filter on the plan drawings.
3. Please provide design details for the outlet control structure on Drawing C-102. There is no information provided on the partial plan.
4. SME recommends that riprap inlet and outlet protection be added to the pipes in the detention pond.
5. The total area accounted for at POI 1 in the Stormwater management Report is 11.467 acres in the Post-development model and 11.394 acres in the Pre-development model. Please revise to match, or explain the discrepancy.

Section 10.K. - Storage of materials

6. Please confirm that there will be no dumpster required for the proposed building.

Please feel free to call me at 207.829.5016 or email me at dpd@smemaine.com with any questions, or if you would like, I could meet with you to discuss our comments.

Sincerely,

SEVEE & MAHER ENGINEERS, INC.

Daniel P. Diffin, P.E.
Vice President/Civil Engineer

7. Applicant's Representative's Response to Peer Engineer's Comments.

April 14, 2021

Ms. Carla Nixon
Town Planner
Town of Cumberland
290 Tuttle Road
Cumberland, ME 04021

RE: West Cumberland – Phase 3 Professional Office Building (Condominium Unit 3)
Response to Peer Review Comments & Architectural Narrative

Dear Carla,

We have reviewed the Town's Peer Review Consultant's and offer the following responses (comment in italics, response bolded):

Section 10.B – Traffic, circulation and parking

1. *SME recommend adding sidewalk around the west side of parking lot to improve pedestrian circulation.* **The west side of the parking area is the side adjacent to Route 100. The first and main reason we have not proposed a sidewalk along this end of the parking lot is because we believe people parking in these seven spaces will take the most direct route either straight through the parking area to the building entrance, or directly to the sidewalk along the face of the building to the entrance. The second reason is that this area is needed for snow storage and piling snow over a curb and sidewalk will be problematic. Also the grade along this side slopes down to the catch basin in the parking area so in the winter when we have a sunny day and the snow pile melts and then the sun goes down and the moisture freezes this area tends to get slippery and a safe sidewalk will be very hard to maintain. The above reasons are based on my experience as a tenant (2 winters and counting) in the Casco Systems building which has an identical parking and building layout. We ask that the Planning Board allow the proposed parking and sidewalk plan to remain as proposed.**

Section 10.C – Stormwater management and erosion control –

2. *Please add an invert elevation and cleanout for the underdrain pipe for the Roof Diripline Filter on the plan drawings.* **The invert elevation and a cleanout will be added to the underdrain pipe and will be reflected on the plans.**

3. *Please provide design details for the outlet control structure on Drawing C-102. There is no information provided on the partial plan.* **The design details will be added to the outlet control structure shown on the partial plan view on drawing C-102.**

4. *SME recommends that riprap inlet and outlet protection be added to the pipes in the detention pond.* **Riprap aprons will be added to the detention pond inlet and outlet.**

5. *The total area accounted for at POI 1 in the Stormwater management Report is 11.467 acres in the Post-development model and 11.394 acres in the Pre-development model. Please revise to match, or explain the discrepancy.* **The discrepancy is because the area of pre-development subcatchment 3 used in the previously approved and permitted model was too low by 0.073 acres of good open**

space. Because the area was included in the post development calculations correctly, the conclusions of the analysis remain valid, and possibly a bit conservative.

Section 10.K. - Storage of materials

6. *Please confirm that there will be no dumpster required for the proposed building.* **A dumpster is not proposed for the building.**

Michael Hays of Grant Hays Associates has prepared a narrative describing how the design of the building reflects the Route 100 Design Guidelines along with a building materials list. We realize that these cannot be submitted to the Planning Board at this time, but we have attached them for your information, and we will plan on presenting them to the Planning Board at the meeting.

Please contact me with any questions or should you need additional information.

Sincerely,

Peter B. Biegel

Peter B. Biegel, ASLA
Maine Licensed Landscape Architect

SITE PLAN REVIEW APPROVAL STANDARDS AND CRITERIA

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

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

A. Utilization of the Site

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

The proposed development of Condominium Unit 3 is as anticipated and shown on the master plan and subdivision approval. There are no environmentally sensitive areas on the site.
Based on the above findings of fact, the Board finds the standards of this section have been met.

B. Traffic, Circulation and Parking

(1) Traffic Access and Parking. Vehicular access to and from the development must be safe and convenient.
(a) Any driveway or proposed street must be designed so as to provide the minimum sight distance according to the Maine Department of Transportation standards, to the maximum extent possible.
(b) Points of access and egress must be located to avoid hazardous conflicts with existing turning movements and traffic flows.
(c) The grade of any proposed drive or street must be not more than + 3% for a minimum of two (2) car lengths, or forty (40) feet, from the intersection.
(d) The intersection of any access/egress drive or proposed street must function: (a) at a Level of Service D, or better, following development if the project will generate one thousand (1,000) or more vehicle trips per twenty-four (24) hour period; or (b) at a level which will allow safe access into and out of the project if less than one thousand (1,000) trips are generated.
(e) Where a lot has frontage on two (2) or more streets, the primary access to and egress from the lot must be provided from the street where there is less potential for traffic congestion and for traffic and pedestrians hazards. Access from other streets may be allowed if it is safe and does not promote short cutting through the site.
(f) Where it is necessary to safeguard against hazards to traffic and pedestrians and/ or to avoid traffic congestion, the applicant shall be responsible for providing turning lanes, traffic directional islands, and traffic controls within public streets.
(g) Access ways must be designed and have sufficient capacity to avoid queuing of entering vehicles on any public street.
(h) The following criteria must be used to limit the number of driveways serving a proposed project:
(1) No use which generates less than one hundred (100) vehicle trips per day shall have more than one (1) two-way driveway onto a single roadway. Such driveway must be no greater than thirty (30) feet wide.
(2) No use which generates one hundred (100) or more vehicle trips per day shall have more than two (2) points of entry from and two (2) points of egress to a single roadway. The combined width of all access ways must not exceed sixty (60) feet.
(2) Access way Location and Spacing
Access ways must meet the following standards:
(a) Private entrance / exits must be located at least fifty (50) feet from the closest un-signalized intersection and one hundred fifty (150) feet from the closest signalized intersection, as measured from the point of tangency for the corner to the point of tangency for the access way. This requirement may be reduced if the shape of the site does not allow conformance with this standard.
(b) Private access ways in or out of a development must be separated by a minimum of seventy-five (75) feet where possible.
(3) Internal Vehicular Circulation. The layout of the site must provide for the safe movement of passenger, service, and emergency vehicles through the site.
(a) Projects that will be served by delivery vehicles must provide a clear route for such vehicles with appropriate geometric design to allow turning and backing.
(b) Clear routes of access must be provided and maintained for emergency vehicles to and around buildings and must be posted with appropriate signage (fire lane - no parking).
(c) The layout and design of parking areas must provide for safe and convenient circulation of vehicles throughout the lot.
(d) All roadways must be designed to harmonize with the topographic and natural features of the site insofar as practical by minimizing filling, grading, excavation, or other similar activities which result in unstable soil conditions and soil erosion, by fitting the development to the natural contour of the land and avoiding substantial areas of excessive grade and tree removal, and by retaining existing vegetation during construction. The road network must provide for vehicular, pedestrian, and cyclist safety, all season emergency access, snow storage, and delivery and collection services.
(4) Parking Layout and Design. Off street parking must conform to the following standards:

(a) Parking areas with more than two (2) parking spaces must be arranged so that it is not necessary for vehicles to back into the street.
(b) All parking spaces, access drives, and impervious surfaces must be located at least fifteen (15) feet from any side or rear lot line, except where standards for buffer yards require a greater distance. No parking spaces or asphalt type surface shall be located within fifteen (15) feet of the front property line. Parking lots on adjoining lots may be connected by accessways not exceeding twenty-four (24) feet in width.
(c) Parking stalls and aisle layout must conform to the following standards.

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

(d) In lots utilizing diagonal parking, the direction of proper traffic flow must be indicated by signs, pavement markings or other permanent indications and maintained as necessary.
(e) Parking areas must be designed to permit each motor vehicle to proceed to and from the parking space provided for it without requiring the moving of any other motor vehicles.
(f) Provisions must be made to restrict the "overhang" of parked vehicles when it might restrict traffic flow on adjacent through roads, restrict pedestrian or bicycle movement on adjacent walkways, or damage landscape materials.
(5) Building and Parking Placement
(a) The site design should avoid creating a building surrounded by a parking lot. Parking should be to the side and preferably in the back. In rural, uncongested areas buildings should be set well back from the road so as to conform to the rural character of the area. If the parking is in front, a generous, landscaped buffer between road and parking lot is to be provided. Unused areas should be kept natural, as field, forest, wetland, etc.
(b) Where two or more buildings are proposed, the buildings should be grouped and linked with sidewalks; tree planting should be used to provide shade and break up the scale of the site. Parking areas should be separated from the building by a minimum of five (5) to ten (10) feet. Plantings should be provided along the building edge, particularly where building facades consist of long or unbroken walls.
(6) Pedestrian Circulation: The site plan must provide for a system of pedestrian ways within the development appropriate to the type and scale of development. This system must connect the major building entrances/ exits with parking areas and with existing sidewalks, if they exist or are planned in the vicinity of the project. The pedestrian network may be located either in the street right-of-way or outside of the right-of-way in open space or recreation areas. The system must be designed to link the project with residential, recreational, and commercial facilities, schools, bus stops, and existing sidewalks in the neighborhood or, when appropriate, to connect the amenities such as parks or open space on or adjacent to the site.

There is an existing paved entrance (Faraday Drive) into the development from Route 100. The access to this part of the development will be via two access drives from Faraday Drive into the office building's parking areas. There is a sidewalk along the building front to the front door. An MDOT entrance permit was obtained in January 2016. The MDOT did not require an updated permit application be submitted for this phase.

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

C. Stormwater Management and Erosion Control

(1) Stormwater Management. Adequate provisions must be made for the collection and disposal of all stormwater that runs off proposed streets, parking areas, roofs, and other surfaces, through a stormwater drainage system and maintenance plan, which must not have adverse impacts on abutting or downstream properties.
(a) To the extent possible, the plan must retain stormwater on the site using the natural features of the site.
(b) Unless the discharge is directly to the ocean or major river segment, stormwater runoff systems must detain or retain water such that the rate of flow from the site after development does not exceed the predevelopment rate.
(c) The applicant must demonstrate that on - and off-site downstream channel or system capacity is sufficient to carry the flow without adverse effects, including but not limited to, flooding and erosion of shoreland areas, or that he / she will be responsible for whatever improvements are needed to provide the required increase in capacity and / or mitigation.
(d) All natural drainage ways must be preserved at their natural gradients and must not be filled or converted to a closed system unless approved as part of the site plan review.
(e) The design of the stormwater drainage system must provide for the disposal of stormwater without damage to streets, adjacent properties, downstream properties, soils, and vegetation.
(f) The design of the storm drainage systems must be fully cognizant of upstream runoff which must pass over or through the site to be developed and provide for this movement.
(g) The biological and chemical properties of the receiving waters must not be degraded by the stormwater runoff from the development site. The use of oil and grease traps in manholes, the use of on-site vegetated waterways, and vegetated buffer strips along waterways and drainage swales, and the reduction in use of deicing salts and fertilizers may be required, especially where the development stormwater discharges into a gravel aquifer area or other water supply source, or a great pond.
(2) Erosion Control
(a) All building, site, and roadway designs and layouts must harmonize with existing topography and conserve desirable natural surroundings to the fullest extent possible, such that filling, excavation and earth moving activity must be kept to a minimum. Parking lots on sloped sites must be terraced to avoid undue cut and fill, and / or the need for retaining walls. Natural vegetation must be preserved and protected wherever possible.
(b) Soil erosion and sedimentation of watercourses and water bodies must be minimized by an active program meeting the requirements of the Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices, dated March 1991, and as amended from time to time.

A stormwater management report (including erosion control) was submitted in the application and reviewed by the Town Engineer. A Maine DEP Site Location of Development Act permit is required and is under review at this time by MDEP. This review by MDEP will include a stormwater review.

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

(D) Water, Sewer, and Fire Protection

(1) Water Supply Provisions: The development must be provided with a system of water supply that provides each use with an adequate supply of water. If the project is to be served by a public water supply, the applicant must secure and submit a written statement from the supplier that the proposed water supply system conforms with its design and construction standards, will not result in an undue burden on the source of distribution system, and will be installed in a manner adequate to provide needed domestic and fire protection flows.

(2) Sewage Disposal Provisions: The development must be provided with a method of disposing of sewage which is in compliance with the State Plumbing Code. If provisions are proposed for on-site waste disposal, all such systems must conform to the Subsurface Wastewater Disposal Rules.
(3) Utilities: The development must be provided with electrical, telephone, and telecommunication service adequate to meet the anticipated use of the project. New utility lines and facilities must be screened from view to the extent feasible. If the service in the street or on adjoining lots is underground, the new service must be placed underground.
(4) Fire Protection: The site design must comply with the Fire Protection Ordinance. The Fire Chief shall issue the applicant a "Certificate of Compliance" once the applicant has met the design requirement of the Town's Fire Protection Ordinance.

The proposed development will utilize public water for both domestic drinking water and fire protection. There is a letter on file from the PWD indicating capacity to serve the development. A private septic system has been designed that complies with all local and state subsurface Waste Disposal rules. There will be underground electric, cable and telephone/data from the utility pole in front of the property. There will also be a connection to the natural gas main on Route 100. The building will be sprinkled.

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

E. Water Protection

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

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

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

The site is located within the Town Aquifer Protection Area. There will be no storage or discharge of fuel, chemicals, chemical or industrial wastes, biodegradable raw materials or liquid, gaseous or solid materials. The project does involve a sewage disposal system with a capacity of two thousand (2,000) gallons per day and the proposed wastewater disposal design is in compliance with all state and local plumbing rules.

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

F. Floodplain Management

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

The site is not located within a floodplain. See Attachment 6 of the application for a FEMA Flood map of the area.

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

G. Historic and Archaeological Resources

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

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

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

H. Exterior Lighting

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

The exterior lighting will include pole mounted fixtures in the parking lot and light bollards at the building entrance. The catalogue cut sheets show that the fixtures are full cut-off and the photometric plan provided shows 0.0 footcandles at the property line. The parking area lighting will be set to turn off when the businesses are closed.

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

I. Buffering and Landscaping

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

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

Street tree plantings are shown on the landscape plan along Route 100 and Faraday Drive. The plantings are a mixture of spruce trees, shrubs and hydrangeas. There is proposed landscaping surrounding the building and parking area also.

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

J. Noise

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

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

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

K. Storage of Materials

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

There is no proposed outdoor storage of materials.

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

L. Capacity of the Applicant

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

Technical Ability: ***The applicant has retained a licensed land surveyor, professional engineer, soils scientist and landscape architect to prepare plans and the application.***

Financial Capacity: ***There is a letter on file from Hub Financing indicating a willingness to fund up to $2,300,000 for the proposed project.***

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

M. Design and Performance Standards

(1) Route 100 Design Standards
(2) Route 1 Design Standards
(3) Town Center District Design and Performance Standards
(4) Village Mixed Use Performance Standards.

None of the above are applicable to this project.

ROUTE 100 DESIGN AND PERFORMANCE STANDARDS

Route 100 Design Standards
Ordinance Requirements

1.2 Site Planning and Design

1.1 Master Planning

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

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

FINDING: A master plan was provided for the property. The first two phases are complete. This is the third and final phase.

1.2 Professional Design

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

FINDING: The site design was done by a Maine Licensed Landscape Architect. The building design was done by Grant Hays Associates, inc. Mike Hays is a Maine Licensed Architect.

1.3 Vehicular Access

Development along Cumberland's Route 100 corridor should promote safe, user-friendly and efficient vehicular movement while reducing both the number of trips on the roadway and the number of curb cuts wherever possible. The vehicular movements discussed in this chapter, both on-site and off-site, shall be designed by a professional engineer and shall be in conformance with all Maine Department of Transportation requirements.

FINDING: There is one access point from Route 100 for the three phase development.

1.3.1 Route 100 Curb Cuts

To promote vehicular, bicycle and pedestrian safety, the number of curb cuts on Route 100 should be kept to a minimum. Adjacent uses are encouraged to use shared driveways wherever possible, thereby reducing the number of turning motions onto and off of Route 100. This practice will increase motorist, bicycle and pedestrian safety, and has the added environmental benefit of helping to reduce impervious (paved) area.

Driveways and their associated turning movements should be carefully designed and spaced to reduce interruptions in Route 100's level of service and to promote safe and easily understandable vehicular movements. Where curb cuts will interrupt sidewalks, ADA requires that the cross slope not exceed 2% in order to maintain accessibility.

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

FINDING: Only one curb cut into Route 100 was required for this project. All three phases access their sites by the one internal roadway: Faraday Drive.

1.3.2 Site Circulation

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

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

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

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

1.3.3 Driveways between Parcels

Driveways between adjacent parcels should be used where feasible in order to make deliveries easier and reduce unnecessary trips and turning movements on Route 100.

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

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

FINDING: There are only three phases and interconnectivity among the three uses is not necessary or feasible.

1.4 Building Placement

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

1.4.1 Location of Building on the Site

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

The site design should make every effort to avoid creating a building surrounded by parking lot. In addition, buildings should generally be square to Route 100 and should avoid unusual geometry in building placement unless the site requires it.

FINDING: This development, like the previous two phases, reflects the above criteria.

1.4.2 Building Entrances

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

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

Where building entrances do not face Route 100, the Route 100 façade should still be made interesting and attractive to drivers on Route 100.

FINDING: There is a prominent and attractive building entrance that faces the internal road but is visible from Route 100 also.

1.4.3 Building Setbacks

If adjacent building facades are parallel with Route 100 and buildings have consistent setbacks from Route 100, the visual effect from the road will be orderly and attractive.

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

FINDING: All setbacks are conforming and appropriate.

1.4.4 Hillside Development

When a proposed development is located on a hillside that is visible from Route 100 or from other public areas, its presence will be much more obvious than development on a level site. Because of this, it is even more important that the structure be designed to fit harmoniously into the visual environment. The use of berms and plantings, where appropriate, will help soften the impact of buildings located in open fields.

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

FINDING: N/A

1.4.5 Universal Accessibility

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

FINDING: All ADA requirements have been met.

1.5 Parking

Objective: Development should provide safe, convenient and attractive parking. Parking lots should be designed to complement adjacent buildings, the site and the Route 100 corridor without becoming a dominant visual element. Every effort should be made to break up the scale of parking lots by reducing the amount of pavement visible from the road. Careful attention should be given to circulation, landscaping, lighting and walkways.

FINDING: The parking is located to the front of the building and has two access points from Faraday Drive.

1.5.1 Location

Parking lots should be located to the side or rear of buildings. Parking should only be placed between the building and Route 100 if natural site constraints such as wetlands or topography, allow no other option. If parking must be built between the building and Route 100, it should be limited, if at all possible, to only one row of parking spaces and be adequately buffered.

FINDING: There is no parking between the building and Route 100.

1.5.2 Landscaping

A 25' landscaping easement to the Town of Cumberland will be required of each new development that is on Route 100. This easement will provide an area for the Town to install curbing, if needed, a sidewalk and the planting of trees. Beyond this easement, the developer will provide adequate landscaping to insure that views from Route 100 are attractive and to buffer the presence of the parking and buildings.

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

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

Where there are trees in the 25" landscaping easement between Route 100 and the building, existing healthy trees should be maintained in their natural state. Where there are few or no trees in the 25' buffer, the buffer area should be landscaped either with trees, or with flowering shrubs, fencing, or such architectural elements as stone walls.

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

FINDING: The 25' landscape easement to the Town is shown on the plan. There are landscaped islands in the parking lot.

1.5.3 Snow Storage

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

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

1.5.4 Impervious Surfaces

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

FINDING: The plan reflects these recommendations.

1.6 Service Areas

Objective: Service areas include exterior dumpsters, recycling facilities, mechanical units, loading docks and other similar uses. Service areas associated with uses along Route 100 should be designed to meet the needs of the facility with a minimum of visual, odor or noise problems. They should be the smallest size needed to fit the specific requirements of the building and its intended operation, and should be fully screened from view by either plantings or architectural elements such as attractive fences.

FINDING: There are no proposed service areas.

1.6.1 Location

Service areas should, if possible, be located so that they are not visible from Route 100 or from the building entrance. Locations that face abutting residential properties should also be avoided wherever possible.

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

FINDING: N/A

1.6.2 Design

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

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

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

FINDING: N/A

1.6.3 Buffering/Screening

Service areas should be screened to minimize visibility from sensitive viewpoints such as Route 100, nearby residential dwellings, public open space, pedestrian pathways, and building entrances. Landscape screening may consist of evergreen trees, shrubs, and/or planted earth berms. Architectural screening may consist of walls, fences or shed structures, and should complement the design of the main structure through repetition of materials, detailing, scale and color.

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

FINDING: N/A

1.7 Open Space

Objective: In order to provide an attractive, hospitable and usable environment, future development along Route 100 should have generous amounts of open space and attractive site details for such elements as pavement, curbing, sitting and other public areas, landscaping, planters, walls, signage, lighting, bollards, waste receptacles and other elements in the landscape.

FINDING: Open space areas are provided as part of the master plan.

1.7.1 Internal Walkways

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

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

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

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

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

FINDING: The above recommendations are reflected in the plan.

1.7.2 Landscaping

Where there are trees in the 75" buffer between Route 100 and the building, existing healthy trees should be maintained in their natural state. Where there are few or no trees in the 75' buffer, the buffer area should be landscaped either with trees, or with flowering shrubs, fencing, or such architectural elements as stone walls.

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

FINDING: There are no existing trees in the buffer. Street trees will be planted as part of the landscape plan.

1.7.3 Usable Open Space

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

FINDING: there are open space areas on the site.

1.8 Buffering of Adjacent Uses

Objective: Buffering or screening may be necessary to effectively separate quite different land uses such as housing and office or commercial buildings. Plantings, earth berms, stone walls, grade changes, fences, distance and other means can be used to create the necessary visual and psychological separation.

1.8.1 Appropriateness

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

1.8.2 Design

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

1.8.3 Maintenance

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

FINDING: The proposed buffers around the development include berms and landscaping. This phase shows there will be trees and shrubs installed.

1.9 Erosion, Sedimentation and Stormwater Management

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

1.10.1 Erosion and Sedimentation

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

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

1.10 Utilities

Objective: It is important to make efficient use of the utility infrastructure that exists along the Route 100 corridor, and to ensure that utility connections to individual development lots are as inconspicuous as possible.

FINDING: All utilities will be underground from Route 100 and/or Faraday Drive.

1.10.1 Water and Sewer

All proposed development along the Route 100 Corridor must connect to the municipal water supply and the municipal sewer, wherever such connections are available. Proposed connections are subject to review by the Town and/or its peer reviewers.

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

1.10.2 Electric, Telephone and Cable

Electric, telephone, cable and other wired connections from existing utilities on Route 100 should be made to individual development lots via underground conduit wherever possible. This prevents the accumulation of unsightly overhead wires, and preserves the natural character of the corridor.

FINDING: Service will be via underground lines.

2. Building Types

The purpose of these guidelines is to encourage architectural styles within the Route 100 corridor that draw their inspiration from traditional New England examples. "Vernacular" or commonly used styles that are well represented in Cumberland are center-chimney Federal buildings in brick or clapboard, 100 and a half story Greek Revival "capes" with dormers, in white clapboard with corner pilasters or columns, and Victorians buildings with more steeply pitched roofs, porches and gingerbread trim. Except for mill buildings, the scale and nature of older commercial buildings in towns like Cumberland and Yarmouth, was similar to that of houses of the same period. Modern interpretations and versions of these styles, are entirely appropriate and encouraged. Because of their larger size, traditional barns are also sometimes used as inspiration for modern commercial buildings.

2.1 General Architectural Form

Traditional New England buildings look like they do because of the climate, the materials and technologies available for building and the styles and fads of the 19th century. This is what is meant when people talk about "vernacular architecture". It is the architecture that develops in a particular geographic area. Typically, while there may be architects who work in a particular "vernacular", vernacular architecture evolves over time and is not the product of a particular person's powerful vision.

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

FINDING: The building design reflects the above criteria.

2.1.1 Roofs

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

FINDING: The roofline reflects the above criteria.

2.1.2 Windows

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

FINDING: The windows reflect the above criteria.

2.1.3 Detailing

Each historical period also has its characteristic embellishments. Federal buildings may have a decorative fanlight over the entrance door. Greek Revival buildings have corner-boards in the form of pilasters or even rows of actual columns across 100 façade, below a pediment. Victorian buildings use a wealth of turned columns and decorative scroll-work and shingle-work. Too many embellishments can look "busy", and mixing the details of several periods or styles can also spoil the desired effect. Modern interpretations of older styles often used simplified forms to suggest the details that were more elaborately defined in earlier periods.

FINDING: The detailing reflects the above criteria.

2.1.4 Building Materials

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

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

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

FINDING: The building materials reflect the above criteria.

2.2 Large Scale Buildings

Objective: Due to their visibility and mass, the design of new large structures (10,000 square feet or greater) have the ability to greatly enhance or detract from Route 100's visual character. These structures should be designed as attractive pieces of commercial architecture that are responsive to their site and compatible with adjacent development.

FINDING: The building reflects the above criteria.

2.2.1 Design and Massing

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

FINDING: The building reflects the above criteria.

2.2.2 Site Design

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

FINDING: The building reflects the above criteria.

2.2.3 Architectural Details

Large structures should have the same degree of detailing found in well-designed smaller and medium sized buildings along the Route 100 corridor. Architectural details can be used to reduce the scale and uniformity of large buildings. Elements such as colonnades, pilasters, gable ends, awnings, display windows and appropriately positioned light fixtures can be effective means of achieving a human scale.

FINDING: The building reflects the above criteria.

2.2.4 Facades and Exterior Walls

Unbroken facades in excess of 80 feet are overwhelming whether they are visible from Route 100, other roadways or pedestrian areas, or when they abut residential areas. Breaking up the plane of the wall can reduce this sense of overwhelming scale. Where the plane of the wall is broken, the offset should be proportionate to the building's height and length. A general rule of thumb for such projections or recesses is that their depth shall be at least 3% of the façade's length, and they shall extend for at least 20% of the façade's length.

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

Facades of commercial buildings that face Route 100 or other roadways should have transparent openings (e.g. display windows or entry areas) along 30% or more of the length of the ground floor. Blank or unadorned walls facing public roads, residential neighborhoods, or abutting properties are boring and unattractive.

FINDING: The building reflects the above criteria.

2.2.5 Building Entrances

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

FINDING: The building reflects the above criteria.

2.3 Linear Commercial Buildings

Objective: Linear commercial structures, such as multi-tenant offices or commercial buildings may be appropriate along Route 100 provided that they are designed with façade and roofline elements that reduce their sense of large scale and add visual interest.

2.3.1 Design

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

FINDING: The building reflects the above criteria.

2.3.2 Façade Design

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

FINDING: The building reflects the above criteria.

2.3.3 Focal Points

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

FINDING: The building reflects the above criteria.

2.3.4 Façade Offsets

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

FINDING: The building reflects the above criteria.

2.3.5 Rooflines

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

FINDING: The building reflects the above criteria.

2.4 Smaller Freestanding Commercial Buildings

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

2.4.1 Single Use Buildings

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

FINDING: N/A

2.4.2 Franchise Design

Franchise architecture with highly contrasting color schemes, non-traditional forms, reflective siding and roof materials are not related to any traditional New England style. They are buildings that are stylized to

the point where the structure is a form of advertising. However, franchises have been willing to use existing "vernacular" buildings, and sometimes have designs that somewhat reflect local styles.

FINDING: N/A

2.4.3. Mixed Use Buildings

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

FINDING: N/A

2.5 Residential Structures

Objective: Cumberland's future housing stock in the Route 100 corridor should be well designed and constructed, and is encouraged to have some connection to the traditional styles of New England residential architecture. The large mass of multiplex dwellings, can be broken up by façade articulation and architectural detailing in order to reduce their apparent size.

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

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

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

FINDING: N/A

2.6 Residential Care Facilities

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

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

FINDING: N/A

2.7 Hotels

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

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

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

FINDING: N/A

2.7.1 All Building Types: Awnings and Canopies

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

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

FINDING: N/A

3 Signage

Signs play a central role in providing much-needed information and setting the tone for the Route 100 corridor. They inform motorists and pedestrians and have a direct effect on the overall appearance of the roadway. Signage should not create visual clutter along the roadway, yet must provide basic, legible information about commercial goods and services. Signs should be compatible with the architecture and the context of the development.

3.1 Sign Design

Objective: Commercial uses along Route 100 in Cumberland should be identified by attractive, legible signs that serve the need of the individual business, while complementing the site and the architecture. All signage shall comply with the requirements of the Zoning Ordinance of the Town of Cumberland.

3.1.1 Signage Plan

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

FINDING: TBD with sign permit application

3.1.2 Sign Location

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

FINDING: Complies

3.1.3 Sign Design

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

FINDING: TBD with sign permit application

3.1.4 Sign Colors

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

FINDING: TBD with sign permit application

3.1.5 Sign Content

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

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

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

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

FINDING: TBD with sign permit application

3.2 Sign Type

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

3.2.1 Building Mounted Signs

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

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

FINDING; TBD with sign permit application

3.2.2 Freestanding Signs

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

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

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

FINDING: TBD with sign permit application

3.2.3 Wayfinding Signs

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

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

FINDING: TBD with sign permit application

3.3 Sign Illumination

Only externally lit signs are permitted in the Route 100 corridor because, compared with internally lit signs, the direction and intensity of the light can be more easily controlled. Externally illuminated signs are made of an opaque material and have a dedicated light fixture or fixtures mounted in close proximity, aimed directly at the sign face. The illumination level on the vertical surface of the sign should create a noticeable contrast with the surrounding building or landscape without causing undue reflection or glare.

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

FINDING: Complies

4 Lighting

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

4.1 Good Lighting

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

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

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

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

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

FINDING: Complies

4.2 The Lighting Plan

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

4.2.1 Elements of the Lighting Plan

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

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

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

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

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

FINDING: Complies

4.3 Types of Lighting

4.3.1 Façade and Landscaping Lighting

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

4.3.2 Parking Lot and Driveway Lighting

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

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

FINDING: Complies

4.3.3 Pedestrian Lighting

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

Mounting heights for pedestrian lighting should be appropriate in design and scale for the project and its setting. Bollard fixtures of 3' to 4' in height and ornamental fixtures of up to 12' in height are encouraged. Fixtures should be a maximum of 100 watts and should not create glare or light trespass onto abutting properties.

FINDING: Complies

PROPOSED CONDITIONS OF APPROVAL

1. The draft condominium documents shall be reviewed and approved by the Town Attorney prior to the preconstruction conference.
2. A preconstruction conference shall be held prior to the start of construction.
3. A performance guarantee in an amount and form acceptable to the Town Manager will be required prior to the preconstruction conference.
4. All clearing limits shall be flagged and approved by the Peer Review Engineer prior to the preconstruction conference.
5. A blasting permit, if required, shall be obtained from the Code Enforcement Officer.
6. All legal and technical review fees shall be paid to the Town prior to the preconstruction conference.
7. Any required local, state or Federal permits shall be submitted to the Town Planner prior to the preconstruction conference.
8. An electronic copy of the as-built plans shall be submitted to the Town Planner prior to the release of any remaining inspection fees.

Land Design Solutions

Land Planning, Site Planning and Landscape Architecture

April 15, 2021

Ms. Carla Nixon
Town Planner
Town of Cumberland
290 Tuttle Road
Cumberland, ME 04021

RE: West Cumberland – Phase 3 Professional Office Building (Condominium Unit 3) Response to Town Staff Comments.

Dear Carla,

We have reviewed the Town's Peer Review Consultant's and offer the following *responses (comment in italics, response bolded):*

1. *Why is landscaping plan along Rt. 100 different for this than for Casco Systems building?* **The proposed planting (clump Heritage River Birch with junipers planted around their base) is the same as the originally approved Casco Systems landscaping. The only difference is the Casco planting is on a slight berm which we are not proposing for drainage purposes. I have included a photo of the existing Casco Systems planting below.**

1 Faraday Drive, Suite 7, Cumberland, ME 04021
Tel: (207) 939-1717 Email: pbiegel@landdesignsolutions.com

2. *There is no outdoor furniture. Could some benches be placed in the landscaped island along Faraday Drive?* **The Owner is happy to install a couple of benches in the landscape island along Faraday Drive.**

3. *Where are mailboxes?* **The mailbox will be identical to the Casco Systems mailbox (see photograph below) and will either be directly across the street or right next to it depending on direction from the Post Office. We have contacted them, but have yet to get a response back.**

4. *Why is there is no proposed buffering or landscaping between the new building parking lot and the residential units?* **There is an existing planted berm which was installed as part of the Multiplex project. Please see the photograph below.**

5. *What are the building materials and colors?* **A materials list is attached to this letter along with an architectural elevation plan reflecting the materials listed.**

Please contact me with any questions or should you need additional information.

Sincerely,

Peter B. Biegel, ASLA
Maine Licensed Landscape Architect

1 Faraday Drive, Suite 7, Cumberland, ME 04021
Tel: (207) 939-1717 Email: pbiegel@landdesignsolutions.com

GRANT HAYS ASSOCIATES
ARCHITECTURE ✠ INTERIOR DESIGN

MEMO

DATE: April 12, 2021

TO: Town of Cumberland Planning Department

FROM: Mike Hays

RE: Professional Office Building
197 Gray Road, Cumberland

CC: Peter Biegel, James Schmidt, file

Proposed Building Exterior Materials & Colors

Component	Material	Color
LEASE SPACE BUILDING		
Stone Wainscot & Cap	Versetta Stone Ledgestone Style	Sterling
Wall Panels	HardiPlank	Satin Silver Gray
Clapboard Siding	HardiPlank	White
Corner Trim	Azek	White
Frieze/Soffit/Fascia	Azek	White
Doors	Aluminum Storefront	Clear Satin Anodized
Windows	Aluminum Storefront	Clear Satin Anodized
Roofing	Composite Architectural Shingles	Black/Gray
CENTER SECTION		
Wall Panels	HardiPlank	Satin Silver Gray
Canopy & Cupola Supports	Painted Steel Tube	Satin Silver Gray
Soffit/Fascia	Aluminum Ceiling Plank	Satin Silver Gray

Entrance Doors	Aluminum/storefront	Clear/satin Anodized
Windows	Aluminum/storefront	Clear/satin Anodized
Roofing	Adhered Rubber Membrane	Black

Town of Cumberland
Site Plan Review
Application

Project:

Professional Office Building
West Cumberland
(Mill Run Condominiums Unit 3)
Faraday Drive (195 Gray Road)
Cumberland, ME

Applicant & Owner:
Green SIP Construction, Inc.
110 Marginal Way, Suite 193
Portland, ME 04101

March 29, 2021

Prepared By:

Land Design Solutions
1 Faraday Drive, Suite 7
Cumberland, Maine 04021

Land Design Solutions
Land Planning, Site Planning and Landscape Architecture

March 30, 2021

Ms. Carla Nixon
Town Planner
Town of Cumberland
290 Tuttle Road
Cumberland, ME 04021

RE: West Cumberland – Phase 3 Professional Office Building (Condominium Unit 3)
Site Plan Review Application

Dear Carla,

Land Design Solutions has been retained by the developer/applicant, Green SIP Construction to assist with local and state permitting involved with the approval process for a professional office building proposed on condominium unit 3 of the West Cumberland Site (Faraday Drive / 195 – 197 Gray Road). The Multiplex Townhouse Phase 2 is just about complete with all units sold and all but the last one which is currently finishing up construction owner occupied.

The proposed condominium unit 3 project is triggering the 3 acre impervious threshold requiring a Site Location of Development Permit from the Maine DEP. Under the Site Location permit the DEP will be reviewing the entire site including septic systems, groundwater and stormwater.

Please review the application, supporting documents and plan set and contact me with any comments or questions. We look forward to being on the next available agenda to discuss the project with the Planning Board.

Sincerely,

Peter B. Biegel

Peter B. Biegel, ASLA
Maine Licensed Landscape Architect

1 Faraday Drive, Suite 7, Cumberland, ME 04021
Tel: (207) 939-1717 Email: pbiegel@landdesignsolutions.com

Attachment 1 - Application

This Attachment includes the following:

1. Completed Application & Site Plan Review Checklist
2. Letter of agent authorization
3. Google Earth Aerial Image of the Site

SITE PLAN REVIEW
Town of Cumberland

Appendix C
Planning Board Site Plan Review Application

Applicant's name Green SIP Construction Inc.

Applicant's address 110 Marginal Way, Suite 193, Portland, Maine 04101

Cell phone (207)-899-6263 Home phone _____ Office phone _____

Email Address James.Schmidt.1296@gmail.com

Project address 2 Faraday Drive - (Condominium Unit 3)

Project name Proposed Professional Office Building (West Cumberland Mixed Use Development)

Describe project Proposed construction of 20,000 s.f. office building and associated parking on Condominium Unit 3

Number of employees dental office =8 / spa = 5 / general office = 20 (total of 33 employees)

Days and hours of operation 7 days a week, 7:00 AM to 9:00 PM

Project review and notice fee Application & Notice = $150 + Staff Review = $500 (Total of $650.00)

Name of representative Peter Biegel, Land Design Solutions

Contact information: Cell: (207) 939-1717 Office: _____

What is the applicant's interest in the property?

Own x Lease _____ Purchase and sale agreement _____ (provide copy of document)
If you are not the owner, list owner's name, address and phone number Same as applicant above

---

If you are not the owner, list owner's name, address and phone number See applicant above

Boundary Survey
Submitted? Yes x No _____

Are there any deed restrictions or easements? Yes _____ No x If yes, provide information and show easement location on site plan.

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

Will a new structure(s) be built on the site? Yes x No _____
Describe: 10,280 s.f. footprint
Number of new buildings 1
Square footage 20,000 s.f. (total)
Number of floor levels including basement 2 floors with a basement under the middle section of the first floor.

Parking
Number of existing parking spaces 0
Number of new parking spaces 65
Number of handicapped spaces 3
Will parking area be paved? x Yes ___No

Entrance
Location: Entrance drive exists (Faraday Drive)
Width 36' Length 500 ft. +/-
Is it paved? x Yes_____No_____If not, do you plan to pave it?

Where will snow storage for entrance and parking be located? Show on site plan. Snow storage is shown on the site plan & landscape plan.

Utilities

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

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

Electric: On site? Yes_____No x
Show location of existing and proposed utilities on the site plan and indicate if they are above or below ground.

Signs
Number: 1 sign (to be applied for - will meet all Town Codes)
Size:_____
Material: _____
Submit sign design and completed sign application.
Will the sign be lighted?_____Submit information on type and wattage of lights.
Show location of sign(s) on the site plan.

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

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

Trees
Show location of existing trees on the site plan and indicate if any are to be removed. There are no existing existing trees on site.

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

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

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

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

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

Fire Protection
Location of nearest hydrant 190 ft. Sprinklers? Yes x No _____
Do you plan to have an alarm system? Yes_____No x Please contact the Fire/EMS Department at 829-4573 to discuss any Town or state requirements.

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

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

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

- Zoning district: VCC
- Minimum lot size: 20,000 s.f.
- Classification of proposed use: Professional Office
- Parcel size: Condominium Unit 3 = 1.375 acres
- Frontage: 176.9 ft. on Route 100 & 305 ft. on Faraday Drive
- Setbacks: Front 45 ft. Side 15 ft. Rear n/a
- Board of Appeals Required? No
- Tax Map U Lot 70A, 70E Deed book 33956 Deed page 21
- Floodplain map number 230162 0015 B Designation Zone C (area of minimal flooding)
- Vernal pool identified? No vernal pools on site
- Is parcel in a subdivision? yes
- Outside agency permits required: MDEP Site Location
  MDEP Tier 1_____ MDEP Tier 2_____ Army Corps of Engineers _____
  MDEP general construction (stormwater) permit (for disturbance of 1 acre or more)
- MDOT entrance permit obtained with original approval MDOT permit # 17180
- MDOT traffic movement permit n/a
- Traffic study required waiver requested
- Hydrogeologic evaluation included as an attachment
- Market study n/a
- Route 1 Design Guidelines? n/a
- Route 100, VMU or TCD Design Standards? Route 100

Applicant's signature Peter B. Siegel (AGENT)

Submission date: 3/30/2021

PLANNING BOARD SITE PLAN REVIEW
SUBMISSION CHECKLIST

FOR ALL PROJECTS:

Submission Requirement	Provide Location in Application Packet (e.g., plan sheet number, binder section, narrative	If requesting a waiver, indicate below:
Example: Erosion Control	*Plan Sheet E-1*	
General Information:		
Completed Site Plan Application Form	Attachment 1	
Names and addresses of all consultants	Attachment 3	
Narrative describing existing conditions and the proposed project	Attachment 2	
Evidence of right, title or interest (deed, option, etc.)	Attachment 4	
Names and Addresses of all property owners within 200 feet	Attachment 5	
Boundaries of all contiguous property under control of owner	Boundary Plan	
Tax map and lot numbers	Parcel Diagram in Attachment 4	
Area of the parcel	Condominium Plat	
FEMA Floodplain designation & map #	Attachment 6	
Zoning classification	C-101 Site Plan	
Evidence of technical and financial capability to carry out the project	Attachment 3 and 7	
Boundary survey	Boundary Plan	
List of waiver requests on separate sheet with reason for request.	Attachment 12	
Proposed solid waste disposal plan	Attachment 8	
Existing Conditions Plan showing:		
Name, registration number and seal of person who prepared plan	yes	
North arrow, date, scale, legend	yes	
Area of the parcel	Condominium Plat & C-101 Site Plan	
Setbacks and building envelope	C-101 Site Plan	
Utilities, including sewer & water, culverts & drains, on-site sewage	C-102 Grading & Drainage Plan and C-103 Site Utilities Plan	
Location of any septic systems	C-103 Site Utility Plan & Engineered Septic Plan	
Location, names, widths of existing public or private streets ROW's	C-101 Site Plan	

Location, dimension of ground floor elevation of all existing buildings	No existing buildings on site	
Location, dimension of existing driveways, parking, loading, walkways	C-101 Site Plan	
Location of intersecting roads & driveways within 200 feet of the site	Boundary Plan	
Wetland areas	No wetlands on site	
Natural and historic features such as water bodies, stands of trees, streams, graveyards, stonewalls, floodplains	No natural or historic features on the site - totally disturbed site.	
Direction of existing surface water drainage across the site & off site	C-102 Grading and Drainage Plan and Stormwater Design Plans	
Location, front view, dimensions and lighting of existing signs	No existing signs on Condominium Unit 3	
Location and dimensions of existing easements & copies of documents	No easements are located on Condominium Unit 3	
Location of nearest fire hydrant or water supply for fire protection	C-101 Site Plan	
Proposed Development Site Plan showing:		
Name of development	Proposed Professional Office	
Date	3-29-21	
North arrow	On all plans showing the site	
Scale	On all plans showing the site	
Legend	C-101, C-102, C-103	
Landscape plan	C-104 Landscape Plan	
Stormwater management	D-100 Pre, D-101 Post, D-102 Water Quality	
Wetland delineation	No wetlands on site	
Current & proposed stands of trees	C-104 Landscape Plan	
Erosion control plan	C-102 and C-300 Erosion Control Notes & Details	
Landscape plan	C-104 Landscape Plan	
Lighting/photometric plan	Site Lighting Layout	
Location and dimensions of all proposed buildings	C-101 Site Plan	
Location and size of utilities, including sewer, water, culverts and drains	C-103 Site Utilities Plan	
Location and dimension of proposed on-site septic system; test pit locations and nitrate plumes	Septic System Layout Sheet Septic System Enlargement Plan Septic System Details & Septic System Overview Plan	
Location of wells on subject property and within 200' of the site	No wells are located within 200 ft. of the proposed disposal field.	
Location, names and widths of existing and proposed streets and ROW's	C-101 Site Plan	

Location and dimensions of all accessways and loading and unloading facilities	C-101 Site Layout & Materials Plan	
Location and dimension of all existing and proposed pedestrian ways	C-101 Site Layout & Materials Plan	
Location, dimension and # of spaces of proposed parking areas, including handicapped spaces	C-101 Site Layout & Materials Plan	
Total floor area and ground coverage of each proposed building and structure	A-1 Architectural Floor Plan	
Proposed sign location and sign lighting	C-101 Site Layout & Materials Plan	
Proposed lighting location and details	C-101 Site Layout & Materials Plan	
Covenants and deed restrictions proposed	Condominium Declaration Attachment 9	
Snow storage location	C-101 Site Layout & Materials Plan	
Solid waste storage location and fencing/buffering	C-101 Site Layout & Materials Plan	
Location of all fire protection	C-101 Site Layout & Materials Plan	
Location of all temporary & permanent monuments	Condominium Plat	
Street plans and profiles	No streets proposed	

ADDITIONAL REQUIREMENTS FOR MAJOR SITE PLAN PROJECTS:

Submission Requirement	**Provide Location in Application Packet (e.g., plan sheet number, binder section, narrative**	**If requesting a waiver, indicate below:**
High intensity soils survey	provided with original project	
Hydro geologic evaluation	Attachment 10	
Traffic Study		waiver request
Market Study		
Location of proposed recreation areas (parks, playgrounds, other public areas)	No recreation areas proposed	
Location and type of outdoor furniture and features such as benches, fountains.	C-104 Landscape Plan	

February 5, 2021

Mr. James Schmidt
Green SIP Construction Inc.
110 Marginal Way, Suite 193
Portland, ME 04101

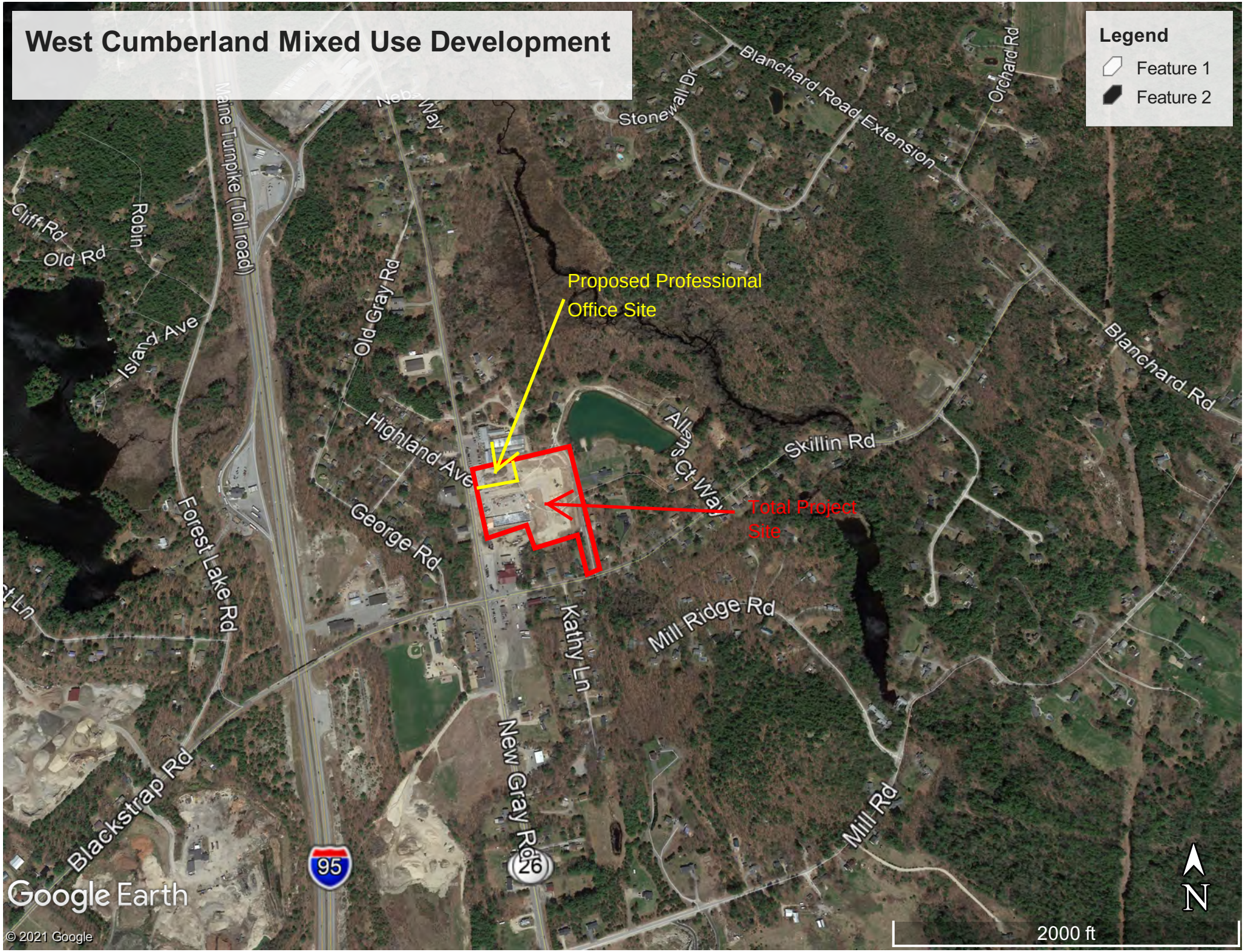
RE: Mill Run Condominiums – Proposed Medical Office Building
Faraday Drive

To whom it may concern:

Please consider this letter as authorization for Land Design Solutions to act as the agent relative to the local, state and federal permitting required for the referenced project.

Sincerely,

James Schmidt
Owner / Applicant
PROJECT MANAGER


West Cumberland Mixed Use Development
Legend
Feature 1
Feature 2
Proposed Professional Office Site
Total Project Site
Maine Turnpike (Toll road)
Old Gray Rd
Highland Ave
George Rd
Forest Lake Rd
Blackstrap Rd
New Gray Rd
Kathy Ln
Mill Ridge Rd
Mill Rd
Skillin Rd
Allen's Ct Way
Blanchard Road Extension
Blanchard Rd
Orchard Rd
Stonewall Dr
Island Ave
Old Rd
Cliff Rd
Robin
95
26
Google Earth
© 2021 Google
2000 ft
N

Attachment 2 - Project Narrative

The project (Proposed Professional Office Building) is the development of Condominium Unit 3, the last condominium unit, of the West Cumberland project located at Faraday Drive (195 - 197 Gray Road). The first phase of the project was the development of the existing Casco Systems Building (condominium unit 1) and Faraday Drive, the second phase was the five multiplex townhouse buildings (condominium unit 2) and now the last phase (condominium unit 3) is proposed.

The proposed project consist of two story building with an approximately 10,280 s.f. footprint. The building will have approximately 16,620 s.f. of gross leasable area. The owner/developer anticipates that the building space will house dental, spa/health & general professional office businesses. The parking area has been calculated using professional office which is 1 space for every 250 s.f. of gross leasable area.

The Casco Building site and the Multiplex Townhouses received a Maine DEP stormwater permit with the original approval in 2017 (Permit # L-26821-NJ-B-A). The current proposed addition of the professional office building and associated parking have triggered the 3 acre threshold requiring a Maine DEP Site Location of Development Act Permit. This application has been submitted to the Maine DEP for review.

The Owner intends to begin construction as soon as all permits are in hand and anticipates construction taking approximately five months.

The proposed building will be served by the public water supply, natural gas, electric power and tel/data. A private subsurface wastewater disposal system will be utilized.

Attachment 3 - Technical Capacity

Site Planning & Landscape Architect:
Land Design Solutions
1 Faraday Drive, Suite 7
Cumberland, ME 04021
Contact: Peter Biegel, Maine Licensed Landscape Architect

Civil Engineer:
Site Design Associates
23 Whitney Way
Topsham, Maine 04086
Contact: Tom Saucier, P.E.

Architect:
Grant Hays Associates, Inc.
28 Oak Ridge Way
Falmouth, Maine 04105
Contact: Mike Hays, Maine Licensed Architect

Certified Geologist and Licensed Soil Evaluator:
Mark Cenci Geologic, Inc.
93 Mill Road
North Yarmouth, Maine 04097
Contact: Mark Cenci, C.G., L.S.E.

Engineered Septic System Designer:
TERRADYN CONSULTANTS, LLC
41 Campus Drive
New Gloucester, ME 04260
Contact: Jerry Lord

Mounding and Site Transmission Analysis Geologist:
Marcotte Environmental
Lewiston, ME 04240
Contact: Steve Marcotte C.G.

Surveyor:
St. Clair Associates
34 Forest Lane
Cumberland, Maine 04021
Contact: David St. Clair, PLS

Attachment 4 - Right, Title and Interest

The project site consists of various parcels purchased by the owner / developer (Green SIP Construction). A deed reference diagram and the individual deeds are included with this section:

1.	Map U20 Lot 74	Dennis Allen to Green SIP Construction	BK 35284 / Pg 329
2.	Map U20 Lot 73	James Burgess to Green SIP Construction	BK 34505 / Pg 318
3.	Map U20 Lot 70A & 70E	Dennis Allen to Green SIP Construction	BK 33956 / Pg 21
4.	Map U20 Lot 74 (Condominium Unit 1)	Green SIP Construction to Casco Holdings	BK 35284 / Pg 337
5.	Deed Reference Sketch		

Doc#: 21520 Bk:34006 Ps: 329

Tax Map U20 / Lot 74

Dennis R. Allen and Patricia Benoit-Allen, both of 12 Allen's Court Way in the Town of Cumberland, County of Cumberland and State of Maine, as joint tenants, for consideration paid, grant, convey and forever quitclaim to **Green SIP Construction, Inc.** of Cumberland, County of Cumberland and State of Maine, whose mailing address is 110 Marginal Way, Suite 110, Portland, Maine 04101, with quitclaim covenant, certain lots or parcels of land situated in the Town of Cumberland, County of Cumberland and State of Maine, more particularly bounded and described on Exhibit A hereto.

Being the premises described in a Deed of Sale by Personal Representative and Trustee Deed dated December 4, 2002 and recorded in the Cumberland County Registry of Deeds Book 18572, Page 185.

IN WITNESS WHEREOF, the said **Dennis R. Allen and Patricia Benoit-Allen** have caused this instrument to be sealed as their free act and deed this 18th day of April, 2017.

MAINE REAL ESTATE TAX PAID

Karen J M Herrick
WITNESS

By: Dennis R Allen
Dennis R. Allen

Karen J M Herrick
WITNESS

By: Patricia Benoit-Allen
Patricia Benoit-Allen

STATE OF MAINE
COUNTY OF CUMBERLAND

April 18, 2017

Personally appeared before me the above-named **Dennis R. Allen** of Cumberland, Maine and acknowledged the above-instrument to be his free act and deed.

SEAL

Notary Public/Attorney-at-Law

KRISTY L. O'DONNELL
Notary Public, Maine
My Commission Expires March 22, 2019

STATE OF MAINE
COUNTY OF CUMBERLAND

April 18, 2017

Personally appeared before me the above-named **Patricia Benoit-Allen** of Cumberland, Maine and acknowledged the above-instrument to be her free act and deed.

SEAL

Notary Public/Attorney-at-Law

KRISTY L. O'DONNELL
Notary Public, Maine
My Commission Expires March 22, 2019

Exhibit A

PARCEL ONE:

A certain lot or parcel of land with the buildings thereon located on the Easterly side of Gray Road a.k.a. Route 100 in the Town of Cumberland, County of Cumberland and State of Maine being more particularly described as follows:

> Commencing on the easterly side of the State Highway leading from Portland to Gray, at the Southwesterly corner of a thirty-five (35) acre lot or parcel of land conveyed to Bruce I Corcoran by Lizzie M. Snow, by warranty deed dated May 26, 1939, and recorded in the Cumberland County Registry of Deeds, Book 1578, Page 371; thence in a general easterly direction, and along the northerly side line of land now or formerly of one Spinney, a distance of One Hundred (100) feet to a point, thence in a northerly direction, and parallel with said highway, a distance of One Hundred (100) feet to a point; thence in a general westerly direction, and parallel with the said Northerly side line of said Spinney land, a distance of One Hundred (100) feet to the Easterly side of said highway; thence in a Southerly direction along the easterly side of said highway, a distance of One Hundred (100) feet to the point of beginning.

PARCEL TWO:

Another certain lot or parcel of land situated in said Town of Cumberland, County of Cumberland and State of Maine, on the Easterly side of the highway leading from Portland to Gray, bounded and described as follows:

> Commencing at the point on said highway at the northerly corner of lot 1 above described; thence easterly and along said division line a distance of one hundred (100) feet; thence northerly a distance of twenty-five (25) feet; thence westerly a distance of one hundred (100) feet; thence southerly along the easterly side of said highway a distance of twenty-five (25) feet to the point of beginning.

Being the premises described in a deed from Robert Huff, Guardian of Mildred Hjort to Robert D. Allen and Decedent Cathleen Allen as joint tenants dated May 27, 1980 and recorded at the Cumberland County Registry of Deeds in Book 4623, Page 150. The said Robert D. Allen having died on September 11, 1995 and Decedent being his surviving joint tenant.

Received
Recorded Register of Deeds
May 15,2017 10:46:06A
Cumberland County
Nancy A. Lane

Tax Map U20 / Lots 70A & 70E

Dennis R. Allen and Patricia Benoit-Allen, both of 12 Allen's Court Way in the Town of Cumberland, County of Cumberland and State of Maine, as joint tenants, for consideration paid, grant, convey and forever quitclaim to **Green SIP Construction, Inc.** of Cumberland, County of Cumberland and State of Maine, whose mailing address is 110 Marginal Way, Suite 110, Portland, Maine 04101, with quitclaim covenant, certain lots or parcels of land situated in the Town of Cumberland, County of Cumberland and State of Maine, more particularly bounded and described on Exhibit A hereto.

Being a portion of the premises conveyed to Grantors herein by deed of Dennis R. Allen and recorded in Book 24390, Page 265.

MAINE REAL ESTATE TAX PAID

IN WITNESS WHEREOF, the said **Dennis R. Allen and Patricia Benoit-Allen** have caused this instrument to be sealed as their free act and deed this 18th day of April, 2017.

Karen J M Herrick
WITNESS

By: Dennis R Allen
Dennis R. Allen

Karen J M Herrick
WITNESS

By: Patricia Benoit Allen
Patricia Benoit-Allen

STATE OF MAINE
COUNTY OF CUMBERLAND

April 18, 2017

Personally appeared before me the above-named **Dennis R. Allen** of Cumberland, Maine and acknowledged the above-instrument to be his free act and deed.

SEAL

Kristy L. O'Donnell
Notary Public/Attorney-at-Law

KRISTY L. O'DONNELL
Notary Public, Maine
My Commission Expires March 22, 2019

STATE OF MAINE
COUNTY OF CUMBERLAND

April 18, 2017

Personally appeared before me the above-named **Patricia Benoit-Allen** of Cumberland, Maine and acknowledged the above-instrument to be her free act and deed.

SEAL

Kristy L. O'Donnell
Notary Public/Attorney-at-Law

KRISTY L. O'DONNELL
Notary Public, Maine
My Commission Expires March 22, 2019

Exhibit A

PARCEL ONE:

A certain lot or parcel of land with the buildings thereon located on the Easterly side of Gray Road a.k.a. Route 100 in the Town of Cumberland, County of Cumberland and State of Maine being more particularly described as follows:

Beginning at the Northwesterly corner of land now or formerly of Dennis R. Allen (18, 103/210) on the assumed Easterly side line of Gray Road;

Thence N 04°40'33" E along the assumed Easterly side line of the said Gray Road 167.57 feet to a point marked with a 5/8" capped rebar (#1328) set in the ground;

Thence S 85° 21'28" E across land of the Grantors 460.00 feet to a point marked with a 5/8" capped rebar (#1328) set in the ground;

Thence S 04°40'33" W continuing across land of the Grantors 467.84 feet to a point;

Thence N 85°19'27" W to the Northeasterly corner of and along the Northerly boundary of land now or formerly of Ronald W. Copp Sr. (17,829/265) a distance of 360.00 feet to the Southeasterly corner of land now or formerly of Dennis R. Allen (18,103/210);

Thence N 04°40'33" E along the Easterly boundary of land of the said Allen (18,572/185) a distance of 100.00 feet to a point on the Southerly boundary of other land of Dennis R. Allen (18,103/210);

Thence S 85°19'27" E along the Southerly boundary of land of the said Allen 100.00 feet to the Southerly corner of land of the said Allen;

Thence N 04°40'33" E along the Easterly boundary of land of the said Allen 200.00 feet to the Northeasterly corner of land of the said Allen;

Thence N 85°19'22" W along the Northerly boundary of land of the said Allen 200.00 feet to the point of beginning.

Containing 3.79 acres

All bearings are referenced to Magnetic North.

Exhibit A

PARCEL TWO:

Another certain lot or parcel of land situated off the Easterly side of Route 100 in the Town of Cumberland, County of Cumberland and State of Maine being more particularly described as follows:

Beginning at an iron pipe found set in the ground on the Northerly side line of the Skillin Road at the Southeasterly corner of land now or formerly of Farris (8931/110);

Thence N 04°01'06" E along land of the said Farris 250.00 feet to a 5/8" capped rebar set in the ground;

Thence N 85°58'54" W continuing along land of the said Farris 108.00 feet to a 5/8" capped rebar set in the ground;

Thence S 04°01'06" W continuing along land of the said Farris 55.36 feet to an iron pipe found set in the ground at the Northeasterly corner of land now or formerly of Cox (14,946/132);

Thence N 86°51'20" W along land of the said Cox and land now or formerly of Espeaignette (15,423/109) a distance of 191.24 feet to a 5/8" capped rebar set in the ground on the Easterly side line of land now or formerly of Wetzel (9162/274);

Thence N 05°34'19" E along land of the said Wetzel 49.85 feet to a 5/8" capped rebar set in the ground;

Thence N 86°51'20" W continuing along land of said Wetzel 59.13 feet to a 5/8" capped rebar set in the ground at land now or formerly of Ronald W. Copp, Sr. (17,829/265);

Thence N 04°40'33" E along land of the said Copp 173.15 feet to land of the Grantor;

Thence S 85°19'27" E along land of the Grantor 160.00 feet to a point;

Thence N 04°40'33" E continuing along land of the Grantor 467.84 feet to the Northeasterly corner of land of Grantor;

Thence S 85°21'28" E across land of the Grantor 40.88 feet to a point;

Thence N 69°38'14" E continuing across land of the Grantor 218.23 feet to the Northwesterly corner of other land now or formerly of the Grantor;

Thence S 04°01'06" W along the said other land of the Grantor and land now or formerly of Merrill 961.35 feet to the said sideline of the Skillin Road;

Thence S 84°43'40" W along the said side line of Skillin Road 50.66 feet to the point of beginning.

Containing 4.86 acres.

All bearings are Magnetic of the year 2000.

Subject to the rights of others in and to the use of Tammy Land, so-called, as shown as "Tammy Lane" on plan entitled "Standard Boundary Survey on Route 100 in Cumberland, Maine for Phillip Allen", prepared by Wayne T. Wood & Co. dated September 2004, and to be recorded at the Cumberland County Registry of Deeds.

Received
Recorded Register of Deeds
Apr 20,2017 03:45:50P
Cumberland County
Nancy A. Lane

Doc#: 61444 Bk:34505 Pg: 318

Map U20 / Lot 73

MAINE REAL ESTATE TAX PAID

WARRANTY DEED

(Maine Statutory Short Form)

KNOW ALL BY THESE PRESENTS, that I, **JAMES L. BURGESS**, of Yarmouth, County of Cumberland, and State of Maine, for consideration paid, GRANT to **GREEN SIP CONSTRUCTION INC.**, a corporation organized and existing under the laws of the State of Maine, the mailing address of which is 110 Marginal Way, Suite 193, Portland, Maine 04101, with WARRANTY COVENANTS, certain real estate located in Cumberland, County of Cumberland, and State of Maine, which is more particularly described in Exhibit A attached hereto and made a part hereof.

This conveyance is made SUBJECT, HOWEVER, to real estate taxes which are not yet due and payable, which, by acceptance hereof, Grantee assumes and agrees to pay.

WITNESS my hand and seal this 1 day of December, 2017.

Marlin Easton
Witness

12-1-17
James L. Burgess

STATE OF MAINE
COUNTY OF CUMBERLAND, SS. December 1, 2017

Then personally appeared the above-named James L. Burgess and acknowledged the foregoing instrument to be his free act and deed.

Before me,

Melinda J. Higgins
Notary Public/Maine ~~Attorney at Law~~
Printed Name: Melinda J. Higgins
My Commission Expires: June 1, 2021

MELINDA J. HIGGINS
Notary Public State of Maine
My Commission Expires June 1, 2021

SEAL

(P1435463.1)

Exhibit A
Legal Description

A certain lot or parcel of land, with any buildings thereon, situated in the Town of Cumberland, County of Cumberland, State of Maine, on the easterly side of the state highway leading from Portland to Gray and being more particularly bounded and described as follows:

Beginning at a point in the easterly side of said highway 25 feet northerly of the most northwesterly corner of a parcel of land conveyed by Viola G. Corcoran to John H. Crouchen by warranty deed dated April 1, 1947 and recorded in the Cumberland County Registry of Deeds in Book 1862, Page 170; Thence in a northerly direction along the easterly sideline of said Gray Road a distance of one hundred seventy-five (175) feet to other land now or formerly of Viola G. Corcoran; thence in a general easterly direction a distance of two hundred (200) feet to a point; thence in a southerly direction along said Corcoran land a distance of two hundred (200) feet to a point; thence in a general westerly direction along said Corcoran land a distance of one hundred (100) feet to the most northeasterly corner of said parcel of land conveyed by Viola G. Corcoran to John Crouchen; thence northerly and parallel to said easterly side of the twenty-five (25) feet to a point; thence in a general westerly direction a distance of one hundred (100) feet to the point of beginning.

Excepting and reserving a perpetual easement extending from the easterly sideline of Route 100, also known as the Gray Road, in an easterly direction to the easterly sideline of the parcel herein described and westerly sideline of Grantor's retained land, said easement being 12 ½ feet on either side of the center line of the current driveway located in said easement. Said easement shall be for the ingress and egress by pedestrian or vehicles and for the installation and maintenance of any and all utility liens, pipes, conduits and their appurtenant facilities, and said easement may be improved for any such purpose.

Excepting and reserving a perpetual easement for that portion of Allen's Country Store located on the northeasterly portion of the parcel herein conveyed, which easement includes the right to maintain, repair, and rebuild as necessary said portion of the building on the herein premises conveyed as it presently exists, together with access over said parcel herein conveyed adjacent to said building for purposes of maintenance, repair, or rebuilding, which shall include vehicular and pedestrian traffic.

The easement described herein shall be deemed a covenant running with the land, burdening and benefitting the respective premises, and this easement with covenants therein shall be binding on the respective successors, heirs, devises and assigns of the parties herein.

Being the same premises conveyed to James L. Burgess by Quitclaim Deed with Covenant dated September 12, 2011, by Deutsche Bank Trust Company Americas as Trustee for RALI 2002QS16 and recorded in the Cumberland County Registry of Deeds in Book 29007, Page 16.

Received
Recorded Register of Deeds
Dec 04,2017 03:19:10P
Cumberland County
Nancy A. Lane

Doc#: 58153 Bk:35284 Pg: 337

DLN#

Condominium Unit 1 - Casco Systems Building and Associated Parking

MAINE REAL ESTATE TAX PAID

QUITCLAIM DEED WITH COVENANT

Green SIP Construction, Inc., of Portland, County of Cumberland, and State of Maine, for consideration paid, grants to Casco Holdings, LLC, whose mailing address is 160 Longwoods Road, Cumberland, Maine 04021, with Quitclaim Covenant, the premises known as Unit One of the Mill Run Condominium in the Town of Cumberland, County of Cumberland and State of Maine, as described on **Exhibit A** attached hereto and made a part hereof.

See Attached Exhibit A

Meaning and intending to convey a portion of the premises conveyed to Grantor by the following deeds: deed from Dennis R. Allen dated April 18, 2017, and recorded in the Cumberland County Registry of Deeds in Book 33956, Page 21; deed from Dennis R. Allen dated May 15, 2017 and recorded in said Registry in Book 34006, Page 329; and deed from James L. Burgess dated December 1, 2017 and recorded in said Registry in Book 35505, Page 318. Together the premises described in said deeds are known as the Mill Run Condominium as further described in Exhibit A.

Witness its hand and seal this 12 day of November, 2018.

Witness

Green SIP Construction, Inc.

By: Marlene Eaton
Its: President

STATE OF MAINE
CUMBERLAND, SS.

November, 12, 2018

Then personally appeared the above-named Marlene Eaton, President of Green SIP Construction, Inc., and acknowledged the foregoing instrument to be her free act and deed in her said capacity and the free act and deed of Green SIP Construction, Inc.

Before me,

~~Notary Public~~/Attorney at Law

JAMES B. BAINES

Printed Name #2526

EXHIBIT A

Unit 1 of Mill Run Condominium, a Condominium, a condominium established in accordance with the Maine Condominium Act, Chapter 31 of Title 33 of the Revised Statutes of Maine, 1964, as amended, together with said Unit's percentage interest and all other appurtenant rights in Common Elements and Limited Common Elements, all as more specifically described in the Declaration of Condominium for Mill Run Condominium, a Condominium, dated June 23, 2017, and recorded in the Cumberland County Registry of Deeds, Book 34115, Page 71, amended by First Amendment to Declaration of Condominium Mill Run Condominium dated December 4, 2017 and recorded in Book 34505, Page 320, and as delineated on the Plat and Plans of Mill Run Condominium, a Condominium, including an Updated Master/Subdivision Plan of West Cumberland Multiplex Units dated April 2017 and recorded in Plan Book 217, Page 212 and amended by Amended Condominium Plan of Mill Run Condominiums dated November 2017 and recorded in Plan Book 217, Page 527, in the Cumberland County Registry of Deeds.

Received
Recorded Register of Deeds
Nov 14,2018 08:32:56A
Cumberland County
Nancy A. Lane

SURVEYOR'S NOTES

1 THIS SURVEY PLAN IS COPYRIGHT PROTECTED. THIS PLAN IS THE PROPERTY OF BOUNDARY POINTS, AND SHALL NOT BE USED FOR ANY PURPOSE WITHOUT THE WRITTEN CONSENT OF AN AUTHORIZED AGENT OF BOUNDARY POINTS. ALL RIGHTS RESERVED.

2 THIS SURVEY PLAN IS ONLY VALID IF AUTHENTIC EMBOSSED SEAL AND SIGNATURE OF CERTIFYING PROFESSIONAL APPEAR ON THE FACE OF THIS SURVEY PLAN.

3 REFERENCE IS MADE TO THE CONTRACTUAL AGREEMENT BETWEEN THE PROFESSIONAL LAND SURVEYOR AND THE CLIENT.

4 THIS SURVEY PLAN IS SUBJECT TO POSSIBLE REVISION UPON RECEIPT OF A CERTIFIED TITLE OPINION.

5 ON THE BASIS OF MY KNOWLEDGE, INFORMATION AND BELIEF I CERTIFY EXCLUSIVELY TO THE CLIENT THAT THIS SURVEY PLAN, MADE TO THE NORMAL STANDARD OF CARE, SUBSTANTIALLY CONFORMS TO THE MAINE BOARD OF LICENSURE FOR LAND SURVEYOR STANDARDS.

6 NO CERTIFICATION IS MADE TO THE EXISTENCE OR NONEXISTENCE OF HAZARDOUS SUBSTANCES, ENVIRONMENTALLY SENSITIVE AREAS, UNDERGROUND UTILITIES, UNDERGROUND STRUCTURES, ZONING REGULATIONS OR REAL ESTATE TITLE.

7 DIG SAFE MUST BE CONTACTED AND CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND DIMENSIONS OF ALL UTILITIES PRIOR TO EXCAVATION.

8 THE SOURCE OF BEARINGS FOR THIS LAND SURVEY WAS MAINE STATE GRID PLANE NORTH AMERICAN DATUM 1983 LOCATED IN THE WEST ZONE.

9 ELEVATIONS AND CONTOURS DEPICTED HEREON BASED ON THE N.G.V.D. 1929 BEING MEAN SEA LEVEL.

10 THE PROPERTY IS DEPICTED ON THE TOWN ASSESSOR'S MAP U20.

11 PROPERTY LINES DEPICTED HEREON WERE BASED ON WAYNE T. WOOD PLAN OF ALLEN'S PROPERTY.

LEGEND

EXISTING	DESCRIPTION
	PROPERTY LINE
	ADJOINER LINE
	BUILDING SETBACK
	EASEMENT
	CENTER LINE
	MONUMENT
	IRON PIPE
	IRON ROD
	5/8" IRON REBAR
	DRILL HOLE
	BUILDING
	WET LANDS
	EDGE WETLAND
	SIGN
	STREAM
	ROCK OUTCROP
	EDGE PAVEMENT
	GRAVEL ROAD
	CURB LINE
	EDGE WATER
	TREE LINE
TP-7	TEST PIT
MW-8	MONITORING WELL
124	CONTOURS
G	GAS
W	WATER
S	SEWER
SD	STORM DRAIN
E	ELECTRIC LINES
	GATE VALVE
	LIGHT POLE
	UTILITY POLE
	HYDRANT
	CATCH BASIN
	MAN HOLE
	POTABLE WELL
	CULVERT
F	FENCE
	WOODEN FENCE

POND
WATER LEVEL 10-17-2015
276.00 FEET

TAMMY LANE PRIVATE WAY

RECLAIMED SURFACE

SKILLIN ROAD

GRID N.A.D. 1983

FOUND 5/8" IRON ROD 6" ABOVE GRADE

FOUND 5/8" IRON ROD 6" ABOVE GRADE

PAVED ACCESS ROAD

GRAVEL ACCESS ROAD

UNDER-GROUND ELECTRIC TRANSFORMER

MAP HOUSE

PROPANE TANK

PROPANE TANK

FIELD

WOODED

WOODED

FIELD

FIELD

FIELD

GRAVEL SURFACE

Mill Run Condominium Project Parcel

Bk 33956
Pg 21
U20 / Lots 70A & 70E

Bk 34505
Pg 318
U20 / Lot 73

Bk 34006
Pg 329
U20 / Lot 74

MAP U20, LOT 70A
NOW OR FORMERLY
DENNIS R. ALLEN
PATRICIA A. BENOIT ALLEN
BOOK 24390, PAGE 265

MAP U20, LOT 73
NOW OR FORMERLY
JAMES L. BURGESS
BOOK 29007, PAGE 16

MAP U20, LOT 74
NOW OR FORMERLY
DENNIS R. ALLEN
PATRICIA ALLEN
BOOK 18572, PAGE 185

MAP U20, LOT 70B
NOW OR FORMERLY
RONALD W. COPP SR.
RONALD W. COPP JR.
BOOK 17829, PAGE 265

MAP U20, LOT 77
NOW OR FORMERLY
RONALD W. COPP SR.
RONALD W. COPP JR.
BOOK 14125, PAGE 330

COPP MOTORS

SKILLIN'S GREENHOUSE

SKILLIN'S NURSERY

FENCE

PAVED PARKING LOT

PAVED PARKING LOT

PAVED PARKING LOT

BENCH MARK
TOP GROUNDING ROD
BASE OF UTILITY POLE
300.10 FEET

FOUND 5/8" IRON ROD 10" ABOVE GRADE

GARAGE

HOUSE

GRAVEL

STATE ROUTE 100

CONCRETE FENCE ABUTMENT

HOUSE

HOUSE

HIGHLAND AVENUE

GRAVEL

PAVED

14'X05' CULVERT

MAP U20, LOT 3
NOW OR FORMERLY
FRED W. CHASE
BOOK 19657, PAGE 164

MAP U20, LOT 1B
NOW OR FORMERLY
JOHN D. McKNIGHT
ONAIZA J. McKNIGHT
BOOK 15870, PAGE 306

MAP U20, LOT 1
NOW OR FORMERLY
RICHARD JAMES
BOOK 21478, PAGE 247

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

No.	Revision	Date

Scale: 1" = 40'
Project No: 201525
AutoCad Release: 2011
Drawn By: DB
Field Date: 10-17-2015
Plan Date: 10-19-2015

EXISTING CONDITIONS SURVEY
FOR
GORRILL-PALMER CONSULTING ENGINEERS
OF
ALLEN FARM COUNTRY STORE
CUMBERLAND MAINE

1

Boundary Points
PROFESSIONAL LAND SURVEYING, LLC
P.O. BOX 175
CUMBERLAND MAINE 04021-0175
207-854-1015

Deed Reference Diagram

Attachment 5 – Abutters

(abutters within 200 feet of 195 Gray Road)

Tax Map U20 / Lot 1
James M. Richardson
15 Mill Ridge Road
Cumberland, ME 04021

Tax Map U20 / Lot 1B
CAP Enterprises, LLC
49 Bruce Hill Road
Cumberland, ME 04021

Tax Map U20 / Map 3
D.J. Small Plumbing & Heating Pumps
198 Gray Road
Cumberland, ME 04021

Tax Map U20 / Lot 5
Janie G. Lynch
4 Highland Avenue
Cumberland, ME 04021

Tax Map U20 / Lot 55
John N. Willis
202 Gray Road
Cumberland, ME 04021

Tax Map U20 / Lot 70
Tammy L. Merrill
199 Gray Road
Cumberland, ME 04021

Tax Map U20 / Lot 6
Stephen R. Andrew
25 Middle Street
Portland, ME 04101

Tax Map U20 / Lot 74
Casco Holdings, LLC
1 Faraday Drive, Suite 1
Cumberland, ME 04021

Tax Map U20 / Lot 70A
Green SIP Construction, Inc.

Attachment 5 – Abutters

(abutters within 200 feet of 195 Gray Road)

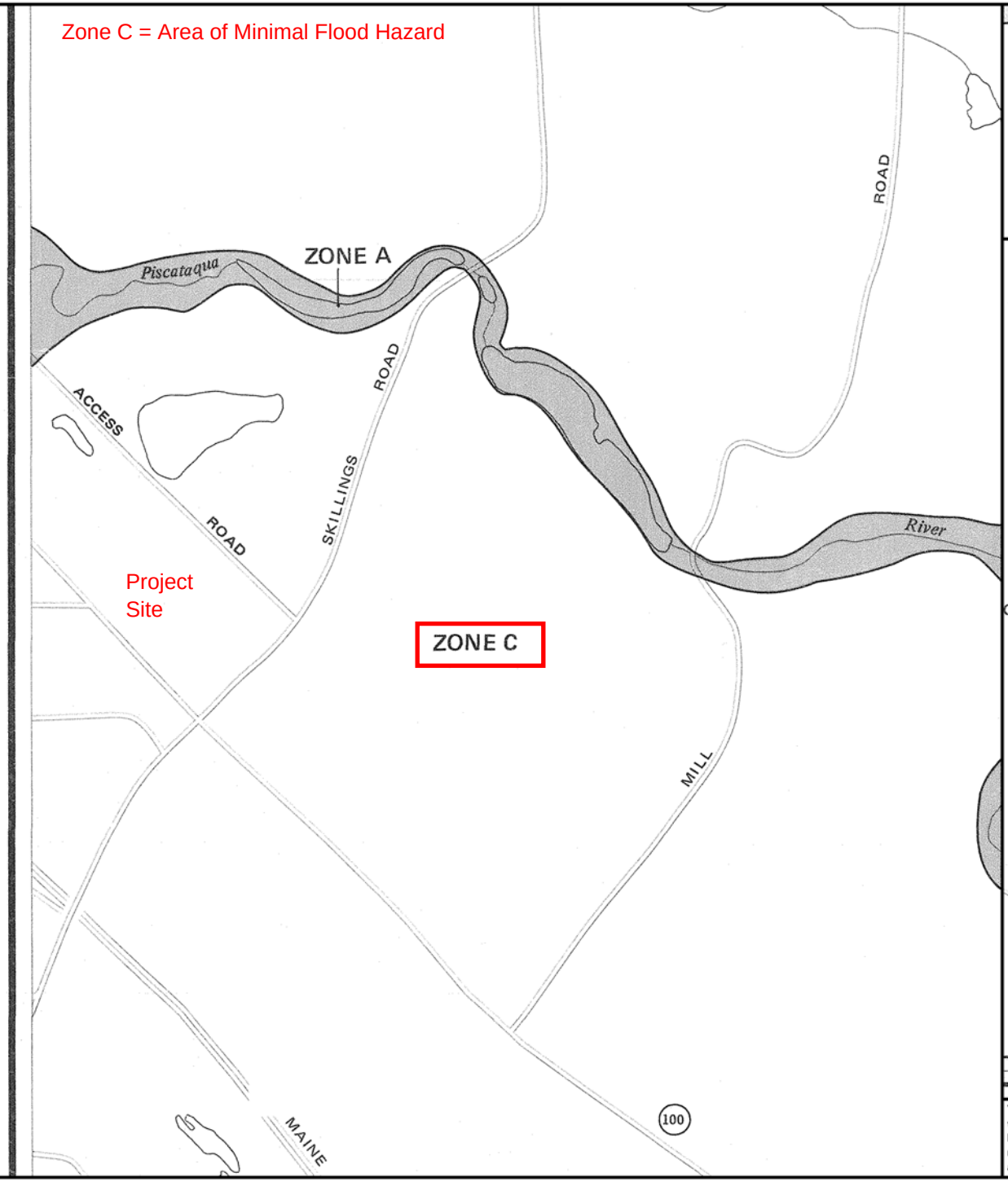
110 Marginal Way, Suite 193
Portland, ME 04101

Tax Map U20 / Lot 70D
Skillin Agricultural ASSOCIATES LLC
89 Foreside Road
Falmouth, ME 04105

Attachment 6 – FEMA Floodplain Designation

The site is not located within a floodplain it is located in ZONE C which is designated as an area of minimal flooding. The FEMA Flood map is included as part of this attachment.

Zone C = Area of Minimal Flood Hazard



ONE C

Program at (800) 638-6620, or (800) 424-88

APPROXIMATE SCAL

800 0

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

TOWN OF
CUMBERLAND, MAINE
CUMBERLAND COUNTY

PANEL 15 OF 25
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
230162 0015 B

EFFECTIVE DATE:
MAY 19, 1981

federal emergency management agency
federal insurance administration

Attachment 7 – Financial Capacity

A letter from HUB Financing pre-qualifying Grun Properties LLC for a construction loan for up to $2,300,000 is included as part of this section.

Green SIP Construction estimates that the project (building construction - $1,652,788) and the (site work - $467,700) will cost approximately $2,120,488 to complete.

Congratulations!
You have been pre-qualified.

February 17, 2021

This letter is to inform you that Grun Properties LLC has been pre-qualified to receive a new construction loan for up to $2,300,000.00 for the office condominium development located at:

TWO FARADAY DRIVE
CUMBERLAND, MAINE, 04021

This pre-qualification letter does not constitute an agreement to lend or commitment to a particular rate, fees, or term. Before finally approving Borrower for a loan, Hub Financing must receive, underwrite and submit a complete loan application from Borrower. This prequalification letter is contingent on the returned Appraisal value of the property. This prequalification letter is not intended to confer any rights or privileges upon third parties including, but not limited to, a seller of real property.

If you have any questions or need any additional information, please do not hesitate to contact me.

Sincerely,

Chris Sava | Principal
Hub Financing, LLC
O: (800) 521-7897
C: (978) 417-9325
E: chris@hubfinancing.com
W: hubfinancing.com

Attachment 8 – Solid Waste Disposal Plan

Construction Waste – Construction waste will consist of typical waste from the construction of a commercial building such as packaging, pieces of siding, roofing, wood, etc. Green SIP Construction currently uses Troiano Waste Services Inc. out of South Portland, for removal of construction waste and plan to continue with that service for the construction of the proposed office building. Troiano Waste hauls the waste back to their own transfer station facility where they sort the materials for appropriate disposal or they haul the waste to the Ecomaine Facility where it is incinerated.

Solid Waste:

- **Condominium Unit Three (Proposed Professional Office Building)** Once the office building is constructed and occupied the office waste will be picked up and disposed of by a professional office cleaning business. The 5,000 s.f. space anticipated to be occupied by a dental office is anticipated to generate a very small amount of medical biohazard waste which will be picked up and disposed of by Stericycle, a company specializing in medical waste or an approved equivalent.

Attachment 9 – Condominium Documents

A copy of the original Declaration of Condominium “Mill Run Condominium” covering the entire project is included with this attachment, as well as an amendment titled “First Amended Declaration of Condominium” which among other minor revisions adjusted the unit boundaries to what are shown on the Amended Condominium Plan which is included in the Plan Set.

DECLARATION OF CONDOMINIUM
MILL RUN CONDOMINIUM
CUMBERLAND, MAINE

This Declaration is made by **GRUN DEVELOPMENT LLC and/or GREEN SIP CONSTRUCTION, INC.**, of Portland, Maine (hereinafter "Declarant"), as the owner in fee simple of the real estate described herein.

1. **PROPERTY:** Declarant hereby submits the real estate situated in Cumberland, Maine, hereinafter described in Exhibit A attached hereto and made a part hereof, together with the buildings and improvements already thereon and those buildings and improvements to be put thereon in the future as described more particularly hereinafter (collectively the "Property") to the provisions of the Chapter 31 of Title 33 Maine Revised Statutes Annotated, as it may be amended, known as the Maine Condominium Act (the "Act"). The Property is subject to and shall have the benefit of all easements, rights of way and matters affecting title described or referred to in Exhibit A or in the survey to which reference is hereinafter made.

The plat of the land submitted to the provisions of the Act entitled "Condominium Plat, Mill Run Condominium," Cumberland, Maine, prepared by Gorrill Palmer, and dated April, 2017, was recorded in the Cumberland County Registry of Deeds in Plan Book 217, Page 212. (the "Plat") on June 8, 2017.

2. **CREATION OF UNITS:** Declarant hereby creates four (4) units (individually the "Unit" and collectively the "Units"). The location, boundaries and identifying number of the Units are shown on the Plat referred to in Section 1 hereof.

3. **LOCATION AND DIMENSIONS OF UNITS:** The proposed location and dimensions of each Unit are subject to change by the Declarant until such time as each Unit is legally created, and such improvements need not be built or may be built with configurations and locations different than those shown on the Plat, as further appears below. The maintenance, repair, and upkeep of each Unit shall be the sole responsibility of the Owner and not of the Condominium Association. Unit owners shall have the sole responsibility to maintain their own structures, landscaping, mowing, and plowing driveway, at their own expense.

(a) **DESCRIPTION OF UNITS:** "Unit" means a part of the Property designated for separate ownership or occupancy which has Limited Common Elements and Common Elements. For each Unit created from time to time pursuant to this Declaration, the identification number and approximate area are shown on the Plat and Plans of the Property as amended from time to time. Each Unit includes all structures and interior and exterior partitions, doors and stairways wholly within the Unit. In addition, each Unit Owner has an unrestricted, perpetual right of ingress and egress to his or her Unit, which automatically transfers with a transfer of title to the Unit. Any conveyance, encumbrance, judicial sale, or other transfer (whether voluntary or involuntary) of an

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DECLARATION OF CONDOMINIUM
MILL RUN CONDOMINIUM
CUMBERLAND, MAINE

interest in the Common Elements shall be void unless the Unit to which that Common Element interest is allocated is also transferred.

(b) **UNIT BOUNDARIES:** The boundaries of each Unit subsequently created under this Declaration shall be shown on the Plat and Plans. Relocation of boundaries between Units is permitted by amendment to the Declaration in compliance with the provisions of the Condominium Act.

4. **COMMON ELEMENTS:** Each Unit will be conveyed together with its respective undivided interest in the common elements as hereinafter set forth and will have the benefit of the right to use the common elements in common with others entitled thereto as provided by the bylaws (the "Bylaws") adopted by the Mill Run Condominium Association (the "Association") and any rules and regulations adopted by the Association. A copy of the Bylaws initially adopted by the Association is attached hereto as Exhibit C.

The common elements consist of all portions of the Property other than the Units. Common elements shall also include those parts of the Property described in the Act or the Plat and Plans as being common elements. Common elements shall include, but not be limited to, limited common elements.

The access road, including utilities, from Route 100 and the Stormwater Detention System, as set forth on the Plat are the Common Elements. The Access Road will be maintained by the Association in a manner consistent with vehicular travel in a safe and secure manner.

The stormwater infrastructure is a Common Element. The Association is required to oversee the maintenance, inspection, reporting and improvements in compliance with Town of Cumberland's Stormwater Management Ordinance, and pursuant to the Stormwater Management Law (38 M.R.S.A. §420-D) instituted by the Maine Department of Environmental Protection (MDEP), as well as the MDEP Chapter 500 Stormwater Management Rules, Appendix B, and MDEP Permit #L-26821-NJ-B-A, including any future amendments (attached hereto as Exhibit E). The Maintenance of Stormwater Facilities document is attached hereto as Exhibit D.

The septic system and aerations units are a Common Element, and the Association is required to maintain the system in accordance with the manufacturer's recommendations.

5. **LIMITED COMMON ELEMENTS:** Generally, all remaining portions of the Common Elements appurtenant to each unit are allocated to each Unit in accordance with the boundaries as set forth in the Plat and Plans. Each Unit owner shall be solely responsible for all

mhe

maintenance, repair and upkeep thereof in good condition. Limited common elements shall also include those parts of the Property described in the Act or the Plat and Plans as being limited common elements. A Unit owner shall have no maintenance responsibility with respect to the limited common elements appurtenant to another Unit. The Association shall not be liable for the maintenance, repair or upkeep of a Unit or limited common element. Limited Common Elements are depicted on the Plan and consist of the following:

(a) For each Unit, the lot consisting of an exterior lawn and driveway area assigned as Limited Common Elements on the Plat, if any;

(b) Water, sewer or other utility lines, water heaters, electrical circuit breaker boxes and other fixtures designed to serve a single Unit but which are not a defined part of the Unit are Limited Common Elements allocated exclusively to that Unit;

(c) The portions of the Property shown on the Plat or as described as Limited Common Elements pursuant to Section 1602-102(2) and (4) of the Condominium Act.

(d) The allocation of Limited Common Elements cannot be altered except in compliance with the Condominium Act, and with the written consent of the Owners and Mortgagees of record of the Units affected by the reallocation of Limited Common Elements.

6. **FRACTION OF COMMON ELEMENT INTERESTS, VOTING RIGHTS AND COMMON EXPENSE LIABILITIES:** The percentage of undivided interests in the common elements, and the percentage of voting rights and common expense liabilities allocated to each Unit is set forth on Exhibit B. No percentage of undivided interest allocated to any Unit shall be altered except upon the unanimous vote of all Unit owners and their Eligible Mortgage Holders as defined in Paragraph 20 (e).

7. **POTENTIAL FOR EXPANSION FOR UNITS:** Each Unit Owner may add to existing buildings, or construct new buildings, within each Unit as permitted by the Town of Cumberland's Zoning Ordinance.

8. **PARKING:** Each Unit may provide parking as permitted by Town Ordinance and as shown on the Plat.

9. **ENCROACHMENTS:** If any portion of the common elements, or of any other Unit

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encroaches at any time upon any Unit or upon any portion of the common elements, as a result of minor variations or relocation during construction, settling of the buildings, alteration or repair to the common elements made by or with the consent of the executive board of the Association (the "Executive Board"), repair or restoration of a Unit or the building after damages by fire or other casualty, or as a result of condemnation or other eminent domain proceedings, an easement shall exist for the encroachment and for its maintenance so long as the buildings or building stand.

10. **EASEMENTS:**

(a) The Units and common elements (including the limited common elements) shall be, and hereby are, made subject to perpetual easements in favor of the utility and service companies, cable television companies and governmental agencies or authorities for such utility and service lines and equipment as may be necessary or desirable to serve any portion of the Property including the Units. The easements created by this Section 10(a) shall include, without limitation, rights to install, lay, maintain, repair, relocate and replace gas lines, pipes and conduits, water mains from pipes, sewer and drain lines, drainage ditches and pump stations, telephone poles, wires and equipment, television equipment and facilities (cable or otherwise), poles, wires, conduits, and equipment inducts and vents over, under, through, along and on the Units, limited common elements and common elements. With respect to any utility lines or equipment serving only the Condominium and located upon the common elements (including any limited common elements allocated to any on Unit), the Executive board shall have the right and power to dedicate, convey an easement to any private or public utility company. The Executive Board shall also have the right and power to convey permits, licenses and easements over the common elements for the installation, maintenance, repair and replacement of utility poles, lines, wires and other equipment to any private or public utility company. In addition, the Executive Board shall have the right to grant permits, licenses and easements over the common elements (including any limited common element allocated to any one Unit) for purposes necessary for the proper operation of the Condominium.

(b) The common elements (including any limited common element allocated to any one Unit) are subject to an easement in favor of the Association and the agents and employees of the Association for the access, egress and ingress over, through and across each portion thereof for the operation of the Condominium, pursuant to such requirements and subject to such charges as the Executive Board may from time to time prescribe. Every Unit owner shall have an unrestricted right of ingress to such owner's Unit.

(c) The common elements (including any limited common element allocated to any one Unit) shall be, and hereby are made, subject to an easement in favor of the Association and the agents, employees and independent contractors thereof for the purpose of the inspection, upkeep, maintenance, repair and replacement of the common elements. The Association may in its sole

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discretion grant easements to Unit Owners for the erection of improvements in the limited common areas appurtenant to a unit owner.

(d) The Units and the limited common elements are hereby made subject to an easement in favor of the Association and its agents, employees and independent contractors for:

(i) inspection of the Units and limited common elements in order to verify the performance by Unit owners of all items of maintenance and repair for which they are responsible;

(ii) installation, inspection, maintenance, repair, and replacement of the common elements situated in or accessible from such Units or limited common elements or both;

(iii) correction of emergency conditions in one or more Units or limited common elements, or both, or casualties to the common elements, the limited common elements and/or the Units; and

All easements, rights and restrictions described and mentioned in the Declaration are easements appurtenant, running with the land and the Property, and (except as expressly may be otherwise provided herein or in the instrument creating the same) shall continue in full force and effect until the termination of this Declaration.

(e) Declarant reserves a Special Declarant Right and easement for the construction of the Units, common elements, limited common elements and other improvements of the Condominium, to enter the Property for the purposes of construction, reconstruction, maintenance, repair, renovation, replacement or correction of the Units, common elements or limited common elements. This easement shall include, without limitation, the right of vehicular and pedestrian access, the right to park motor vehicles and to engage in construction activities, including the movement and storage of building materials and equipment. This easement also expressly includes the right to cut and remove any trees, bushes, or shrubbery, to grade and remove the soil, to install and remove any temporary siltation fence or to take any other action reasonably necessary to achieve this purpose. Declarant further reserves an easement in the Units, common elements and limited common elements pursuant to Section 1602-116 of the Act for the purpose of discharging Declarant's obligations and exercising the Special Declarant Right reserved pursuant to this Declaration or on the Plat and Plans.

(f) Declarant reserves an easement on, over and under those portions of the common elements and limited common elements, not located within a building, for the purpose of maintaining and correcting drainage of surface water in order to maintain reasonable standards of health, safety

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and appearance. The reservation of this right does not and shall not result in the imposition of an obligation.

(g) Declarant further reserves an easement to connect with and to make use of utility lines, wires, pipes and conduits located on the Property for construction purposes on the Property (Declarant shall be responsible for the cost on any services), and to use the common elements for access and construction activities, and for the storage of construction materials and equipment used in the completion of the Units, limited common elements and common elements.

(h) Declarant shall have the right, until Declarant has conveyed all of the units in the Condominium, to grant and reserve easements and right-of-way through, under, over, and across the Property for construction purposes, and for the installation, maintenance and inspection of the lines and appurtenances for public water, sewer, drainage, gas, electricity, telephone and other utilities.

(i) The easements reserved by Declarant in Sections 10(e), 10(f), 10(g), and 10(h) shall continue until Declarant has conveyed all of the Units in the Condominium. These Sections shall not be amended without the written consent of Declarant.

11. **EMINENT DOMAIN:**

(a) If a Unit is acquired by eminent domain, or if a part of a Unit is acquired by eminent domain leaving the Unit owner with a remnant that may not practically or lawfully be used for any purpose permitted by this Declaration, any award therefor shall be paid to the Unit owner as compensation for such Unit and its percentage interest, whether or not any percentage of undivided interest is acquired. Upon acquisition, unless the decree otherwise provides, that Unit's entire percentage of undivided interest, votes in the Association, and common expense liability shall be re-allocated to the remaining Units in proportion to the relative interests, votes and liabilities of those Units before the taking, and the Association shall promptly prepare, execute and record an amendment to this Declaration reflecting the allocations. Any remnant of a Unit remaining after part of a Unit is taken, as determined under this Section 11(a), shall be thereafter a limited common element, subject to the provisions of Section 5 herein.

(b) Except as provided in Section 11(a) above, if part of a Unit is acquired by eminent domain, any award therefore shall be paid to the Unit owner as compensation for the reduction in value of the Unit. That Unit's allocation of common element interests and common expense liability and voting rights shall remain unchanged.

(c) If a part of the common elements is acquired by eminent domain, the Association shall represent the Unit owners in any condemnation proceedings or in negotiations, settlements and

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agreements with the condemning authority, and the award shall be paid to the Association for the use and benefit of the Unit owners and their mortgagees as their interests may appear. The Association shall divide any portion of the award not used for any restoration or repair of the remaining common elements among the Unit owners in proportions to their relative percentages of undivided interests before the taking, but the portion of the award attributable to the acquisition of a limited common element must be paid to the owner of the Unit to which that limited common element was allocated at the time of acquisition.

(d) A court decree regarding any such taking shall be recorded in the Cumberland Country Registry of Deeds.

(e) Nothing in this Declaration, the Bylaws or any rules or regulations adopted by the Executive Board shall be deemed to give the Unit owner or any other party priority over any rights of a first mortgagee of a Unit pursuant to its mortgage documents in the case of a distribution to such Unit owner of condemnation awards for the taking of Units and/or common elements.

12. RESTRICTIONS ON USE AND OCCUPANCY

(a) The Unit 2 is restricted to private multi-family residential use, including residential activities engaged in by Unit owners, members of the Unit owners, immediate family and the guests and other authorized occupants, licensees and visitors of the Unit owners. These Units may not be used for professional, business, commercial, industrial or manufacturing purposes, or primarily for storage. Units 1 and 3 may be used for activities as allowed by the Town of Cumberland's Zoning Ordinance. Unit 4 will not be developed.

(b) No Unit owner may carry on any practice, or permit any practice to be carried on, that unreasonably interferes with the quiet enjoyment of the occupants of any other Unit. Each Unit owner shall maintain its Unit and the appurtenant Limited Common Elements in a clean and sanitary condition.

(c) No Unit shall be used, occupied or kept in a manner that in any way would be deemed hazardous and/or result in an increase in the fire insurance premiums for a Unit beyond the standard rates for a dwelling in a multi-family structure, without the prior written permission of the Board of Directors.

(d) No Unit shall erect signs except as permitted by Town Ordinance.

(e) A Unit owner shall be responsible for the cleanliness of any Limited Common Element serving such Unit, at the expense of such Unit owner.

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(f) Each Unit owner shall comply strictly with the Bylaws and with the Rules and Regulations adopted and amended from time to time by the Board of Directors and with the covenants, conditions and restrictions set forth in this Declaration or in the deed to a Unit. Failure to so comply shall be grounds for an action to recover damages or for injunctive relief or both maintainable by the Association or any aggrieved Unit owner, with attorney fees to be awarded to the prevailing party.

13. **COMMON EXPENSES:** Each Unit owner shall pay to the Association, or its authorized representative, monthly, his proportionate share of the budgeted expenses of the Association. Each Unit's proportionate share of common expense is described in Section 6 herein. Payment thereof shall be in equal monthly amounts and subject to annual review and adjustment. In the event of the failure of a Unit owner to pay such proportionate share when due, the amount thereof together with interest at the rate of eighteen percent (18%) per annum or such other rate as may be established by the Association, such late fees as may be established by the Association, costs and reasonable attorney's fees shall constitute a lien on the interest of such Unit owner, as provided by the Act; provided, however, that such lien shall be subordinate to the lien of all recorded first mortgages on the interest of such Unit owner, and the foreclosure or such mortgages, sale or transfer pursuant to foreclosure or transfer to the first mortgagee in lieu of foreclosure shall extinguish a subordinate lien for common charges. The entire unpaid share of the common expenses or assessments by the Association chargeable to such Unit, that become due prior to the foreclosure, shall become common expenses collectible from all owners of a Unit. Such foreclosure shall not release the delinquent Unit owners from personal liability to the Association for unpaid common expenses.

14. **MAINTENANCE:** Each Unit owner shall furnish and be responsible for, at such owner's expense, all the maintenance, repairs and replacements within and upon such owner's Unit and the limited common elements allocated to such Unit.

15. **ASSOCIATION OF UNIT OWNERS:** The Association shall be the governing body for the Unit owners with respect to the administration of the Property as provided by the Act, this Declaration and the Bylaws. The Association shall elect officers as provided in the Bylaws.

Each Unit owner and/or owners shall be a member of the Association. Membership shall be appurtenant to the Units, and the transfer of title to a Unit shall automatically transfer the regular membership appurtenant to that Unit to the transferee or transferees. A transfer pursuant to a mortgage, however, shall not transfer membership until foreclosure or a transfer to a mortgage in lieu of foreclosure.

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The provisions of this Declaration and the Bylaws and the rights and obligations established thereby shall be deemed to be covenants, running with the land, so long as the Property remains subject to the provisions of the Act and shall inure to the benefit of and be binding upon each and all of the Unit owners and their respective heirs, representatives, successors, assigns, purchasers, lessees, grantees and mortgagees. By the recording or the acceptance of a deed conveying a Unit or any interest therein, or any ownership interest in the Property whatsoever, the person to whom such Unit or interest is conveyed shall be deemed to accept and agree to be bound by and subject to all of the provisions of the Act, this Declaration, and the Bylaws.

In any voluntary conveyance of a Unit, it shall be the duty of the seller to furnish the buyer with a copy of this Declaration, the Association Bylaws and rules and regulations as they may from time to time be amended. The Declarant or the Association shall make available to Unit owners, prospective purchasers, lenders and the holders, insurers and guarantors of the first mortgage on any Unit, current copies of the Declaration, Bylaws and other rules and regulations governing the Condominium, and other books, records and financial statements of the Association. This requirement may be satisfied by making the documents available for inspection upon request during normal business hours or under other reasonable circumstances. If copies are requested, the Declarant or Association may, but shall not be obligated to, make them available at a reasonable charge.

16. **EXECUTIVE BOARD POWERS:** Except as otherwise provided in Section 1603-103(b) of the Act, the Executive Board may act on behalf of the Association, shall have all of the powers necessary for the administration of the affairs of the Association. An Executive Board composed of no less than three (3) and no more than five (5) natural persons shall govern the affairs of the Association. Prior to the Transition Election provided for by subparagraph 16(a), the Executive Board shall be composed of three (3) natural persons. "Declarant Control Period" means the entire time period which extends from the date of the recording of this Declaration until the earlier of (a) five (5) years following the conveyance of the first Unit to a Purchaser or (b) sixty (60) days after the conveyance to Purchasers of seventy-five percent (75%) of the Units. The Declarant shall have the right during the Declarant Control Period to appoint, remove and replace from time to time any and all members of the Executive Board, and officers of the Association, without the necessity of obtaining resignations. The appointees of the Declarant need not be Unit Owners. After the Transition Election, at least a majority of the members of the Executive Board shall be Unit Owners or spouses of Unit Owners, or in the case of a Unit Owner which is a corporation, partnership, trust or estate, a designated agent thereof. The transition from Declarant-appointed members of the Executive Board to Unit Owners other than the Declarant shall occur as follows:

(a) No later than the earlier of (1) sixty (60) days after the conveyance to Purchasers of seventy-five percent (75%) of the Units, or (2) five (5) years following conveyance of the first Unit

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to a Purchaser, or at such earlier date as the Declarant in its sole discretion shall specify, the Transition Meeting of the Association and Transition Election shall be held at which all of the members of the Executive Board and officers of the Association appointed by the Declarant shall resign, and the Unit Owners, including the Declarant if the Declarant owns one or more Units, shall thereupon elect no fewer than three (3) and not more than five (5) successor members of the Executive Board to act in the place and stead of those resigning.

(b) The Declarant may voluntarily surrender the right to appoint and remove officers and members of the Executive Board before termination of the Declarant Control Period, but in that event it may require, for the duration of the Declarant Control Period, that specified actions of the Association or Executive Board, as described in a recorded instrument executed by the Declarant, be approved by the Declarant before such actions can become effective.

17. **NOTICE:** The Clerk of the Association shall cause notice of all meetings of members and of all proposed actions requiring vote or approval of a specified percentage of Unit owners and/or mortgagees to be sent in writing by U.S. Mail, postage prepaid or to be personally delivered, to all Unit owners and all eligible mortgage holders at the address filed with the Clerk by said owners and mortgage holders not less than five (5) days and not more than twenty-five (25) days prior to the proposed meeting or action. Such notice shall be deemed to be given when so delivered in person or on the second business day following such mailing. Such notice may, however, set a later deadline for any proposed action, if such longer period of time is deemed necessary to obtain the required number of written approvals. Notice of meetings shall state the time and place of the meeting and the items on the agenda, including the general nature of any proposed amendment to the Declaration and Bylaws, any budget changes and any proposal to remove a director or officer.

18. **SEPARATE TAXATION AND UTILITIES:** It is understood that real estate taxes are to be separately taxed to each Unit owner for such owner's Unit and the corresponding percentage of ownership in the common elements, as provided in the Act. In the event that for any year such taxes are not separately taxed to each Unit owner, but are taxed on the Property as a whole, then each Unit owner shall pay a proportionate share thereof in accordance with such owner's relative percentage of ownership interest in the common elements.

Each Unit owner shall pay for such owner's telephone, electricity, and other utilities that are separately metered or billed to each user by the respective utility company. Except as may otherwise be provided in Section 5 herein, utilities that are not separately metered or billed shall be treated as part of the common expense and Unit owners shall take reasonable steps to conserve such utilities.

19. **INSURANCE AND RELATED MATTERS:**

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With respect to each Unit and the limited common elements appurtenant thereto, each Unit owner shall maintain insurance against loss or damage by fire and such other hazards as are covered under Standard Extended Coverage Provisions and all other perils customarily covered for similar types of properties, including those covered by the standard "all risk" endorsement, for an amount sufficient to avoid the application of any co-insurance provision. The proceeds of such insurance shall be used for the reconstruction of the Units and limited common elements or shall be otherwise disposed of in accordance with the provisions of this Declaration of the Act; and the policies shall contain the standard mortgage clause, provided, however, that the rights of the mortgagee of a Unit under any standard mortgage clause endorsement to such policies shall be subject to the provisions in the Act with respect to the application of insurance proceeds to the reconstruction of the Units. Each Unit owner shall indemnify and save harmless the Association from any liability, claim, loss, damage, expense, action or cause of action relating to or out of such owner's respective Unit and its appurtenant limited common elements.

20. **MORTGAGE PROVISIONS:**

(a) The Unit owner who mortgages his Unit shall notify the Executive Board of the name and address of his mortgagee and shall, upon request, file a conformed copy of the mortgage with the Executive Board.

(b) The Executive Board, whenever so requested in writing by a mortgagee of a Unit, shall promptly report to it any then unpaid common charges due from, or any other default by, the owner of the mortgaged Unit.

(c) The Executive Board, when giving notice to a Unit owner of a default in paying common charges or other violation of the provisions of this Declaration, the Bylaws or any rules and regulations, shall send a copy of such notice within thirty (30) days after the occurrence of such default to each holder of a mortgage covering such Unit whose name and address has previously been furnished to the Executive Board.

(d) Each mortgagee of a Unit shall be permitted to examine the books, accounts and records of the Association at reasonable times on business days and to require annual reports and other financial data of the Association. If no audited financial statement is available, any holder of a mortgage on any Unit shall be allowed to have an audited statement prepared at its own expense.

(e) Notwithstanding anything to the contrary elsewhere contained in this Declaration or the Bylaws, the following provisions shall govern Eligible Mortgage Holders as defined in Sec 1602-119(b) of the Act:

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(i) Any Eligible Mortgagee Holder of a Unit in the condominium will, upon request, be entitled to inspect the books and records of the Association during normal business hours.

(ii) No provision of this Declaration or of the Bylaws shall be deemed or construed to give a Unit Owner, or any other party, priority over any rights of an Eligible Mortgage Holder of Units pursuant to their mortgages in the case of a distribution to Unit owners of insurance proceeds or condemnation awards for losses to or a taking of Units and/or common elements.

(iii) An Eligible Mortgage Holder of a Unit shall be entitled to prompt written notification from the Executive Board of:

(1.) any default by the mortgagor of such Unit in the performance of such mortgagor's obligations under this Declaration and/or the Bylaws that is not cured within thirty (30) days,

(2.) any event of substantial destruction to, or condemnation or governmental taking of, such Unit or any portion of the common elements appurtenant thereto,

(3.) any lapse or modification of insurance or fidelity bond coverages,

(4.) any proposed amendment under Section 22 of this Declaration and

(5.) any proposed action that entitles an eligible mortgage holder to notice under Section 1602-119(b) of the Act.

(f) Any first mortgagee of a Unit who obtains title to the Unit pursuant to the remedies provided in the mortgage, or through foreclosure of the mortgage, or through deed (or assignment) in lieu of foreclosure, shall take the property free of any claims for unpaid assessments or charges against such Unit that accrue prior to the acquisition of title to such Unit by the mortgagees, but such expenses or assessments shall become common expenses collectible from all of the owners of such Unit.

21. **ARBITRATION:** In the event there is a disagreement amount the Unit Owners, Eligible Mortgage Holders, the Executive Board or any of the interested parties herein that threatens the harmonious operation of the Condominium, such issue or issues shall be submitted to arbitration as set forth below. In the event of any dispute, the Unit Owners shall make good faith effort to

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resolve it. In order to minimize both the costs of and time for dispute resolution in all disputes, the Unit Owners agree that if any of them believes that others have not complied with the terms of this Declaration, By-laws, Rules and Regulations or any other aspects affecting the well-being of the Association, such dispute will be resolved by binding arbitration.

The objecting party shall notify the other Unit Owners and request a meeting within five (5) days in Cumberland, Maine (or any other mutually agreed-upon place) to resolve such dispute. If the dispute is not resolved at such a meeting, either party may request that the matter be resolved through resolution according to the following procedure.

The objecting party shall submit the dispute within ten (10) days (Submission Date) following the said meeting to an attorney or other expert with experience in condominium dispute resolution and belonging to the American Arbitration Association. The objecting party shall notify the other Unit Owners of its selection of an arbitrator, and if not acceptable to the other Unit Owners, the other Unit Owners shall notify the objecting party of their selection of an arbitrator. The two arbitrators selected shall select a third arbitrator (the Arbitrator) who shall solely hear the dispute.

Any materials or written arguments which either party deems important to the resolution of the dispute, shall be submitted to the Arbitrator. The dispute shall be heard as quickly as possible by the Arbitrator. The Arbitrator shall allocate the costs of the dispute resolution process (including but not limited to the attorneys and witness fees of each party and the costs of the Arbitrator) between the parties as it deems fair and equitable. The decision of the Arbitrator shall be binding upon all of the parties and shall be enforceable in the courts of the State of Maine.

In the event that the Arbitrator shall be unable or unwilling to accept the dispute resolution at the time of the dispute as of the Submission Date, the parties shall use Arbitrator selection process outlined above to find a successor.

The term "days" as used herein shall exclude any Saturday, Sunday, and legal holiday. Any failure by either party to follow the process set forth above may serve as the basis for an adverse ruling by the Arbitrator unless the Arbitrator shall determine that such failure was due to extraordinary circumstances beyond the control of the failing party.

22. **AMENDING THE DECLARATION:** Except to the extent expressly permitted or required by the Act, this Declaration may be amended by a vote or by written approval of the Unit of owners of Units to which at least seventy-five percent (75%) of the votes in the association are allocated and written approval from eligible mortgage holders, as defined in the Act, representing at least seventy-five percent (75%) of the votes allocated to Units that are subject to eligible first mortgages.

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23. **NAME AND ADDRESS:** The name of the Condominium is the Mill Run Condominium, and the Condominium is located at 197 Gray Road, Cumberland, Maine. The mailing address of Mill Run Condominium Association shall be 110 Marginal Way, Suite 193, Portland, ME 04101.

24. **APPLICABLE LAW; INTERPRETATION; SEVERABILITY:** This Declaration shall be governed by and construed in accordance with the laws of the State of Maine. In the event of any conflict or discrepancy between this Declaration, the Bylaws and the Plat and Plans, this Declaration shall govern. If any provision of this Declaration, the Bylaws or any rules and regulations are in conflict with any applicable laws, including the Act, then such laws shall govern and such invalid provision shall be of no force and effect, but the validity of the remainder of this Declaration, the Bylaws and any such rules and regulations shall not be affected thereby and shall remain in full force and effect as if such invalid provision had not been included.

The captions herein are inserted for convenience and reference and do not limit, alter or define the terms of this Declaration. All exhibits attached to this Declaration are hereby made a part hereof.

25. **REMEDIES; WAIVER:** All rights, remedies and privileges granted to the Declarant, the Association or a Unit owner pursuant to the terms of this Declaration, the Bylaws and any rules and regulations shall be deemed to be cumulative to any other right or remedy under said documents or afforded by law or equity, and may be exercised concurrently, independently or successively. Any forbearance in exercising any right or remedy hereunder or otherwise available by applicable law shall not be a waiver of or preclude the exercise of any such right or remedy.

26. **EFFECTIVE DATE:** This Declaration shall become effective when it and the Plat has been recorded.

IN WITNESS WHEREOF, Grun Development LLC, and Green SIP Construction, Inc. have caused this instrument to be executed this 23rd day of June, 2017.

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Witness

Grun Development LLC

By: Marlene Eaton
Marlene Eaton, Managing Member

STATE OF MAINE
CUMBERLAND, SS. June 23, 2017

Then personally appeared the above-named Marlene Eaton, Managing Member of Grun Development LLC, as aforesaid, and acknowledged the foregoing instrument to be her free act and deed in her said capacity and the fee act and deed of the limited liability company.

Before me,

Attorney at Law/Notary Public

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JACQUELYN MURPHY
Notary Public, Maine
My Commission Expires March 14, 2021

Witness

Green SIP Construction, Inc.

By: Marlene Eaton
Marlene Eaton, President

STATE OF MAINE
CUMBERLAND, SS. June 23, 2017

Then personally appeared the above-named Marlene Eaton, President of Green SIP Construction, Inc., as aforesaid, and acknowledged the foregoing instrument to be her free act and deed in her said capacity and the fee act and deed of the limited liability company.

Before me,

Attorney at Law/Notary Public

SEAL

JACQUELYN MURPHY
Notary Public, Maine
My Commission Expires March 14, 2021

DECLARATION OF CONDOMINIUM
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EXHIBIT A

LEGAL DESCRIPTION

All property defined on the Updated Master / Subdivision Plan prepared by Gorrill Palmer dated April 24, 2017, approved and signed by the Town of Cumberland Planning Board on May 30, 2017 and recorded in Plan Book 217, Page 212 Cumberland County Registry of Deeds in the State of Maine, including but not limited to :

- Condominium Unit One as defined on the Updated Master / Subdivision Plan prepared by Gorrill Palmer dated April 24, 2017, approved and signed by the Town of Cumberland Planning Board on May 30, 2017 and recorded in Plan Book 217, Page 212 Cumberland County Registry of Deeds in the State of Maine.

- Condominium Unit Two as defined on the Updated Master / Subdivision Plan prepared by Gorrill Palmer dated April 24, 2017, approved and signed by the Town of Cumberland Planning Board on May 30, 2017 and recorded in Plan Book 217, Page 212 Cumberland County Registry of Deeds in the State of Maine.

- Condominium Unit Three as defined on the Updated Master / Subdivision Plan prepared by Gorrill Palmer dated April 24, 2017, approved and signed by the Town of Cumberland Planning Board on May 30, 2017 and recorded in Plan Book 217, Page 212 Cumberland County Registry of Deeds in the State of Maine.

- Condominium Unit Four as defined on the Updated Master / Subdivision Plan prepared by Gorrill Palmer dated April 24, 2017, approved and signed by the Town of Cumberland Planning Board on May 30, 2017 and recorded in Plan Book 217, Page 212 Cumberland County Registry of Deeds in the State of Maine.
- All common areas as defined on the Updated Master / Subdivision Plan prepared by Gorrill Palmer dated April 24, 2017, approved and signed by the Town of Cumberland Planning Board on May 30, 2017 and recorded in Plan Book 217, Page 212 Cumberland County Registry of Deeds in the State of Maine.

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EXHIBIT B

FRACTION OF COMMON ELEMENTS

Unit	Description	Acres	Square Feet	Condo Fee Allocations Percentage
One	Office / Industrial	1.93	84,070.80	25.597%
Two	Four Plex Project	4.19	182,516.40	55.570%
Three	Allen's Farm	1.42	61,855.20	18.833%
Four	Tammy Lane	0.94	40,946.40	
Common Area A	Common Drive	0.47	20,473.20	
Common Area B	Storm Water Basin	0.63	27,442.80	
Total		9.58	417,304.80	100.000%
Basis of Condo Allocations		7.54		

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DECLARATION OF CONDOMINIUM
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EXHIBIT C
CONDOMINIUM BYLAWS

ARTICLE I
Introductory Provisions

1.1. Name. The name of this Association is Mill Run Condominium (the "Association"). The address is 197 Gray Road, Gray, Maine. These By-Laws have been adopted as required by Section 1603-106 of the Act to govern this Unit Owner's Association of the Condominium (hereinafter called the "Association").

1.2. Applicability of By-Laws. The provisions of these By-Laws are applicable to the Property of the Condominium and to the use and occupancy thereof.

1.3. Office. The principal office of the Association and the Executive Board shall be located at 110 Marginal Way, Suite 193, Portland, ME 04101 or at such other location as the Executive Board may designate from time to time.

1.4. Corporation Law. Except as otherwise expressly provided herein, in the Declaration, or in the Act, the Association shall be governed by the provisions of the Maine Nonprofit Corporation Act, Title 13-B of the Maine Revised Statutes of 1964, as amended (the "Nonprofit Corporation Act") and the "Board of Directors" described therein shall be referred to herein and in the Declaration as the "Executive Board."

1.5. Definitions. Capitalized terms used herein without definition shall have the meanings specified for such terms in said Declaration to which these By-Laws pertain or, if not defined therein, the meanings specified or used for such terms in the Act.

ARTICLE II
The Association

2.1. Composition, Powers and Duties. The composition, powers and duties of the Association are as set forth in the Declaration.

2.2. Nontransferability of Interests. Except as provided herein or in the Declaration, membership shall not be transferable. The membership of each Unit Owner shall terminate upon a sale, transfer or other disposition, other than by mortgage, of the ownership interest of such Unit Owner in the Property, accomplished in accordance with the provisions of the Declaration, and thereupon the membership and any interest in the Reserve Fund and other common funds shall automatically transfer to and be vested in the next Owner or Owners succeeding to such ownership interest.

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2.3. Meetings of Members. Meetings of the membership shall be held at the principal office of the Association or at such other place as may be specified in the notice of the meeting.

2.4. Annual Meetings. The annual meeting of the members shall be held each year on or about the last Tuesday of the month of October. In the event that the day for which an annual meeting is scheduled is a legal holiday, then the meeting shall be held on the first day thereafter which is not a legal holiday. At such meetings there shall be elected by ballot of the members an Executive Board in accordance with the provisions of Article III. The members shall also transact such other business as may properly come before them.

2.5. Special Meetings. The President shall call a Special Meeting of the Association if so directed by resolution of the Executive Board or upon the written request of one (1) Unit owner presented to the Clerk. The notice of any Special Meeting shall state the time, the place and purpose thereof. Such meetings shall be held within thirty (30) days after receipt by the President of said resolution or written request; provided, however, if the purpose included the consideration of the rejection of a capital expenditure pursuant to Section 5.9 herein, such meeting shall be held within fifteen (15) days after receipt by the President of said resolution or written request.

2.6. Notice of Meeting. It shall be the duty of the Secretary, or upon his failure or neglect then of any other officer, to give notice of each annual or special meeting, the time and place of the meeting, and the items on the agenda for that meeting, including the general nature of any proposed amendment to the Declaration or these By-Laws, any budget changes and any proposal to remove a member of the Executive Board or officer, to each member of record including the Declarant as long as it is the Owner of record of a Unit and to each Eligible Mortgage Holder. With respect to any annual or special meeting such notice shall be so mailed at least ten (10) days but no more than forty-five (45) days prior to the date so set for the meeting.

2.7. Quorum. The presence, either in person or by proxy, of the Owners of the Units to which are allocated at least All of the Votes in the Association shall be requisite for and shall constitute a quorum for the transaction of business at all meetings of members.

2.8. Adjournment of Meetings. If at any meeting of members a quorum shall not be in attendance, those members who are present may adjourn the meeting to a time not less than forty-eight (48) hours from the time at which the original meeting was called.

2.9. Votes in Association. The Vote in the Association allocated to each Unit is listed on

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Schedule B of the Declaration.

2.10.Voting. Voting shall be in accordance with Section 1603-110 of the Act and the Declaration, including, but not limited to, Section 1603-110(b). If the Declarant owns or holds title to one or more Units, the Declarant shall have the right at any meeting of the members to cast the votes allocated to such Unit or Units.

2.11.Majority Vote Required. Unless by express provisions of the Act, these By-Laws or the Declaration a different vote is required, each question presented at a meeting shall be determined by a vote of a majority of Unit Owners. As used in these By-Laws, the term "majority of Unit Owners" shall mean the Unit Owners of those Units to which are allocated more than fifty percent (50%) of the total authorized Votes allocated to all of the Units that are present in person or by proxy and voting in any meeting of the Association at which a quorum is present as determined in accordance with Paragraph 2.7.

2.12.Informal Action. Any action required or permitted to be taken at any meeting of the members may be taken without a meeting if a written consent thereto is signed by all the members. The Secretary shall file such written consent with the records of the meetings of the members and such consent shall be treated as a unanimous vote of members for all purposes.

2.13.Order of Business. The order of business at all meetings of the members shall be as follows:

(a) Roll call;
(b) Proof of notice of meeting;
(c) Reading of minutes of preceding meeting for approval of same;
(d) Reports of Executive Board or of officers or of the manager;
(e) Reports of committees, if any;
(f) Election of inspectors of elections (when so required);
(g) Election of members of the Board of Directors (when so required);
(h) Unfinished business;
(i) New Business.

At all meetings of the Association or of the Executive Board, Robert's Rules of Order, as then amended, shall be followed, except in the event of conflict in which these By-Laws or the Declaration, as the case may be, shall prevail.

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ARTICLE III
Executive Board

3.1. Number and Qualification. The affairs of the Association shall be governed by an Executive Board composed of three (3) persons. During the period of Declarant control, as provided in the Declaration, the Executive Board shall be composed of three (3) persons who shall be appointed, removed and replaced from time to time by the Declarant without the necessity of obtaining resignations. The appointees of the Declarant need not be Unit Owners. After the end of the period of Declarant control, the Executive Board shall be composed of three (3) individuals, as the Board may determine from time to time. A majority of the Executive Board shall be a Unit Owners. In the case of a Unit Owner which is a corporation, partnership, trust or estate, a designated agent who is a shareholder, partner or beneficiary thereof may be appointed as a member of the Executive Board. A Unit Owner must be current in the payment of all condominium and parking fees to be elected (or have its agent elected) to the Executive Board.

3.2. Election and Term of Office. The members of the Executive Board shall be elected as follows:

3.2.1. At the annual meetings of the Association, subject to Paragraph 16 of the Declaration, the election of members of the Executive Board shall be held. The term of office of each Executive Board member shall be fixed at four (4) years, so that after the Declarant Control Period ends, one-half (2) of the Executive Board may be replaced at each annual meeting. Each member of the Executive Board shall hold office until earlier to occur of the election of his or her respective successor, or his or her death, adjudication of incompetency, removal or resignation. An Executive Board member may be elected to succeed himself or herself for an unlimited number of terms.

3.2.2. Persons qualified to be members of the Executive Board may be nominated for election only as follows:

3.2.2.a. Any Unit Owner may submit to the Secretary at least thirty (30) days before the meeting at which the election is to be held a nomination petition signed by Unit Owners owning at least two (2) Units and a statement that the person nominated is willing to serve on the Executive Board. The Secretary shall mail or hand deliver the submitted items to every Unit Owner along with the notice of such meeting;

3.2.2.b. Nominations may be submitted from the floor at the meeting at which the election is held for each vacancy on the Executive Board for which no more than one (1) person has been

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nominated by petition.

3.3. Powers and Duties. The Executive Board shall have the powers and duties necessary for the administration of the affairs of the Association and shall have all powers and duties referred to in the Declaration and the Act.

3.4. Delegation of Powers; Managing Agent. The Executive Board may employ for the Condominium a "Managing Agent" or "Manager" at a compensation established by the Executive Board. The managing agent shall perform such duties and services as the Executive Board shall authorize, including but not limited to, all of the duties listed in the Act, the Declaration and these By-Laws; provided, however, where a Managing Agent does not have the power to act under the Act, the Declaration or these By-Laws, such duties shall be performed as advisory to the Executive Board. The Executive Board may delegate to the Managing Agent all of the powers granted to the Executive Board by the Act, the Declaration and these By-Laws other than the following powers:

3.4.1. To adopt the annual budget and any amendment thereto or to assess any Common Expenses;

3.4.2. To adopt, repeal or amend rules and regulations of the Association;

3.4.3. To designate signatories on Association bank accounts;
3.4.4. To borrow money on behalf of the Association;
3.4.5. To acquire and mortgage Units;
3.4.6. To allocate Limited Common Elements.

Any employment contract between the Managing Agent and the Association must provide that it may be terminated with cause on no more than thirty (30) days' written notice and without cause on no more than ninety (90) days' written notice.

3.5. Removal and Resignation of Members of the Executive Board. Except with respect to members designated by Declarant during the Declarant Control Period, at any regular or special meeting of the Association duly called, any one or more of the members of the Executive Board may be removed with or without cause by Unit Owners entitled to cast at least two-thirds (2/3) of all the votes in the Association, and a successor may then and there be elected to fill the vacancy thus created. A Board member may be removed by vote of a majority of the other Board members if said Board member is not current in the payment of condominium and parking fees. Any Unit Owner proposing removal of a Board member shall give notice thereof to the Secretary. Any member

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whose removal has been proposed by a Unit Owner shall be given at least ten (10) days' notice by the Secretary of the time, place and purpose of the meeting and shall be given an opportunity to be heard at the meeting. A Board member may resign by submitting his or her resignation in writing to the President or Secretary of the Executive Board.

3.6. Vacancies. Except as set forth in Paragraph 3.1. with respect to members appointed by Declarant, vacancies in the Executive Board caused by reason other than the removal of a member by a vote of the Unit Owners shall be filled by a vote of a majority of the remaining members at a special meeting of the Executive Board held for such purpose promptly after the occurrence of any such vacancy, even though the members present at such meeting may constitute less than a quorum. Each person so elected shall be a member of the Executive Board for the remainder of the term of the member being replaced and until a successor shall be elected at the next annual meeting of the Association at which such seat is to be filled upon expiration of the term of his predecessor. In the case of multiple vacancies, the member receiving the greatest number of votes shall be elected for the longest term.

3.7. Organizational Meeting. The first meeting of the Executive Board following each annual meeting of the Association shall be held within ten (10) days thereafter at such time and place as shall be fixed by the President (even if he is the outgoing President) at the meeting at which such Executive Board shall have been elected, and no notice shall be necessary to the newly elected members of the Executive Board in order legally to constitute such meeting, if a majority of the Executive Board members shall be present at such meeting. The Secretary shall give notice of such meeting to each Eligible Mortgage Holder in the manner provided in the Declaration for service of notice upon Eligible Mortgage Holders at least five (5) days before such meeting.

3.8. Regular Meetings. Regular meetings of the Executive Board may be held at such time and place as shall be determined from time to time by a majority of the members, but such meetings shall be held at least once every four (4) months during each fiscal year. Notice of regular meetings of the Executive Board shall be given to each member and Eligible Mortgage Holder by the Secretary in the manner provided in the Declaration for service of notice upon Unit Owners and Eligible Mortgage Holders, at least ten (10) business days prior to the day named for such meeting.

3.9. Special Meetings. Special meetings of the Executive Board may be called by the President on at least three (3) business days' notice by the Secretary to each member and Eligible Mortgage Holder, given by mail, telegraph or hand delivery, securing a receipt therefor, which notice shall state the time, place and purpose of the meeting. Special meetings of the Executive Board shall be called by the President or Secretary in like manner and on like notice on the written request of a member of the Executive Board.

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3.10. Waiver of Notice. Any member may at any time, in writing, waive notice of any meeting of the Executive Board, and such waiver shall be deemed equivalent to the giving of such notice. Attendance by a member at any meeting of the Executive Board shall constitute a waiver of notice by him of the time, place and purpose of such meeting unless the sole purpose of the member's attendance is to protest the holding of the meeting. If all members are present at any meeting of the Executive Board, no notice shall be required and any business may be transacted at such meeting.

3.11. Quorum of the Executive Board. At all meetings of the Executive Board one-half of the members shall constitute a quorum for the transaction of business, and the votes of a majority of the members present at a meeting at which a quorum is present, any business which might have been transacted at the meeting originally called may be transacted without further notice. One or more members of the Executive Board may participate in and be counted for quorum purposes at any meeting by means of conference telephone or similar communication equipment by means of which all persons participating in the meeting can hear each other.

3.12. Compensation. No member of the Executive Board shall receive any compensation from the Association for acting as such, but may be reimbursed for any expenses incurred in the performance of his duties.

3.13. Conduct of Meetings. The President shall preside at all meetings of the Executive Board and the Secretary shall keep a minute book of the Executive Board meetings, recording therein all resolutions adopted by the Executive Board and recording of all transactions and proceedings occurring at such meetings. The then current edition of Robert's Rules of Order shall govern the conduct of the meetings of the Executive Board if and to the extent not in conflict with the Declaration, these By-Laws or the Act.

3.14. Action Without Meeting. Any action by the Executive Board required or permitted to be taken at any meeting may be taken without a meeting if all of the members of the Executive Board shall individually or collectively consent in writing to such action. Any such person's written consent shall be filed with the minutes of the proceedings of the Executive Board.

3.15. Validity of Contracts with Interested Executive Board Members. No contract or other transaction between the Association and one or more of its Executive Board members or between the Association and any corporation, firm or association in which one or more of the Executive Board members are directors or officers, or are financially interested, shall be void or voidable because such Executive Board member or members are present at any meeting of the Executive Board which

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authorized or approved the contract or transaction or because his or their votes are counted, if the circumstances specified in either of the following subparagraphs exists:

3.15.1 The fact that an Executive Board member is also such a director or officer or has such financial interest is disclosed or known to the Executive Board and is noted in the minutes thereof, and the Executive Board authorized, approves or ratifies the contract or transaction in good faith by a vote sufficient for the purpose without counting the vote or votes of such Executive Board member or members, or

3.15.2 The contract or transaction is made in good faith and not unconscionable to the Association at the time it is authorized, approved or ratified.

3.16. Inclusion of Interested Executive Board Members in a Quorum. Any Executive Board member holding such director or officer position or having such financial interest in another corporation, firm or association may be counted in determining the presence of a quorum at a meeting of the Executive Board or a committee thereof which authorizes, approves or ratifies a contract or transaction of the type described in Section 3.15 herein.

ARTICLE IV
Officers

4.1. Designation and Election. The principal officers of the Association shall be the President, the Secretary and the Treasurer, all of whom shall be elected by the Executive Board at the annual meeting of such Board. The Executive Board may appoint an assistant treasurer, an assistant secretary and such other officers as in its judgment may be necessary. The President shall be a Unit Owner and a member of the Executive Board. Any other officers may, but need not, be Unit Owners or members of the Executive Board. An officer other than the President may hold more than one office.

4.2. Removal of Officers. Upon the affirmative vote of a majority of all members of the Executive Board, any officer may be removed, either with or without cause, and a successor may be elected at any meeting of the Executive Board called for such purpose.

4.3. President. The President shall be the chief executive officer of the Association, preside at all meetings of the Association and of the Executive Board, shall represent and cast votes on behalf of the Association at meetings of the Association, and have all of the general powers and duties which are incident to the office of President of a nonprofit corporation organized under the

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laws of the State of Maine including without limitation the power to appoint committees from among the Unit Owners from time to time as the President may in his discretion decide is appropriate to assist in the conduct of the affairs of the Association. The President shall cease holding such office at such time as he ceases to be a member of the Executive Board.

4.4. Secretary. The Secretary shall keep the minutes of all meetings of the Association and of the Executive Board, have charge of such books and papers as the Executive Board may direct, maintain a register setting forth the place to which all notices to Unit Owners and Eligible Mortgage Holders, hereunder and pursuant to the Declaration, shall be delivered and, in general, perform all the duties incident to the office of secretary of a nonprofit corporation organized under the laws of the State of Maine. The Secretary shall, within ten (10) days after receipt of request, provide any person, or cause to be provided to any person, entitled thereto at the expense of the person requesting it a written statement or certification of the information required to be provided by the Association pursuant to Sections 1603-116(h) and 1604-108(b) of the Act and Paragraph 5.2.2.

4.5. Treasurer. The Treasurer shall have the responsibility for the safekeeping of Association funds and securities; keeping full and accurate financial records and books of account showing all receipts and disbursements; the preparation of all required financial data; providing to the Secretary the financial and budgetary information necessary for the Secretary to provide the certifications required by Paragraph 4.4; the deposit of all monies in the name of the Executive Board, the Association or the managing agent, in such depositories as may from time to time be designated by the Executive Board; and, in general, all the duties incident to the office of Treasurer of a nonprofit corporation organized under the laws of the State of Maine.

4.6. Execution of Documents. All agreements, contracts, deeds, leases, checks and other instruments of the Association for expenditures or obligations in excess of Five Hundred Dollars ($500.00) shall be executed by the President or the Secretary and the Treasurer of the Association. All such instruments for expenditures or obligations of Five Hundred Dollars ($500.00) or less may be executed by any one officer of the Association or such other person or employee as the Executive Board may designate in writing.

4.7. Compensation of Officers. No officer who is also a member of the Executive Board shall receive any compensation from the Association for acting as such officer, but may be reimbursed for any out-of-pocket expenses incurred in performing his duties; provided, however, the Secretary and Treasurer may be compensated for their services if the Executive Board determines such compensation to be appropriate.

ARTICLE V

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Operation of the Property

5.1. Fiscal Year. The fiscal year of the Association shall begin on such date as shall be established by the Executive Board, except for the first fiscal year of the Association which shall begin at the date of incorporation of the Association. The commencement date of the fiscal year so established shall be subject to change by the Executive Board.

5.2. Preparation and Approval of Budget.

5.2.1. On or before ninety (90) days before the beginning of the fiscal year for which a Common Expense assessment is made, the Executive Board shall adopt an annual budget for the Association containing an estimate for the total amount considered necessary to pay the cost of maintenance, management, operation, repair and replacement of the Common Elements and those parts of the Units as to which it is the responsibility of the Association to maintain, repair and replace, and the cost of wages, materials, insurance premiums, services, supplies and other expenses that may be declared to be Common Expenses by the Act, the Condominium Documents or a resolution of the Association and which will be required during the ensuing fiscal year for the administration, operation, maintenance and repair of the Property and the rendering to the Unit Owners of all related services. The budget shall include such amounts as the Executive Board shall consider necessary to provide working capital, a general operating reserve fund for replacements, capital improvements, and other items which cannot be expected to occur on a regular basis. The budget shall also reflect the separate assessment of Limited Common Expenses.

5.2.2. On or before sixty (60) days before the beginning of the fiscal year for which a Common Expense assessment is made, the Executive Board shall make such budget available for inspection during business hours by any Unit Owner or Mortgagee at the Property and the Secretary shall provide to the Unit Owners and Eligible Mortgage Holders a summary of that budget in reasonably itemized form setting forth the separate amount of the Common Expenses and Limited Common Expenses and shall set a date for a special meeting of the Unit Owners and Eligible Mortgage Holders to consider ratification of such budget not less than fourteen (14) days nor more than thirty (30) days after mailing of such summary of budget accompanied by notice of the special meeting to each Unit Owner and Eligible Mortgage Holder. Unless at the meeting a majority in voting interest of all the Unit Owners reject the proposed budget or revised budget, that budget is ratified irrespective of whether a quorum is present at said meeting. In the event such budget shall be rejected at the meeting, the budget last ratified with respect to the period covered by the proposed budget shall be continued as the budget for the Condominium until such time as the Unit Owners ratify a subsequent budget proposed by the Executive Board upon the same conditions as are provided in the subparagraph with respect to the original budget.

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5.2.3. Subject to subparagraph 5.2.2., the budget adopted pursuant to this Paragraph shall constitute the basis for determining each Unit Owner's assessments for Common Expenses and Limited Common Expenses and shall automatically take effect at the beginning of the fiscal year for which it is adopted.

5.3. Assessment of Common Expenses. Assessments shall be made no later than thirty (30) days after the budget is adopted except that the first assessment shall be made no later than sixty (60) days after the first conveyance of a Unit to a Purchaser.

5.4. End of Fiscal Year. Within ninety (90) days after the end of each fiscal year for which a Common Expense assessment was made, the Executive Board shall prepare and deliver to all Unit Owners and Eligible Mortgage Holders, and to each Mortgagee requesting in writing the same, an itemized accounting of the Common Expenses for such fiscal year actually incurred and paid, together with a tabulation of the amount collected pursuant to the budget adopted by the Executive Board for such fiscal year.

5.5. Reserves. The Executive Board shall build up and maintain a reasonable reserves for working capital including a general operating reserve fund for current Common Expenses (the "Working Capital Fund") and a reserve fund for contingencies, replacements, capital improvements and other items which cannot be expected to occur on a regular basis (the "Reserve Fund"). However, nothing contained herein shall limit, preclude or impair the establishment of additional funds by the Association so long as the amount credited to, and debited from, any such additional funds are designated for specified purposes authorized by the Condominium Documents. The Working Capital Fund, Reserve Fund and such other funds shall be conclusively deemed to be common funds of the Association and shall be deposited in a special account with a lending institution, the accounts of which are insured by an agency of the United States of America. Neither the Executive Board nor the Treasurer shall commingle in the books and records of the Association any amounts deposited into the Reserve Fund, the Working Capital Fund or such other funds. Extraordinary expenditures not originally included in the annual budget which may become necessary during the year shall be charged first against such reserves. If the reserves are deemed by the Executive Board to be inadequate for any reason, including nonpayment of any Unit Owner's assessment, the Executive Board may at any time levy a further assessment which, depending on whether the reserve is for the benefit of all the Units or fewer than all the Units, shall be assessed against all the Unit Owners according to their respective Common Expense Liabilities or only against the Unit Owners benefitted according to their respective Common Expense Liabilities as between themselves, and which may be payable in a lump sum or in installments as the Board may

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determine.

5.6. Further Assessments. Subject to Paragraph 5.10., the Executive Board shall give notice to all Unit Owners and Eligible Mortgage Holders of any further assessments on Unit Owners for Common Expenses or Limited Common Expenses accompanied by a statement in writing giving the amount and reasons therefor, and such further assessment shall, unless otherwise specified in the notice, and subject to Paragraph 5.9., become effective with the next monthly payment which is due after the delivery of such notice of further assessment. All Unit Owners so notified shall be obligated to pay the adjusted monthly amount or, if such further assessment is not payable in installment, the amount of such assessment.

In addition, the Association shall have the right to levy reasonable fines for violations of the Declaration, these By-Laws and the Rules and Regulations of the Association, and may charge a Unit Owner legal fees and costs related to the enforcement of the provisions of the Declaration, By-Laws and Rules and Regulations.

5.7. Initial Capital Payment. The Declarant, as the agent of the Executive Board, will collect from each initial Purchaser at the time of settlement an "initial capital payment" (and not as a credit against the Purchaser's liability for Common Expenses) equivalent to twice the estimated monthly assessment for Common Expenses and Limited Common Expenses, if any, for such Purchaser's Unit. The Declarant will deliver the funds so collected to the Executive Board to provide the necessary working capital for the Association unless the Declarant has previously made the "initial capital payment" with respect to said Unit, in which case the Purchaser must reimburse the Declarant for such "initial capital payment" to the Association, which the Association shall credit to the account of the Unit Owner who is such Purchaser of a Unit from Declarant. Such funds may be used for certain prepaid items, initial equipment, supplies, organizational costs and other start-up costs, and for such other purposes as the Executive Board may determine. The Declarant must pay the "initial capital payment" to the Association for unsold Units in each portion or phase of the Condominium created by the Declaration no later than sixty (60) days after the first Unit in that portion or phase of the Condominium shall be conveyed to a Purchaser so that the "initial capital payment" shall be made for every Unit in that phase or portion within sixty (60) days after the first Unit in that phase or portion is conveyed to a Purchaser.

5.8. Effect of Failure to Prepare or Adopt Budget. The failure or delay of the Executive Board to prepare or adopt a budget for any fiscal year shall not constitute a waiver or release in any manner of a Unit Owner's obligation to pay his allocable share of the Common Expenses as herein provided whenever it shall be determined and, in the absence of any annual budget or adjusted budget, each Unit Owner shall continue to pay each monthly installment at the monthly rate

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established for the previous fiscal year until the new annual or adjusted budget shall have been adopted.

5.9 Rejection of Budget; Limitation of Expenditures. In the event of a rejection of a proposed budget, the Executive Board shall prepare a revised budget, which such revised budget shall be subject to the same procedures as set forth above for the original proposed budget.

5.10. Limitations on Expenditures. The power of the Executive Board to expend funds, incur expenses or borrow money on behalf of the Association is subject to the requirement that the consent of the Owners of Units to which are allocated at least two-thirds (2/3) of the Votes in the Association shall be required to borrow any sum in excess of One Thousand Dollars ($1,000.00) and to expend funds or incur expenses that it is reasonably anticipated will cause the aggregate amount of all expenses in the budget (including reserves) to be exceeded by more than ten percent (10%) of such aggregate amount after taking into account any projected increases in income.

5.11. Accounts; Audits. All sums collected by the Executive Board with respect to assessments against the Unit Owners or from any other source may be commingled in a single fund or held for each Unit Owner in accordance with his respective Common Expense Liability notwithstanding Paragraph 5.5. All books and records of the Association shall be kept under the direction of the Treasurer or the Manager and in accordance with customary accounting principles and practices.

5.12. Payment Obligations. Each Unit Owner shall pay to the Association or its authorized representative on the first day of each month, or on such other date that the Association may determine in writing, (1) one-twelfth (1/12) of the Common Expenses including Limited Common Expenses, assessed on an annual basis against his Unit in the proportions required in Paragraph 6 of the Declaration and (2) all special assessments, any other sums duly levied against the Unit pursuant to the Declaration, these By-Laws or the Act. If for any reason the Association shall revise the annual budget of the Association in accordance with these By-Laws, and subject to Paragraph 5.10., whereby the Common Expenses or any component thereof may be increased, then commencing on the first day of the first month subsequent to the adoption of such revised budget each Unit Owner shall pay to the Association or its authorized representative one twelfth (1/12) of any such revised annual Common Expenses including Limited Common Expenses assessed against his Unit in the proportions required in Paragraph 6 of the Declaration.

5.13. Interest; Acceleration. Monthly condominium assessments shall be due on the first day of each month. If any such assessments are not paid by the 10th day of the month, a late fee of the greater of $10 or four percent (4%) of the amount due will be charged. Interest shall be imposed

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after the 10th day of the month on the principal amount unpaid from the date when due until paid at a rate of 18% per annum. If any Unit Owner is more than fifteen (15) days delinquent, a letter shall be sent to that Unit Owner giving said Unit Owner ten (10) days' notice prior to the institution of any collection proceedings or other legal proceedings.

5.14. Liens for Assessments. The total annual assessment levied against each Unit for Commons Expenses including Limited Common Expenses, special assessments, and any other sums duly levied against the Unit pursuant to the Declaration, these By-Laws or the Maine Condominium act, including all interest thereon and charges for late payment thereof and legal fees and other costs of collection thereof, and fines, penalties and fees as provided in the Declaration or these By-Laws shall, until fully paid, constitute a lien against the Unit in favor of the Association as provided in Section 1603-116 of the Maine Condominium Act. Such lien shall, with respect to annual assessments and revised annual assessments, be effective on the first day of each fiscal year of the Association with respect to the full amount of the annual assessments or revised annual assessments. With respect to special assessments and other sums duly levied including interest, charges for late payments, legal fees, costs of collection, fines, penalties and fees, such lien shall be effective on the first day of the next month which begins more than ten (10) days after delivery to the Unit Owner of notice of such special assessment or levy. Such lien is prior to all other liens and encumbrances on a Unit except (1) liens and encumbrances recorded before the recordation of the Declaration, (b) a first Mortgage recorded before or after the date which the assessment sought to be enforced becomes delinquent, and (c) liens for real estate taxes and other governmental assessments or charges against the Units, provided, however, that such lien is not subject to the provisions of 14 M.R.S.A. Section 4651 and 18-A M.R.S.A. Section 2-201 et seq., as they or their equivalents may be amended or modified from time to time.

ARTICLE VI
Insurance

6.1. Policies. The Association shall maintain insurance in accordance with Section 1603-113 of the Act. In addition to the foregoing, policies purchased by the Association shall provide the following:

6.1.1. Hazard Insurance. The blanket policy purchased by the Association shall cover all of the Property, including Common and Limited Common Elements and including fixtures, building service equipment, and common personal property and supplies belonging to the Association. Such policy shall also cover fixtures, equipment and other personal property inside individual Units, whether or not part of the Common Elements. Such policy shall cover one hundred percent (100%)

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of the then current replacement cost of all property, including individual Units. Such policy shall include the following endorsements: (a) Agreed amount and inflation guard; (b) Construction code endorsements; and (c) Steam Boiler Coverage Endorsement providing at least Fifty Thousand Dollars ($50,000.00) coverage for each accident, if applicable. Such policy shall provide for the recognition of any Insurance Trust Agreement. Such policy shall show the following as named insured: "Mill Run Condominium Association," for the use and benefit of the individual Units Owners and must also name as a named insured any holder of a first mortgage, "its successors and assigns." Unit owners shall insure the unit owner's personal property, the unit owner's real property as defined by the Declaration and for liability within their own units.

6.1.2. Flood Insurance. If any part of the Property is in a flood hazard area as defined by the Federal Emergency Management Agency, the Association shall maintain a master or blanket flood insurance policy. Such policy shall cover all buildings and other property, real or personal, located within the flood area. The amount of such insurance shall be equal to at least the lesser of (a) one hundred percent (100%) of the then current replacement cost of all property in the flood area, or (b) the maximum coverage available for the property under the National Flood Insurance Program.

6.1.3. Liability Insurance. Liability insurance required under the Act shall also include all areas under supervision of the Association, including commercial spaces owned by the Association even if leased to others. Such policies shall be in an amount of at least Fiver Hundred Thousand Dollars ($500,000.00), or in such amount as the Federal National Mortgage Association may require. Such policy shall also include coverage for any legal liability related to employment contracts in which the Association is a party.

6.2. Insurance Trustee. The Executive Board of the Association is hereby irrevocably appointed as attorney-in-fact for each Unit Owner and for each Mortgagee and Eligible Mortgage Holder and for each owner of any other interest in the Property for the purpose of purchasing and maintaining the insurance described herein, the collection and appropriate disposition of the proceeds thereof with any bank or trust company authorized to do business in the State of Maine as trustee for all Unit Owners and their Mortgagees as their respective interests may appear (the "Insurance Trustee"), to hold any insurance proceeds in trust for disbursement as provided in Paragraph 6.3., the negotiation of losses and execution of releases of liability, and the execution of all documents and the performance of all other acts necessary to accomplish such purposes.

6.3. Losses; Adjustment and Payment; Insurance Trustee. Any loss covered by the insurance policies described in Paragraph 6.1. shall be adjusted with the Association by its Executive Board, but the insurance proceeds for said loss shall be payable to the Insurance Trustee designated

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for that purpose as provided in subparagraph 6.2., or otherwise to the Association, and not to any Mortgagee. The Insurance Trustee or the Association shall hold any insurance proceeds in trust for Unit Owners, Mortgagees and other lien holders as their interests may appear. Subject to the provisions of Paragraph 6.2. and subparagraph 7.2.3., the proceeds shall be disbursed first for the repair or restoration of the damage to the Property, and Unit Owners, Mortgagees and other lien holders are not entitled to receive payment of any portion of the proceeds unless there is a surplus of proceeds after the damaged Common Elements and Units have been repaired or restored, the decision has been made not to repair or restore the damage as provided in Paragraph 7.1., or the Condominium is terminated.

6.4. Memoranda, Cancellation, Additional Required Provisions. All insurers that shall issue an insurance policy or policies under this Article shall issue certificates or memoranda of insurance to the Association and, upon request, to any Unit Owners or Mortgagee. No such insurer issuing a policy may cancel (including cancellation for non-payment of premium), substantially modify or refuse to renew such policy or policies until twenty (20) days after notice of the proposed cancellation or non-renewal has been mailed to the Association, the managing agent, each Unit Owner and each Mortgagee to whom a certificate or memorandum of insurance has been issued at their respective last known addresses.

ARTICLE VII
Repair and Reconstruction after Fire or Other Casualty

7.1. When Repair and Reconstruction are Required. In the event of damage to or destruction of all or any part of the Property as a result of fire, other casualty or the exercise of the power of eminent domain, the Executive Board on behalf of the Association shall promptly arrange for and supervise the prompt repair, replacement and restoration thereof. Such repair or restoration shall be substantially in accordance with this Declaration, the Plats and Plans and the original plans and specifications therefore unless (a) the Condominium is terminated, or (b) repair, replacement or restoration would be illegal under any state or local health, safety, land-use or environmental statute, code or ordinance, or (c) eighty percent (80%) of the Unit Owners and the Eligible Mortgage Holders holding Mortgages on Units to which are allocated at least fifty-one percent (51%) of the Votes in the Association vote not to repair, restore or replace the damaged or destroyed Property, and such decision is approved by every Owner of a Unit or assigned or allocated Limited Common Element, which will not be repaired, replaced or restored, and by all Eligible Mortgage Holders of all Mortgages thereon.

7.2. Procedure for Reconstruction and Repair. If repair, replacement or restoration shall be

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required pursuant to Paragraph 7.1.:

7.2.1. Cost Estimates. The Executive Board shall promptly obtain reliable and detailed estimates of the cost of repairing and restoring such portion substantially in accordance with this Declaration, the Plats and Plans and original building plans and specifications therefore unless other action is approved by at least sixty-seven percent (67%) in voting interest of the Unit Owners and the Eligible Mortgage Holders holding Mortgages on Units which are allocated at least fifty-one percent (51%) of voting interest in the Association. Such costs may also include professional fees and premiums for such bonds as the Insurance Trustee may determine to be necessary.

7.2.2. Assessments. If the net proceeds of insurance, if any, are not sufficient to defray such estimated costs of reconstruction, repair, replacement and reconstruction, or if upon completion of reconstruction and repair the funds for the payment of the costs thereof are insufficient, the amount necessary to complete such reconstruction and repair may be obtained from the appropriate reserve for replacement funds, and any such excess costs shall be deemed a Common Expense, and a special assessment therefor shall be levied by the Association.

7.2.3. Construction Fund and Disbursement. The proceeds of insurance collected on account of the casualty, and the sums received by the Association from collections of assessments against Unit Owners pursuant to subparagraph 7.2.2. on account of such casualty or taking, shall constitute a construction fund which shall be held in trust by the Insurance Trustee or Association as provided in Paragraph 6.2. and disbursed in payment of the costs of reconstruction and repair in a manner which would normally be used by any prudent financial institution advancing construction funds. Any holder of a first mortgage shall have the right to inspect building plans, construction schedules and contractors.

7.3. Damage or Destruction; No Repair or Replacement. If the entire Condominium is not repaired or replaced:

7.3.1. The insurance proceeds attributable to the damaged Common Elements shall be used to restore the damaged area to a condition compatible with the remainder of the Condominium as determined by the Executive Board or Architect;

7.3.2. The insurance proceeds attributable to Units and Limited Common Elements which are not rebuilt shall be distributed to the Owners and Mortgagees of those Units, as their insurable interests may appear, and the Owners and Mortgagees of the Units to which those Limited Common Elements were assigned or allocated, as their insurable interests may appear; and

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7.3.3. The remainder of the proceeds shall be distributed to all the Unit Owners and Mortgagees, as their insurable interests may appear, in proportion to their respective Common Element Interests or the Common Element Interests subject to their respective Mortgages.

7.3.4. If the Unit Owners and their Mortgagees vote not to rebuild any Unit, that Unit's entire Allocated Interest shall be automatically reallocated upon said vote as if the Unit had been condemned, and the Association shall prepare, execute and record an amendment to this Declaration reflecting the reallocations. Notwithstanding any provision of this Article VII to the contrary, Section 1602-118 of the Act governs the distribution of insurance proceeds if the Condominium is terminated.

7.4. Mortgagee Priority. No provision of the Condominium Documents shall be deemed or construed to give a Unit Owner, or any other person, priority over the rights of any Eligible Mortgage Holder pursuant to its Mortgage in the case of a distribution to Unit Owners of insurance proceeds or condemnation awards for losses to or a taking of Units, Common Elements, or both.

ARTICLE VIII
Records of Information

8.1. Title. Every Unit Owner shall promptly cause to be duly recorded the deed, lease, assignment, or other conveyance to him of his Unit or other evidence of his title thereto and file such evidence of his title with the Executive Board through the Secretary or Manager. The Secretary shall maintain such information in the record of ownership of the Association.

8.2. Availability of Information. The Association shall make available at the Condominium to Unit Owners, lenders and the holders, insurers and guarantors of the first Mortgage on any Unit, for inspection at the Property, current copies of the Declaration, these By-laws and the rules and regulations governing the Property and other books, records and financial statements of the Association. The Association shall also make available to Eligible Mortgage Holders, Eligible Insurers, Unit Owners and prospective purchasers at the cost of the person requesting the same current copies of the Declaration, these By-Laws and the rules and regulations governing the Property.

ARTICLE IX
Amendments

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DECLARATION OF CONDOMINIUM
MILL RUN CONDOMINIUM
CUMBERLAND, MAINE
EXHIBIT C
CONDOMINIUM BYLAWS

9.1 General Requirements; Consent of Declarant or Holders of Mortgages; Curative Amendments to Bylaws. Except as otherwise provided in any one or more of these Bylaws, the Declaration or the Act, these Bylaws may be amended by the approval of a majority of the aggregate votes in the Association, cast by Unit owners in person or by proxy at a duly convened meeting at which a quorum is present; provided, however that no amendment seeking (i) to abandon, partition, subdivide, encumber, sell or transfer any portion of the Common Elements, or (ii) to abandon or terminate the condominium form of ownership of the Property, except as otherwise provided in the Declaration, shall be effective without the prior written approval of all eligible mortgage holders. Notwithstanding the foregoing, amendments of a material nature must be approved by Unit owners entitled to cast at least seventy-five percent (75%) of the aggregate votes in the Association and by eligible mortgage holders representing at least seventy-five percent (75%) of the votes of Units subject to mortgages held by eligible mortgage holders. A change to any of the following would be considered material:

(a) voting rights;
(b) assessments, assessment liens, or subordination of assessment liens;
(c) reserves for maintenance, repair and replacement of Common Elements;
(d) responsibility for maintenance and repairs;
(e) reallocation of interests in the Common or Limited Common Elements, or rights to their use;
(f) boundaries of any Unit;
(g) convertibility of Units into Common Elements or vice versa;
(h) expansion or contraction of the Condominium; or the addition, annexation or withdrawal of property to or from the Condominium;
(i) insurance or fidelity bonds;
(j) leasing of Units;
(k) restriction of a Unit owner's right to sell or transfer the owner's Unit;
(l) restoration or repair of the Condominium (after a hazard damage or partial condemnation) in a manner other than that specified in the condominium documents;
(m) any action to terminate the legal status of the Condominium after substantial destruction or condemnation occurs; or
(n) any provisions that expressly benefit mortgage holders, insurers, or guarantors.

9.1.2 Additionally, if any amendment is of a non-material nature, or in the judgment of the

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Executive Board, is necessary to cure any ambiguity or to correct or supplement any provision of these Bylaws that is defective, missing or inconsistent with any other provision herein, or with the Act or the Declaration, the approval of an eligible mortgage holder may be assumed when such a mortgage holder fails to submit a written response to any written proposal for an amendment within thirty (30) days after the proposal is made, and the Executive Board, acting through the President, may effect an appropriate amendment without the approval of the Unit owners.

9.2. Amendments to the Declaration. The Declaration may be amended pursuant to the provisions of the Act and the Declaration. The President is empowered to prepare and execute any amendments to the Declaration on behalf of the Association and the Clerk is empowered to attest, seal with the Association's corporate seal and record any such amendments on behalf of the Association.

ARTICLE X
Corporate Seal

10.1. Seal. The Association may have a seal in circular form having within its circumference the words:

Mill Run Condominium
2017
MAINE

ARTICLE XI
Notices

11.1. To Unit Owners. All notices, demands, bills, statements or other communications affecting the Condominium shall be given to Unit Owners by the Association in writing and shall be deemed to have been duly given if delivered personally securing a receipt therefor, or sent by United States mail, postage prepaid, or if such notifications are of a default or lien, sent by registered or certified United States mail, return receipt requested, postage prepaid, addressed to the Unit Owner at the address which the Unit Owner shall designate in writing and file with the Secretary of the Association, or if no such address is so designated, the address of the Unit of which such Unit Owner is the record owner thereof.

11.2. To the Association. All notices, demands, statements or other communications

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affecting the Condominium given by the Unit Owner to the Association shall be in writing and shall be deemed to have been duly given to the Association if delivered personally securing a receipt therefor, or sent by United States mail, postage prepaid, return receipt requested, addressed to the Association at the principal office of the managing agent, or if there shall be no managing agent, then to the Secretary of the Association at the address of the Unit of which the Secretary is the record Unit Owner thereof.

11.3. To Eligible Mortgage Holder, etc. All notices demands, statements or other communications affecting the Condominium given by the Association to any Eligible Mortgage Holder and Eligible Insurer shall be in writing and shall be deemed to have been duly given by the Association if delivered personally securing a receipt therefor, or sent by United States mail, postage prepaid, addressed to the Eligible Mortgage Holder at the address identified pursuant to Paragraph 18(a) of the Declaration and to the Eligible Insurer at the address provided.

ARTICLE XII
Miscellaneous

12.1. Remedies Cumulative. All rights, remedies and privileges granted to the Executive Board or a Unit Owner pursuant to any terms, provisions, covenants or conditions of the Condominium Documents shall be deemed to be cumulative, and the exercise of any one or more shall not be deemed to constitute an election of remedies nor shall it preclude the party thus exercising the same from exercising such other and additional rights, remedies, or privileges as may be granted to such party hereunder or by any instruments or documents incorporated herein by reference or at law or in equity.

12.2. Captions. The headings in these By-Laws are for purposes of reference only and shall not limit or otherwise affect the meaning hereof. Any tables of contents or indices attached to these By-Laws are for purposes of reference and convenience only and shall neither limit nor otherwise affect the meaning hereof nor be deemed as part of these By-Laws. References in these By-Laws to Articles, Paragraphs, Subparagraphs and Schedules without references to the document in which they are contained are references to these By-Laws. Schedules are attached to and are an integral part of these By-Laws. Any Exhibits are attached to these By-Laws for purposes of identification only and shall not be deemed as part of these By-Laws.

12.3. Gender, Number, Etc. The use of the singular number in these By-Laws shall be deemed to include the plural, the plural the singular, and the use of any one gender shall be deemed

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applicable to all genders.

12. 4. Severability. The invalidity of any provisions of these By-Laws shall not be deemed to impair or affect in any manner the validity, enforceability or effect of the remainder o these By-Laws, and in such event, all of the other provisions of these By-Laws shall continue in full force and effect as if such invalid provisions had never been included herein.

THE END

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DECLARATION OF CONDOMINIUM
MILL RUN CONDOMINIUM
CUMBERLAND, MAINE
EXHIBIT D
MAINTENANCE OF STORMWATER FACILITIES

The stormwater facilities will be maintained by the Applicant, Green SIP Construction, Inc. or their assigned heirs. The contract documents will require the contractor to designate a person responsible for maintenance of the sedimentation control features during construction as required by the Erosion Control Report. Long-term operation/maintenance recommended for the stormwater facilities is presented below.

The responsible party may contract with such professionals, as may be necessary in order to comply with this provision and may rely on the advice of such professionals in carrying out its duty hereunder, provided, that the following operation and maintenance procedures are hereby established as a minimum for compliance with this section. A maintenance log of the inspections shall be kept by the responsible party.

Inspection and Maintenance Frequency and Corrective Measures:
The following areas, facilities, and measures will be inspected and the identified deficiencies will be corrected. Clean-out must include the removal and legal disposal of any accumulated sediments and debris.

Catch Basins:
Inspect catch basins 2 times per year (preferably in Spring and Fall) to observe that the catch basins are working in their intended fashion and that they are free of debris. Clean structures when sediment depths reach 12" from invert of outlet. If the basin outlet is designed with a hood to trap floatable materials (i.e. Snout), check to ensure watertight seal is working. At a minimum, remove floating debris and hydrocarbons at the time of the inspection.

Culverts:
Inspect culverts 2 times per year (preferably in Spring and Fall) to observe that the culverts are working in their intended fashion and that they are free of debris. Remove any obstructions to flow; remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit and repair any erosion damage at the culvert's inlet and outlet.

Vegetated Areas:
Inspect slopes and embankments early in the growing season 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. The facilities will be inspected after major storms and any identified deficiencies will be corrected.

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DECLARATION OF CONDOMINIUM
MILL RUN CONDOMINIUM
CUMBERLAND, MAINE

EXHIBIT D

MAINTENANCE OF STORMWATER FACILITIES

Roadways and Parking Surfaces: 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. Repair potholes and other roadway obstructions and hazards. Plowing and sanding of paved areas shall be performed as necessary to maintain vehicular traffic safety.

Inlet/Outlet Control Structures:
Inspect structures and piping 2 times per year (preferably in Spring and Fall) to ensure that the structures are working in their intended fashion and that they are free of debris. Remove any obstructions to flow; remove accumulated sediments and debris within the structure.

Stormdrain Outlets:
Inspect outlets 2 times per year (preferably in Spring and Fall) to ensure that the outlets are working in their intended fashion and that they are free of debris. Remove any obstructions to flow; remove accumulated sediments and debris at the outlet and within the conduit Repair any erosion damage at the stormdrain outlet.

Soil Filter – Grassed Underdrained Soil Filter:
Inspect all upstream pre-treatment measures 2 times per year (preferably in Spring and Fall) for sediment and floatables accumulation. Remove and dispose of any sediments or debris.

Surface (Underdrain Pond, Swale or Bio-Filter):
The soil filters shall be inspected within the first three months after construction; thereafter the filters shall be inspected 2 times per year (preferably in Spring and Fall) to ensure that the filter is draining within 24 to 48 hours of a rain event equivalent to 1" or more. Adjustments shall be made to the outlet valve, by opening or closing valve, to ensure that the grassed underdrain soil filter drains within 24 to 48 hours. Failure to drain in 72 hours will require part or all of the soil filter media to be removed and replaced with new material meeting the soil filter gradation. The facilities shall be inspected after major storms and any identified deficiencies shall be corrected. Harvesting and weeding of excessive growth shall be performed as needed. Inspect for unwanted or invasive plants and remove as necessary.

Ditches, Swales and other Open Stormwater Channels:
Inspect 2 times per year (preferably in Spring and Fall) to ensure they are working in their intended fashion and that they are free of sediment and debris. Remove any obstructions to flow, including accumulated sediments and debris and vegetated growth. Repair any erosion of the ditch lining. Vegetated ditches will be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity. Any woody

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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 on areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones have dislodged. Correct any erosion of the channel bottom or sideslopes. The facilities shall be inspected after major storms and any identified deficiencies shall be corrected.

Recertification

As part of the Stormwater Permit, the applicant is required to meet the standards in Appendix B of the Chapter 500 Rules. Appendix B states that a project must submit a certification of the following to the department within three months of the expiration of each five-year interval from the date of issuance of the permit.

i. Identification and repair of erosion problems. All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas.
ii. Inspection and repair of stormwater control system. All aspects of the stormwater control system have been inspected for damage, wear, and malfunction, and appropriate steps have been taken to repair or replace the system, or portions of the system.
iii. Maintenance. The erosion and stormwater maintenance plan for the site is being implemented as written, or modifications to the plan have been submitted to and approved by the department, and the maintenance log is being maintained.

Housekeeping

The following procedures are hereby established as a minimum for compliance with this section. For further information on the procedures listed below, refer to MDEP Chapter 500 rules – Appendix C.

Spill Prevention:
Appropriate spill prevention, containment, and response planning/implementation shall be used to prevent pollutants from being discharged from materials on site.

Groundwater Protection:
During construction, hazardous materials with the potential to contaminate groundwater shall not be stored or handled in areas of the site which drain to an infiltration area.

Fugitive Sediment and Dust:

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DECLARATION OF CONDOMINIUM
MILL RUN CONDOMINIUM
CUMBERLAND, MAINE

EXHIBIT D

MAINTENANCE OF STORMWATER FACILITIES

Appropriate measures shall be taken to ensure that activities do not result in noticeable erosion of the soils and water and/or calcium chloride shall be used to ensure that activities do not result in fugitive dust emissions during or after construction.

Debris and Other Materials:

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

Trench or Foundation De-watering:

Water collected through the process of trenching and/or de-watering must be removed from the ponded area, and must be spread through natural wooded buffers or other areas that are specifically designed to collect the maximum amount of sediment possible.

Non-stormwater Discharges:

Identify and prevent contamination by non-stormwater discharges.

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DECLARATION OF CONDOMINIUM
MILL RUN CONDOMINIUM
CUMBERLAND, MAINE
EXHIBIT D
MAINTENANCE OF STORMWATER FACILITIES

STORMWATER POLLUTION PREVENTION PLAN

INSPECTION REPORT

PROJECT INFORMATION

Project Name: West Cumberland Multiplex Units

Address: Route 100
Cumberland, Maine

CONTRACTOR/SUBCONTRACTOR INFORMATION

Inspector Name: _____

Firm: _____

Title: _____

Qualifications: _____

INSPECTION SUMMARY

Date of Inspection: _____

Major Observations: _____

_____

_____

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THE FACILITY IS IN COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN WITH THE FOLLOWING EXCEPTIONS:

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MILL RUN CONDOMINIUM
CUMBERLAND, MAINE
EXHIBIT D
MAINTENANCE OF STORMWATER FACILITIES

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ACTIONS NECESSARY TO BRING FACILITY INTO COMPLIANCE:

_____

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REQUIRED MODIFICATIONS TO STORMWATER POLLUTION PREVENTION PLAN (MUST BE IMPLEMENTED WITHIN 7 DAYS OF INSPECTION):

_____

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CERTIFICATION STATEMENT:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the systems, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

_____
Signature

_____
Typed Name

_____
Title

_____
Date

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STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

PAUL MERCER
COMMISSIONER

June 2017

Green SIP Construction, LLC
110 Marginal Way, Suite 110
Portland, ME 04101

RE: Stormwater Management Law Application, Cumberland, DEP #L-26821-NJ-B-A

Dear Mr. Schmidt:

Please find enclosed a signed copy of your Department of Environmental Protection land use permit. You will note that the permit includes a description of your project, findings of fact that relate to the approval criteria the Department used in evaluating your project, and conditions that are based on those findings and the particulars of your project. Please take several moments to read your permit carefully, paying particular attention to the conditions of the approval. The Department reviews every application thoroughly and strives to formulate reasonable conditions of approval within the context of the Department's environmental laws. You will also find attached some materials that describe the Department's appeal procedures for your information.

If you have any questions about the permit, please contact me directly. I can be reached at (207) 287-6115 or at erle.townsend@maine.gov

Sincerely,

Erle Townsend, Project Manager
Department of Environmental Protection

pc: File

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769
(207) 764-0477 FAX: (207) 760-3143

web site: www.maine.gov/dep

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Doc#: 30053 Bk:34115 Ps: 117

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

IN THE MATTER OF

GREEN SIP CONSTRUCTION, LLC	) STORMWATER MANAGEMENT LAW
Cumberland, Cumberland County	)
WEST CUMBERLAND MULTIPLEX UNITS	) AMENDMENT
L-26821-NJ-B-A (Approval)	) FINDINGS OF FACT AND ORDER

Pursuant to the provisions of 38 M.R.S.A. § 420-D, and Chapter 500 of the Department's Regulations (06-096 CMR 500–502, effective August 12, 2015), the Department of Environmental Protection has considered the application of GREEN SIP CONSTRUCTIOIN, LLC with the supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROJECT DESCRIPTION:

A. History of Project: In Department Order #L-26821-NI-A-N, the Department approved redevelopment of 2.1 acres on a 9.6 acre parcel for a manufacturing facility and associated parking, 1.9 acres of which were to be impervious area. The proposal included a stormwater management plan consisting of a stone berm level lip spreader and a meadow buffer.

B. Summary: The applicant proposes to construct five four-unit multiplex residential structures and associated paved parking and roadway areas known as the West Cumberland Multiplex Units. The proposed project will result in 2.87 acres of new impervious area and 3 acres of developed area. The proposed stormwater management system will consist of a three-cell, grassed underdrained soil filter for treatment of the entire site, including the runoff from the previously approved redevelopment described above. This project will result in 8.7 acres of cumulative developed area and 2.87 acres of cumulative impervious area for this site. The project is indicated on a set of plans the first of which is entitled "Updated Master/Subdivision Plan," prepared by Gorrill Palmer and dated February 28, 2017. The project site is located off Gray Road in the Town of Cumberland.

C. Current Use of the Site: The site of the proposed project is currently developed with a general store, a residence, parking areas, gravel roads, and mowed field area.

2. STORMWATER STANDARDS:

The proposed project includes approximately 3 acres of developed area, of which 2.87 acres is impervious area. It lies within the watershed of the Piscataqua River. The applicant submitted a stormwater management plan based on the Basic and General Standards contained in Department Rules, Chapter 500. The proposed stormwater

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management system consists of three grassed underdrained soil filters with incorporated flood storage, and drainage collection structures.

A. Basic Standards:

(1) Erosion and Sedimentation Control: The applicant submitted an Erosion and Sedimentation Control Plan that is based on the performance standards contained in Appendix A of Chapter 500 and the Best Management Practices outlined in the Maine Erosion and Sediment Control BMPs, which were developed by the Department. This plan and plan sheets containing erosion control details were reviewed by the Bureau of Land Resources (BLR).

Erosion control details will be included on the final construction plans and the erosion control narrative will be included in the project specifications to be provided to the construction contractor.

(2) Inspection and Maintenance: The applicant submitted a maintenance plan that addresses both short- and long-term maintenance requirements. The maintenance plan is based on the standards contained in Appendix B of Chapter 500. The applicant will be responsible for the maintenance of the stormwater management system until such time as the Applicant is replaced by the Condominium Association as the responsible party in accordance with Section 16(a) of the Declaration of Condominium described below.

The applicant submitted a draft Declaration of Condominium, which includes the maintenance plan and describes how the stormwater management system will maintained pursuant to 38 M.R.S.A. § 420-D. BLR staff reviewed and commented on the plan, and the applicant revised it to address those comments. Prior to the start of construction, the applicant must provide an executed five-year inspection and maintenance contract for the maintenance of the stormwater structures to the BLR for review.

Storm sewer grit and sediment materials removed from stormwater control structures during maintenance activities must be disposed of in compliance with the Maine Solid Waste Management Rules.

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

Based on BLR's review of the erosion and sedimentation control plan and the maintenance plan, the Department finds that the proposed project meets the Basic Standards contained in Chapter 500(4)(B), provided the applicant submits an inspection and maintenance contract as described above.

B. General Standards:

The applicant's stormwater management plan includes general treatment measures that will mitigate for the increased frequency and duration of channel erosive flows due to

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runoff from smaller storms, provide for effective treatment of pollutants in stormwater, and mitigate potential temperature impacts. This mitigation is being achieved by using Best Management Practices that will control runoff from no less than 95% of the impervious area and no less than 80% of the developed area.

The stormwater management system proposed by the applicant was reviewed by BLR. After a final review, BLR commented that the proposed stormwater management system is designed in accordance with the Chapter 500 General Standards.

Based on the stormwater system's design and BLR's review, the Department finds that the applicant has made adequate provision to ensure that the proposed project will meet the Chapter 500 General Standards.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S. § 420-D, and Chapters 500, 501 and 502 of the Department's Regulations:

A. The applicant has made adequate provision to ensure that the proposed project will meet the Chapter 500 Basic Standards for: (1) erosion and sediment control; (2) inspection and maintenance; (3) housekeeping; and (4) grading and construction activity.

B. The applicant has made adequate provision to ensure that the proposed project will meet the Chapter 500 General Standards.

THEREFORE, the Department APPROVES the above noted application of GREEN SIP CONSTRUCTION, LLC to construct a stormwater management system as described above in Cumberland, Maine, SUBJECT TO THE FOLLOWING CONDITIONS, and all applicable standards and regulations:

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

2. In addition to any specific erosion control measures described in this order, the applicant shall take all necessary actions to ensure that its activities or those of its agents do not result in noticeable erosion of soils or fugitive dust emissions on the site during the construction and operation of the project covered by this approval.

3. Prior to the start of construction, the applicant must provide an executed five-year inspection and maintenance contract for the maintenance of the stormwater structures to the BLR for review.

4. Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This

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License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

5. Storm sewer grit and sediment materials removed from stormwater control structures shall be disposed of in compliance with the Maine Solid Waste Management Rules.

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

DONE AND DATED IN AUGUSTA, MAINE, THIS 22nd DAY OF JUNE, 2017.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
For: Paul Mercer, Commissioner

Filed
JUN 22 2017
State of Maine
Board of Environmental Protection

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES.

ET/L26821BA/ATS#81646

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STORMWATER STANDARD CONDITIONS

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

Standard conditions of approval. Unless otherwise specifically stated in the approval, a department approval is subject to the following standard conditions pursuant to Chapter 500 Stormwater Management Law.

(1) Approval of variations from plans. The granting of this approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from these plans, proposals, and supporting documents must be reviewed and approved by the department prior to implementation. Any variation undertaken without approval of the department is in violation of 38 M.R.S.A. §420-D(8) and is subject to penalties under 38 M.R.S.A. §349.

(2) Compliance with all terms and conditions of approval. The applicant shall submit all reports and information requested by the department demonstrating that the applicant has complied or will comply with all terms and conditions of this approval. All preconstruction terms and conditions must be met before construction begins.

(3) Advertising. Advertising relating to matters included in this application may not refer to this approval unless it notes that the approval has been granted WITH CONDITIONS, and indicates where copies of those conditions may be obtained.

(4) Transfer of project. Unless otherwise provided in this approval, the applicant may not sell, lease, assign, or otherwise transfer the project or any portion thereof without written approval by the department where the purpose or consequence of the transfer is to transfer any of the obligations of the developer as incorporated in this approval. Such approval may only be granted if the applicant or transferee demonstrates to the department that the transferee agrees to comply with conditions of this approval and the proposals and plans contained in the application and supporting documents submitted by the applicant. Approval of a transfer of the permit must be applied for no later than two weeks after any transfer of property subject to the license.

(5) Time frame for approvals. If the construction or operation of the activity is not begun within four years, this approval shall lapse and the applicant shall reapply to the department for a new approval. The applicant may not begin construction or operation of the project until a new approval is granted. A reapplication for approval may include information submitted in the initial application by reference. This approval, if construction is begun within the four-year time frame, is valid for seven years. If construction is not completed within the seven-year time frame, the applicant must reapply for, and receive, approval prior to continuing construction.

(6) Certification. Contracts must specify that "all work is to comply with the conditions of the Stormwater Permit." Work done by a contractor or subcontractor pursuant to this approval may not begin before the contractor and any subcontractors have been shown a copy of this approval with the conditions by the developer, and the owner and each contractor and subcontractor has certified, on a form provided by the department, that the approval and conditions have been received and read, and that the work will be carried out in accordance

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with the approval and conditions. Completed certification forms must be forwarded to the department.

(7) Maintenance. The components of the stormwater management system must be adequately maintained to ensure that the system operates as designed, and as approved by the department.

(8) Recertification requirement. Within three months of the expiration of each five-year interval from the date of issuance of the permit, the permittee shall certify the following to the department.

(a) All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas.

(b) All aspects of the stormwater control system have been inspected for damage, wear, and malfunction, and appropriate steps have been taken to repair or replace the facilities.

(c) The erosion and stormwater maintenance plan for the site is being implemented as written, or modifications to the plan have been submitted to and approved by the department, and the maintenance log is being maintained.

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

November 16, 2005 (revised December 27, 2011)

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DEP INFORMATION SHEET

Appealing a Department Licensing Decision

Dated: March 2012 **Contact: (207) 287-2811**

SUMMARY

There are two methods available to an aggrieved person seeking to appeal a licensing decision made by the Department of Environmental Protection's ("DEP") Commissioner: (1) in an administrative process before the Board of Environmental Protection ("Board"); or (2) in a judicial process before Maine's Superior Court. An aggrieved person seeking review of a licensing decision over which the Board had original jurisdiction may seek judicial review in Maine's Superior Court.

A judicial appeal of final action by the Commissioner or the Board regarding an application for an expedited wind energy development (35-A M.R.S.A. § 3451(4)) or a general permit for an offshore wind energy demonstration project (38 M.R.S.A. § 480-HH(1)) or a general permit for a tidal energy demonstration project (38 M.R.S.A. § 636-A) must be taken to the Supreme Judicial Court sitting as the Law Court.

This INFORMATION SHEET, in conjunction with a review of the statutory and regulatory provisions referred to herein, can help a person to understand his or her rights and obligations in filing an administrative or judicial appeal.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

The laws concerning the DEP's *Organization and Powers*, 38 M.R.S.A. §§ 341-D(4) & 346, the *Maine Administrative Procedure Act*, 5 M.R.S.A. § 11001, and the DEP's *Rules Concerning the Processing of Applications and Other Administrative Matters* ("Chapter 2"), 06-096 CMR 2 (April 1, 2003).

HOW LONG YOU HAVE TO SUBMIT AN APPEAL TO THE BOARD

The Board must receive a written appeal within 30 days of the date on which the Commissioner's decision was filed with the Board. Appeals filed after 30 calendar days of the date on which the Commissioner's decision was filed with the Board will be rejected.

HOW TO SUBMIT AN APPEAL TO THE BOARD

Signed original appeal documents must be sent to: Chair, Board of Environmental Protection, c/o Department of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017; faxes are acceptable for purposes of meeting the deadline when followed by the Board's receipt of mailed original documents within five (5) working days. Receipt on a particular day must be by 5:00 PM at DEP's offices in Augusta; materials received after 5:00 PM are not considered received until the following day. The person appealing a licensing decision must also send the DEP's Commissioner a copy of the appeal documents and if the person appealing is not the applicant in the license proceeding at issue the applicant must also be sent a copy of the appeal documents. All of the information listed in the next section must be submitted at the time the appeal is filed. Only the extraordinary circumstances described at the end of that section will justify evidence not in the DEP's record at the time of decision being added to the record for consideration by the Board as part of an appeal.

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What your Appeal Paperwork Must Contain

Appeal materials must contain the following information at the time submitted:

1. *Aggrieved Status.* The appeal must explain how the person filing the appeal has standing to maintain an appeal. This requires an explanation of how the person filing the appeal may suffer a particularized injury as a result of the Commissioner's decision.
2. *The findings, conclusions or conditions objected to or believed to be in error.* Specific references and facts regarding the appellant's issues with the decision must be provided in the notice of appeal.
3. *The basis of the objections or challenge.* If possible, specific regulations, statutes or other facts should be referenced. This may include citing omissions of relevant requirements, and errors believed to have been made in interpretations, conclusions, and relevant requirements.
4. *The remedy sought.* This can range from reversal of the Commissioner's decision on the license or permit to changes in specific permit conditions.
5. *All the matters to be contested.* The Board will limit its consideration to those arguments specifically raised in the written notice of appeal.
6. *Request for hearing.* The Board will hear presentations on appeals at its regularly scheduled meetings, unless a public hearing on the appeal is requested and granted. A request for public hearing on an appeal must be filed as part of the notice of appeal.
7. *New or additional evidence to be offered.* The Board may allow new or additional evidence, referred to as supplemental evidence, to be considered by the Board in an appeal only when the evidence is relevant and material and that the person seeking to add information to the record can show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process or that the evidence itself is newly discovered and could not have been presented earlier in the process. Specific requirements for additional evidence are found in Chapter 2.

Other Considerations in Appealing a Decision to the Board

1. *Be familiar with all relevant material in the DEP record.* A license application file is public information, subject to any applicable statutory exceptions, made easily accessible by DEP. Upon request, the DEP will make the material available during normal working hours, provide space to review the file, and provide opportunity for photocopying materials. There is a charge for copies or copying services.
2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing your appeal.* DEP staff will provide this information on request and answer questions regarding applicable requirements.
3. *The filing of an appeal does not operate as a stay to any decision.* If a license has been granted and it has been appealed the license normally remains in effect pending the processing of the appeal. A license holder may proceed with a project pending the outcome of an appeal but the license holder runs the risk of the decision being reversed or modified as a result of the appeal.

What to Expect Once You File a Timely Appeal with the Board

The Board will formally acknowledge receipt of an appeal, including the name of the DEP project manager assigned to the specific appeal. The notice of appeal, any materials accepted by the Board Chair as supplementary evidence, and any materials submitted in response to the appeal will be sent to Board members with a recommendation from DEP staff. Persons filing appeals and interested persons are notified in advance of the date set for Board consideration of an appeal or request for public hearing. With or without holding a public hearing, the Board may affirm, amend, or reverse a Commissioner decision or remand the matter to the Commissioner for further proceedings. The Board will notify the appellant, a license holder, and interested persons of its decision.

II. JUDICIAL APPEALS

Maine law generally allows aggrieved persons to appeal final Commissioner or Board licensing decisions to Maine's Superior Court, see 38 M.R.S.A. § 346(1); 06-096 CMR 2; 5 M.R.S.A. § 11001; & M.R. Civ. P 80C. A party's appeal must be filed with the Superior Court within 30 days of receipt of notice of the Board's or the Commissioner's decision. For any other person, an appeal must be filed within 40 days of the date the decision was rendered. Failure to file a timely appeal will result in the Board's or the Commissioner's decision becoming final.

An appeal to court of a license decision regarding an expedited wind energy development, a general permit for an offshore wind energy demonstration project, or a general permit for a tidal energy demonstration project may only be taken directly to the Maine Supreme Judicial Court. See 38 M.R.S.A. § 346(4).

Maine's Administrative Procedure Act, DEP statutes governing a particular matter, and the Maine Rules of Civil Procedure must be consulted for the substantive and procedural details applicable to judicial appeals.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal process, for administrative appeals contact the Board's Executive Analyst at (207) 287-2452 or for judicial appeals contact the court clerk's office in which your appeal will be filed.

Note: The DEP provides this INFORMATION SHEET for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.

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FIRST AMENDMENT TO DECLARATION OF CONDOMINIUM
MILL RUN CONDOMINIUM
CUMBERLAND, MAINE

THIS FIRST AMENDMENT TO DECLARATION OF CONDOMINIUM, Mill Run Condominium, Cumberland, Maine, is made as of the 4th day of December, 2017, by Grun Development LLC ("Grun") and Green SIP Construction Inc. ("Green SIP").

BACKGROUND

By Declaration of Condominium, Mill Run Condominium, Cumberland, Maine, dated June 23, 2017 and recorded in the Cumberland County Registry of Deeds in Book 34115, Page 71 (the "Declaration"), Grun and/or Green SIP did submit to the provisions of the Maine Condominium Act, 33 M.R.S.A. § 1601-101 *et seq.* (the "Act"), certain land situated in Cumberland, Cumberland County, Maine, and described in Exhibit A to the Declaration (the "Condominium"), and depicted on a plat recorded in said Registry in Plan Book 217, Page 212. No units in the Condominium have been conveyed to third parties. Grun and Green SIP desire to amend the Declaration to clarify that as the owner of the real estate subject to the Condominium, Green SIP is the Declarant, to correct the legal description contained in Exhibit A to the Condominium, to add certain real estate to the Condominium, to clarify the boundaries of the Units, to refer to an amended Plat, and to make additional corrections and clarifications. The eligible mortgage holder has consented to this Amendment, as evidenced by a Limited Joinder Agreement and Amendment to Mortgage recorded contemporaneously herewith.

AMENDMENT

Pursuant to Section 1602-117 of the Act and Section 22 of the Declaration, the Declaration is hereby amended as follows:

1. The first paragraph of the Declaration is hereby deleted and replaced with the following:

This Declaration is made by GREEN SIP CONSTRUCTION INC., a Maine corporation (the "Declarant"), as the owner in fee simple of the real estate described herein.

2. Section 1 of the Declaration is hereby deleted and replaced with the following:

1. **PROPERTY:** Declarant hereby submits the real estate situated in Cumberland, Cumberland County, Maine, hereinafter described in Exhibit A attached hereto and made a part hereof, together with all easements, rights, and appurtenances thereunto belonging (the "Property") to the provisions of the Chapter 31 of Title 33 Maine Revised Statutes Annotated, as it may be amended, known as the Maine Condominium Act (the "Act")

and hereby creates a condominium to be known as MILL RUN CONDOMINIUM (the "Condominium"). The property is also shown on the following plats:
The plat entitled "Updated Master/Subdivision Plan" prepared by Gorrill Palmer, and recorded in the Cumberland County Registry of Deeds on June 8, 2017, in Plan Book 217, Page 212, as amended by an amended plat entitled "First Amended Plat, Mill Run Condominium," dated November 30, 2017, prepared by Land Design Solutions , to be recorded in the Cumberland County Registry of Deeds contemporaneously herewith (collectively, the "Plat").

3. Exhibit A to the Declaration is hereby deleted in its entirety and replaced with the Amended Exhibit A attached hereto and made a part hereof.

4. Section 2 of the Declaration is hereby amended by adding the following:

The Unit boundaries are the lot lines shown on the Plat. The vertical boundaries are formed by the vertical extension of the lot lines, and there are no horizontal boundaries.

5. Section 4 is hereby amended by deleting the last paragraph thereof.

6. Exhibit B to the Declaration is hereby deleted in its entirety and replaced with the Amended Exhibit B attached hereto and made a part hereof.

7. Except to the extent amended hereby, the terms of the Declaration are ratified and affirmed and shall remain in full force and effect. All other terms of the Declaration shall remain in full force and effect.

IN WITNESS WHEREOF, Green SIP and Grun have caused this First Amendment to Declaration of Condominium to be executed by their duly authorized agents.

GREEN SIP CONSTRUCTION INC.

By: Marlene Eaton
Marlene Eaton
Its President

GRUN DEVELOPMENT LLC

By: Marlene Eaton
Marlene Eaton
Its Managing Member

STATE OF MAINE
COUNTY OF CUMBERLAND, SS December 4, 2017

Then personally appeared the above-named Marlene Eaton, in her capacity as President of Green SIP Construction Inc. and as Managing Member of Grun Development LLC, and acknowledged the foregoing instrument to be her free act and deed in her said capacity and the free act and deed of Green SIP Construction Inc. and Grun Development LLC.

Before me,

~~Notary Public~~/Maine Attorney-at-Law
Printed Name: Julianne C. Ray

FIRST AMENDED EXHIBIT A

193 Gray Road

PARCEL ONE

A certain lot or parcel of land with the building thereon located on the Easterly side of Gray Road a.k.a Route 100 in the Town of Cumberland, County of Cumberland and State of Maine being more particularly described as follows:

> Commencing on the easterly side of the State Highway leading from Portland to Gray, at the Southwesterly corner of a thirty-five (35) acre lot or parcel of land conveyed to Bruce I. Corcoran by Lizzie M. Snow, by warranty deed dated May 26, 1939, and recorded in the Cumberland County Registry of Deeds, Book 1578, Page 371; thence in a general easterly direction, and along the northerly side line of land now or formerly of one Spinney, a distance of One Hundred (100) feet to a point, thence in a northerly direction, and parallel with said highway, a distance of One Hundred (100) feet to a point; thence in a general westerly direction, and parallel with the said Northerly side line of said Spinney land, a distance of One Hundred (100) feet to the Easterly side of said highway; thence in a Southerly direction along the easterly side of said highway, a distance of One Hundred (100) feet to the point of beginning.

PARCEL TWO:

Another certain lot or parcel of land situated in said Town of Cumberland, County of Cumberland and State of Maine, on the Easterly side of the highway leading from Portland to Gray, bounded and described as follows:

> Commencing at the point on said highway at the northerly corner of lot 1 above described; thence easterly and along said division line a distance of one hundred (100) feet; thence northerly a distance of twenty-five (25) feet; thence westerly a distance of one hundred (100) feet; thence southerly along the easterly side of said highway a distance of twenty-five (25) feet to the point of beginning.

Being the premises described in a deed from Robert Huff, Guardian of Mildred Hjort to Robert D. Allen and Decedent Cathleen Allen as joint tenants dated May 27, 1980 and recorded at the Cumberland County Registry of Deeds in Book 4623, Page 150. The said Robert D. Allen having died on September 11, 1995 and Decedent being his surviving joint tenant.

195 Gray Road

A certain lot or parcel of land, together with the buildings thereon, situated in the Town of Cumberland, County of Cumberland and State of Maine on the easterly side of the state highway leading from Portland to Gray, bounded and described as follows:

> At a point in the easterly side of said highway twenty-five (25) feet northerly of the most northwesterly corner of a parcel of land conveyed by Viola G. Corcoran to John H. Crouchen by warranty deed dated April 1, 1947 and recorded at Cumberland County Registry of Deeds in Book 1862, Page 170; thence in a northerly direction along the easterly sideline of said Gray Road a distance of one hundred seventy-five (175) feet to other land now or formerly of Viola G. Corcoran; thence in a general easterly direction a distance of two hundred (200) feet to a point; thence in a southerly direction along said Corcoran land a distance of two hundred (200) feet to a point; thence in a general westerly direction along said Corcoran land a distance of one hundred (100) feet to the most northeasterly corner of said parcel of land conveyed by Viola G. Corcoran to John H. Crouchen; thence northerly and parallel to said easterly side of the highway twenty-five (25) feet to a point; thence in a general westerly direction a distance of one hundred (100) feet to the point of beginning.

Being the premises described in a deed from Dennis R. Allen and Nancy J. Allen to Robert D. Allen and Decedent Cathleen Allen as joint tenants dated January 25, 1989 and recorded at the Cumberland County Registry of Deeds in Book 8764, Page 211. The said Robert D. Allen having died on September 11, 1995 and Decedent being his surviving joint tenant.

197 Gray Road

PARCEL ONE:

A certain lot or parcel of land with the buildings thereon located on the Easterly side of Gray Road a.k.a Route 100 in the Town of Cumberland, County of Cumberland and State of Maine being more particularly described as follows:

> Beginning at the Northwesterly corner of land now or formerly of Dennis R. Allen (18, 103/210) on the assumed Easterly side line of Gray Road;
>
> Thence N 04°40'33" E along the assumed Easterly side line of the said Gray Road 167.57 feet to a point marked with a 5/8" capped rebar (#1328) set in the ground;
>
> Thence S 85°21'28" E across land of the Grantors 460.00 feet to a point marked with a 5/8" capped rebar (#1328) set in the ground;
>
> Thence S 04°40'33" W continuing across land of the Grantors 467.84 feet to a point;

Thence N 85°19'27" W to the Northeasterly corner of and along the Northerly boundary of land now or formerly of Ronald W. Copp Sr. (17,829/265) a distance of 360.00 feet to the Southeasterly corner of land now or formerly of Dennis R. Allen (18,103/210);

Thence N 04°40'33" E along the Easterly boundary of land of the said Allen (18,572/185) a distance of 100.00 feet to a point on the Southerly boundary of other land of Dennis R. Allen (18,103/210);

Thence S 85°19'27" E along the Southerly boundary of land of the said Allen 100.00 feet to the Southerly corner of land of the said Allen;

Thence N 04°40'33" E along the Easterly boundary of land of the said Allen 200.00 feet to the Northeasterly corner of land of the said Allen;

Thence N 85°19'22" W along the Northerly boundary of land of the said Allen 200.00 feet to the point of beginning.

Containing 3.79 acres

All bearings are referenced to Magnetic North

PARCEL TWO

Another certain lot or parcel of land situated off the Easterly side of Route 100 in the Town of Cumberland, County of Cumberland and State of Maine being more particularly described as follows:

Beginning at an iron pipe found set in the ground on the Northerly side line of the Skillin Road at the Southeasterly corner of land now or formerly of Farris (8931/110);

Thence N 04°01'06" E along land of the said Farris 250.00 feet to a 5/8" capped rebar set in the ground;

Thence N 85°58'54" W continuing along land of the said Farris 108.00 feet to a 5/8" capped rebar set in the ground;

Thence S 04°01'06" W continuing along land of the said Farris 55.36 feet to an iron pipe found set in the ground at the Northeasterly corner of land now or formerly of Cox (14,946/132);

Thence N 86°51'20" W along land of the said Cox and land now or formerly of Espealgnette (15,423/109) a distance of 191.24 feet to a 5/8" capped rebar set in the ground on the Easterly side line of land now or formerly of Wetzel (9162/274);

Thence N 05°34'19" E along land of the said Wetzel 49.85 feet to a 5/8" capped rebar set in the ground;

Thence N 86°51'20" W continuing along land of said Wetzel 59.13 feet to a 5/8" capped rebar set in the ground at land now or formerly of Ronald W. Copp, Sr. (17,829/265);

Thence N 04°40'33" E along land of the said Copp 173.15 feet to land of the Grantor;

Thence S 85°19'27" E along land of the Grantor 160.00 feet to a point;

Thence N 04°40'33" E continuing along land of the Grantor 467.84 feet to the Northeasterly corner of land of Grantor;

Thence S 85°21'28" E across land of the Grantor 40.88 feet to a point;

Thence N 69°38'14" E continuing across land of the Grantor 218.23 feet to the Northwesterly corner of other land now or formerly of the Grantor;

Thence S 04°01'06" W along the said other land of the Grantor and land now or formerly of Merrill 961.35 feet to the said sideline of the Skillin Road;

Thence S 84°43'40" W along the said side line of Skillin Road 50.66 feet to the point of beginning.
Containing 4.86 acres.

All bearings are Magnetic of the year 2000.

Subject to the rights of others in and to the use of Tammy Lane, so-called, as shown as "Tammy Lane" on plan entitled "Standard Boundary Survey on Route 100 in Cumberland, Maine for Phillip Allen", prepared by Wayne T. Wood & Co. dated September 2004, and to be recorded at the Cumberland County Registry of Deeds.

FIRST AMENDED EXHIBIT B

FRACTION OF COMMON ELEMENTS

Unit	Square Feet	Percentage of Common Element Interest and Common Element Expense and Vote*
One	86,583.69	23.40%
Two	182,572.81	49.33%
Three	59,927.11	16.19%
Four	41,007.27	11.08%
Total	370,090.88	100.00%

*Determined as the percentage of square footage of each unit in relation to the total square footage of all units shown on the Plats and Plans.

Received
Recorded Register of Deeds
Dec 04,2017 03:21:44P
Cumberland County
Nancy A. Lane

Attachment 10 – Wastewater Disposal

The proposed professional office building will be served by a private subsurface wastewater disposal system as are the rest of the condominium units on the parcel. The design is based on the owner/developer's desire to make sure that the building is not limited by septic system capacity as such the septic system is sized to accommodate the following:

- Dental office with 5 dentists/hygienist, 3 office staff & 40 patients
- Spa with 10 seats
- Office space with 30 employees

An HHE 200 design and a nitrate study (Groundwater Impact Assessment) prepared by Mark Cenci Geologic is included along with a mounding and site transmission analysis study prepared by Steve Marcotte of Marcotte Environmental. The nitrate plume is shown on the C-103 Site Utilities Plan. Since the proposed system is over 2000 gallons per day an engineered system is required. Mark Cenci worked with Terradyn Consultants, LLC who prepared and sealed the septic design drawings. The following are included with this attachment:

- HHE-200 Design
- Groundwater Impact Assessment
- Mounding and Site Transmission Analysis

The Terradyn Septic Design Plans are included in the plan set.

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Dept.Health & Human Services
Div of Environmental Health , 11 SHS
(207) 287-5672 Fax: (207) 287-4172

PROPERTY LOCATION

City, Town, or Plantation: CUMBERLAND

Street or Road: 197 GRAY ROAD

Subdivision, Lot #: MULTI-USE COMMERCIAL BLDG

OWNER/APPLICANT INFORMATION

Name (last, first, MI): GREENSIP CONSTRUCTION ☒ Owner ☐ Applicant

Mailing Address of Owner/Applicant: 110 MARGINAL WAY SUITE 193, PORTLAND, ME 04101

Daytime Tel. #: 899-6263

OWNER OR APPLICANT STATEMENT

I state and acknowledge that the information submitted is correct to the best of my knowledge and understand that any falsification is reason for the Department and/or Local Plumbing Inspector to deny a Permit.

Signature of Owner or Applicant _____ Date _____

>> CAUTION: LPI APPROVAL REQUIRED <<

Town/City _____ Permit # _____

Date Permit Issued __/__/__ Fee: $_____ Double Fee Charged [ ]

Local Plumbing Inspector Signature _____ L.P.I. # _____

☐ Owner ☐ Town ☐ State

The Subsurface Wastewater Disposal System shall not be installed until a Permit is issued by the Local Plumbing Inspector. The Permit shall authorize the owner or installer to install the disposal system in accordance with this application and the Maine Subsurface Wastewater Disposal Rules.

Municipal Tax Map # _____ Lot # _____

CAUTION: INSPECTION REQUIRED

I have inspected the installation authorized above and found it to be in compliance with the Subsurface Wastewater Disposal Rules Application. _____ (1st) date approved

Local Plumbing Inspector Signature _____ (2nd) date approved

PERMIT INFORMATION

TYPE OF APPLICATION

☒ 1. First Time System
☐ 2. Replacement System
Type replaced: _____
Year installed: _____
☐ 3. Expanded System
☐ a. <25% Expansion
☐ b. >25% Expansion
☐ 4. Experimental System
☐ 5. Seasonal Conversion

THIS APPLICATION REQUIRES

☒ 1. No Rule Variance
☐ 2. First Time System Variance
☐ a. Local Plumbing Inspector Approval
☐ b. State & Local Plumbing Inspector Approval
☐ 3. Replacement System Variance
☐ a. Local Plumbing Inspector Approval
☐ b. State & Local Plumbing Inspector Approval
☐ 4. Minimum Lot Size Variance
☐ 5. Seasonal Conversion Permit

DISPOSAL SYSTEM COMPONENTS

☐ 1. Complete Non-engineered System
☐ 2. Primitive System (graywater & alt. toilet)
☐ 3. Alternative Toilet, specify: _____
☐ 4. Non-engineered Treatment Tank (only)
☐ 5. Holding Tank, _____ gallons
☐ 6. Non-engineered Disposal Field (only)
☐ 7. Separated Laundry System
☒ 8. Complete Engineered System (2000 gpd or more)
☐ 9. Engineered Treatment Tank (only)
☐ 10. Engineered Disposal Field (only)
☒ 11. Pre-treatment, specify: OXYPRO OR EQUIVALENT
☐ 12. Miscellaneous Components

SIZE OF PROPERTY

9.8 ☐ SQ. FT. ☒ ACRES

SHORELAND ZONING

☐ Yes ☒ No

DISPOSAL SYSTEM TO SERVE

☐ 1. Single Family Dwelling Unit, No. of Bedrooms: ___
☐ 2. Multiple Family Dwelling, No. of Units: ___
☒ Other: MIXED USE COMMERCIAL BUILDING (specify)
Current Use ☐ Seasonal ☐ Year Round ☒ Undeveloped

TYPE OF WATER SUPPLY

☐ 1. Drilled Well ☐ 2. Dug Well ☐ 3. Private
☒ 4. Public ☐ 5. Other

DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3)

TREATMENT TANK

☐ 1. Concrete
☐ a. Regular
☐ b. Low Profile
☐ 2. Plastic
☒ Other: OXYPRO
CAPACITY: _____ GAL.
TANKS

DISPOSAL FIELD TYPE & SIZE

☐ 1. Stone Bed ☐ 2. Stone Trench
☒ 3. Proprietary Device
☒ a. cluster array ☐ c. Linear
☐ b. regular load ☒ H-20 load
☐ 4. Other: _____
SIZE: 6144 ☒ sq. ft. ☐ in. ft.

GARBAGE DISPOSAL UNIT

☒ No ☐ 2. Yes ☐ 3. Maybe
If Yes or Maybe, specify one below:
☐ a. multi-compartment tank
☐ b. ___ tanks in series
☐ c. increase in tank capacity
☐ d. Filter on Tank Outlet

DESIGN FLOW

2236 gallons per day
BASED ON:
☐ 1. Table 4A (dwelling unit(s))
☒ 2. Table 4C(other facilities)
SHOW CALCULATIONS for other facilites
5 DENTISTS 40 PATIENTS 10 SPA CHAIRS 3-STAFF 30 EMPLOYEES
☐ 3. Section 4G (meter readings)
ATTACH WATER METER DATA

SOIL DATA & DESIGN CLASS

PROFILE 5 CONDITION B
at Observation Hole # TP-18
Depth — "
of Most Limiting Soil Factor

DISPOSAL FIELD SIZING

☒ Medium---2.6 sq. ft. / gpd
☐ 2. Medium---Large 3.3 sq. f.t / gpd
☐ 3. Large---4.1 sq. ft. / gpd
☐ 4. Extra Large---5.0 sq. ft. / gpd

EFFLUENT/EJECTOR PUMP

☒ Not Required
☐ 2. May Be Required
☐ 3. Required
Specify only for engineered systems:
DOSE: _____ gallons

LATITUDE AND LONGITUDE

at center of disposal area
Lat. 43 d 49 m 04 s 04
Lon. 70 d 18 m 45 s 45
if g.p.s, state margin of error: _____

SITE EVALUATOR STATEMENT

I certify that on 3-10-21 (date) I completed a site evaluation on this property and state that the data reported are accurate and that the proposed system is in compliance with the State of Maine Subsurface Wastewater Disposal Rules (10-144A CMR 241).

Mark Cenci — Site Evaluator Signature
262 — SE #
3-11-21 — Date
MARK CENCI — Site Evaluator Name Printed
329-3524 — Telephone Number
_____ — E-mail Address

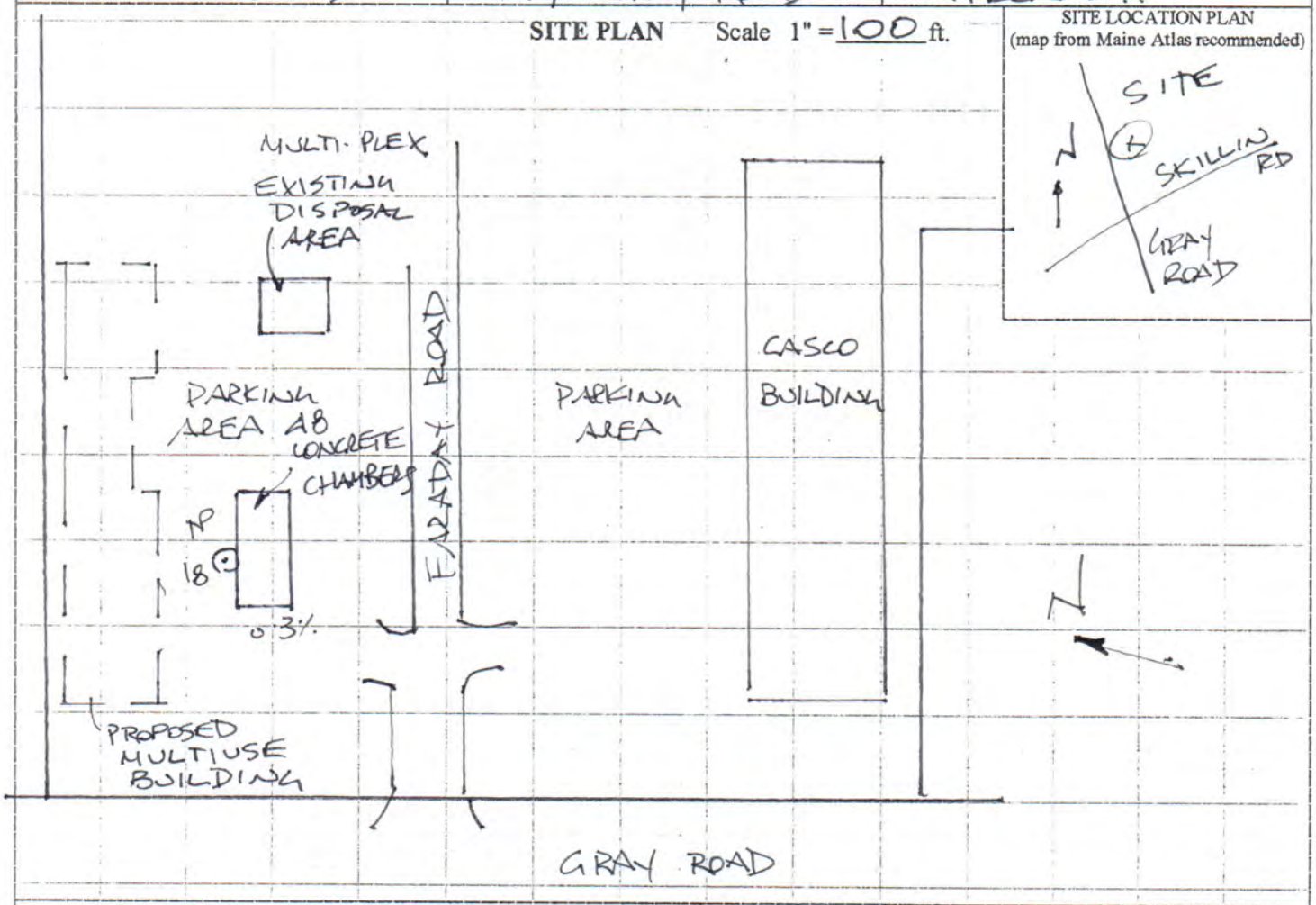
Note : Changes to or deviations from the design should be confirmed with the Site Evaluator.

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Department of Human Services
Division of Health Engineering, Station 10
(207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation	Street, Road, Subdivision	Owner or Applicant Name
CUMBERLAND	197 GRAY ROAD	GREEN SP

SITE PLAN Scale 1" = 100 ft.



SITE LOCATION PLAN
(map from Maine Atlas recommended)

SOIL PROFILE DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole # TP-18 ☐ Test Pit ☐ Boring

" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0–6	RECENT GRAVELLY CHANEY			
6–12			MIXED	
12–18	SAND FILL	LOOSE	BROWN	
18–24				
24–30	FINE TO			
30–36	MEDIUM SAND TO ~8'	LOOSE	GRAY BROWN (SUBSOIL)	NONE
36–42				
42–48				

Soil Profile	Classification Condition	Slope Percent	Limiting Factor Depth	
5	B	0-3	—	☐ Groundwater ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole # _____ ☐ Test Pit ☐ Boring

" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0–48				

Soil Profile	Classification Condition	Slope Percent	Limiting Factor Depth	
				☐ Groundwater ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Mark Osmini — Site Evaluator Signature

262 — SE #

3-11-21 — Date

Mark Cenci
Geologic, Inc.

CERTIFIED GEOLOGIST/LICENSED SITE EVALUATOR

93 Mill Road • North Yarmouth, Maine 04097
Cell: 207.329.3524 • mark@markcenci.com
www.markcenci.com

Groundwater Impact Assessment of the Proposed Mixed Use Development 197 Gray Road

Date: March 22, 2021

Purpose of the Assessment:

The purpose of this assessment is to predict the location and possible effects of a wastewater plume on ground water from the septic system planned for a mixed use, commercial building, in order to meet the requirements of the Town of Cumberland Subdivision Ordinance, the Engineered System approval process of the Di=vision of Environmental Health and the Site Location of Development (SLODA) Rules of the Maine DEP..

Article V. 250-29. of the Cumberland Subdivision Ordinance, Sewage Disposal, stipulates, in part:

No development or use of land shall result in existing groundwater quality exceeding 50% of the physical, biological, chemical and radiological levels for raw and untreated drinking water supply sources specified in the Maine drinking water regulations.

Summary:

The proposed wastewater disposal satisfies the Cumberland Subdivision Ordinance and the SLODA.

Information used:

Information used in this study includes library research of published literature, a plan of the project by Land Design Solutions, soil test pit information by Mark Cenci LG, and a grain size analysis report of a sample of subsoil by Steve Marcotte, LG.

Project summary:

The project is a proposed commercial building with mixed uses, projected to be dental offices, a health and beauty spa and office space. No residences are proposed. Wastewater disposal will be by an on-site subsurface wastewater disposal system. Water will be provided by the Portland Water District.

Summary of geology:

The site is located on a gently sloping plain, east of Forest Lake and south of Verrills Ledges (see Figure 1). The average surface slope across the property is 1%. Drainage is easterly to the Piscataqua River.

Michael J. Ratelle depicts the surficial geology of the area as a glaciomarine ice-contact deltaic deposit on the *Surficial Geology of the Cumberland Center 7.5 Minute Quadrangle, Maine* (see Figure 2). The deltaic deposit is described as "comprised primarily of sorted and stratified sand and gravel", which was deposited in the late-glacial sea.

The site is mapped as a significant surficial aquifer by Craig D. Neil on the *Significant Sand and Gravel Aquifers of the Cumberland Center Quadrangle, Maine* (see Figure 3).

Bedrock beneath the site is mapped as granite of the Sebago Batholith by Arthur M. Hussey II on the *Bedrock Geology of the Bath and Portland 2 degree map sheets, Maine*.

A test pit dug by an excavator was done to characterize the soils and take a sample of the subsoil for gradational analysis. Previously, seventeen test pits were dug on the site by a backhoe to characterize the soils and surficial geology of the site for the purposes of finding suitable septic system areas and investigating the subsurface for bedrock and stormwater control.

Bedrock was found to be very shallow in the westerly portion of the property. Bedrock is exposed off the property along Skillin Road. The bedrock surface dips steeply to the north and west.

Subsurface materials were found to be sandy, ranging from fine to gravelly coarse sand in texture. Bedrock is not shallow. No deposits of clay or glacial till were found. No hydric soils or wetlands were found on the site.

The Grain Size Analysis Report of Marcotte reveals a moderately well sorted medium sand, with coarse sand and gravel fractions in excess of fine sand. Marcotte estimates the hydraulic conductivity of the sample to be in the range of 100 to 150 feet/day. To be more conservative with the assumption of finer textures at depth, Marcotte and Cenci estimate the K value to be 40 feet/day.

Hydrogeology:

The source of groundwater on this site is precipitation. Precipitation falling on this site seeps into the soil and descends until restrictive soil layers or the water table is encountered. Thereupon, the flow of groundwater is down gradient toward the Piscataqua River. Where groundwater encounters open fractures on the bedrock surface, a portion of the water will seep downward into the bedrock to recharge the bedrock aquifer.

On this site the soils are fine to coarse sands. Slopes are gentle. Recharge is above average over the entire property. It is reasonable to assume that more than 40% of all precipitation recharges the groundwater.

The groundwater flow directions on this property can be discerned from topography and the known presence of shallow bedrock near Skillin Road. The local watershed boundaries were estimated by Neil and are depicted on Figure 3. The boundary follows Skillin Road and is seen to cross the knoll outside the aquifer boundary, which is a bedrock outcrop. It is clear from topography and the presence of the Piscataqua River that local groundwater flow is in a northeasterly direction. Groundwater is constrained by shallow bedrock in the south of the watershed and discharges to the river. An estimated groundwater flow direction was drawn on Figure 3 that is perpendicular to topographic contours and the river.

The estimated hydraulic conductivity of the soil is estimated to be 40 feet per day, based on soil test pit and published geologic information. The enclosed The hydraulic gradient is assumed to be 0.005, based on the surface slopes. The background concentration of nitrate-nitrogen in groundwater is assumed to be minimal, as this is an undeveloped site.

Impact on groundwater quality:

Nitrate-nitrogen is the chemical to assess for impact on groundwater. Nitrate-nitrogen is generated by subsurface wastewater disposal systems. It is a conservative contaminant, meaning it does not readily degrade in groundwater, nor does it attenuate or attach itself to soil particles. Nitrate-nitrogen is limited to 10 mg/liter in public drinking water supplies by the Primary Drinking Water Standard. A limit of 50% of this is the standard set by local ordinance. The accepted practice for the analysis of impacts on groundwater quality is to estimate the concentration of NO3-N in groundwater at the downgradient property line of the project.

The analysis of nitrate-nitrogen impacts was calculated by SOLUTRANS, a 32-bit Windows program for modeling three-dimensional solute transport written by Dr. Charles R. Fitts of Fitts Geosolutions and the University of Southern Maine. The program is based on the analytical solutions of Liej *et. al.* (1991 and 1993). The solutions in SOLUTRANS all assume a uniform one-dimensional flow field, and allow three-dimensional dispersion, retardation and first-order decay.

Variables entered into the calculations that are site specific include an estimated seepage velocity of 0.67 feet per day, and a hydraulic gradient of 0.005%. Other assumed variables include a porosity of 33%, an initial wastewater concentration of 30 mg/liter NO3-N, retardation of 1, a decay constant of zero and longitudinal, lateral and vertical dispersivities of 10 feet, 3.3 feet and 0.3 feet respectively, based on the sorted nature of the sands.

To meet the exacting standard of the local ordinance, aerating pre-treatment of the wastewater must be added to the septic system. The aerating pre-treatment must include the recirculation of portions of aerated wastewater back to the anaerobic conditions in the septic tanks to obtain the effects of denitrification in the presence of carbon. Such systems routinely reduce Total TKN by 30%. The disposal area will be located beneath the paved parking using concrete chambers.

Calculations were made and reveal the 5 mg/liter NO3-N plume will be approximately 200 feet in length. A plot of the concentration versus distance curve is enclosed. Using the inferred groundwater flow direction, the calculated 5 mg/liter NO3-N isocon lines were drawn on the plan of the project by Mark Cenci Geologic, Inc. and forwarded to Land Design Solutions.

Conclusions:

The proposed development of the mixed-use commercial building meets the standards of the Town of Cumberland Subdivision Ordinance and the SLODA, with regard to groundwater quality, when aerating, re-circulating pre-treatment is added to the wastewater disposal system. The placement of the disposal area beneath the parking, as shown, will provide for subsequent dilution and dispersion of the treated wastewater.

Mark Cenci, Licensed Maine Geologist #467

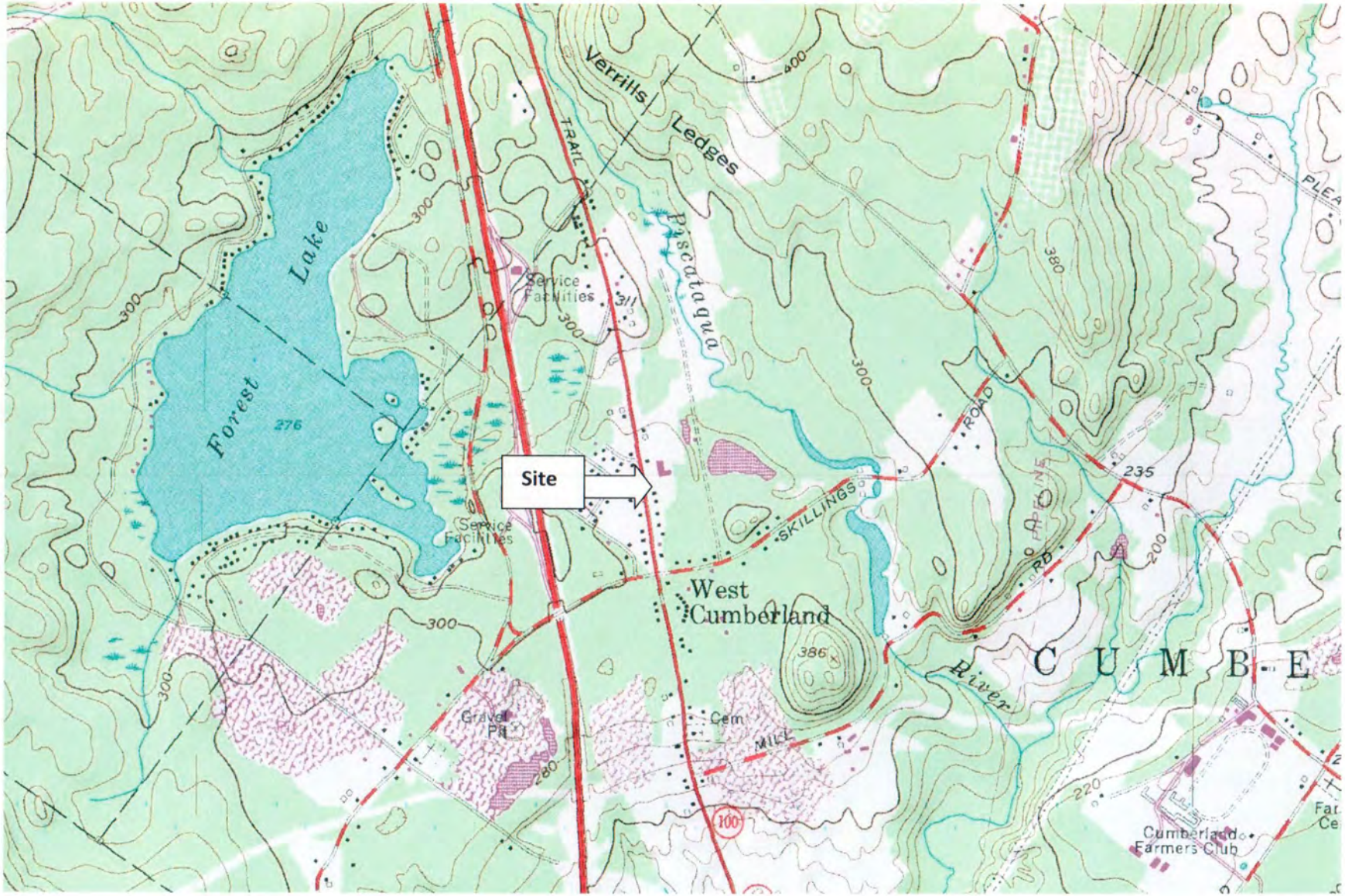


Figure 1.

Topographic Locus Map of the Area of 197 Gray Road, Cumberland

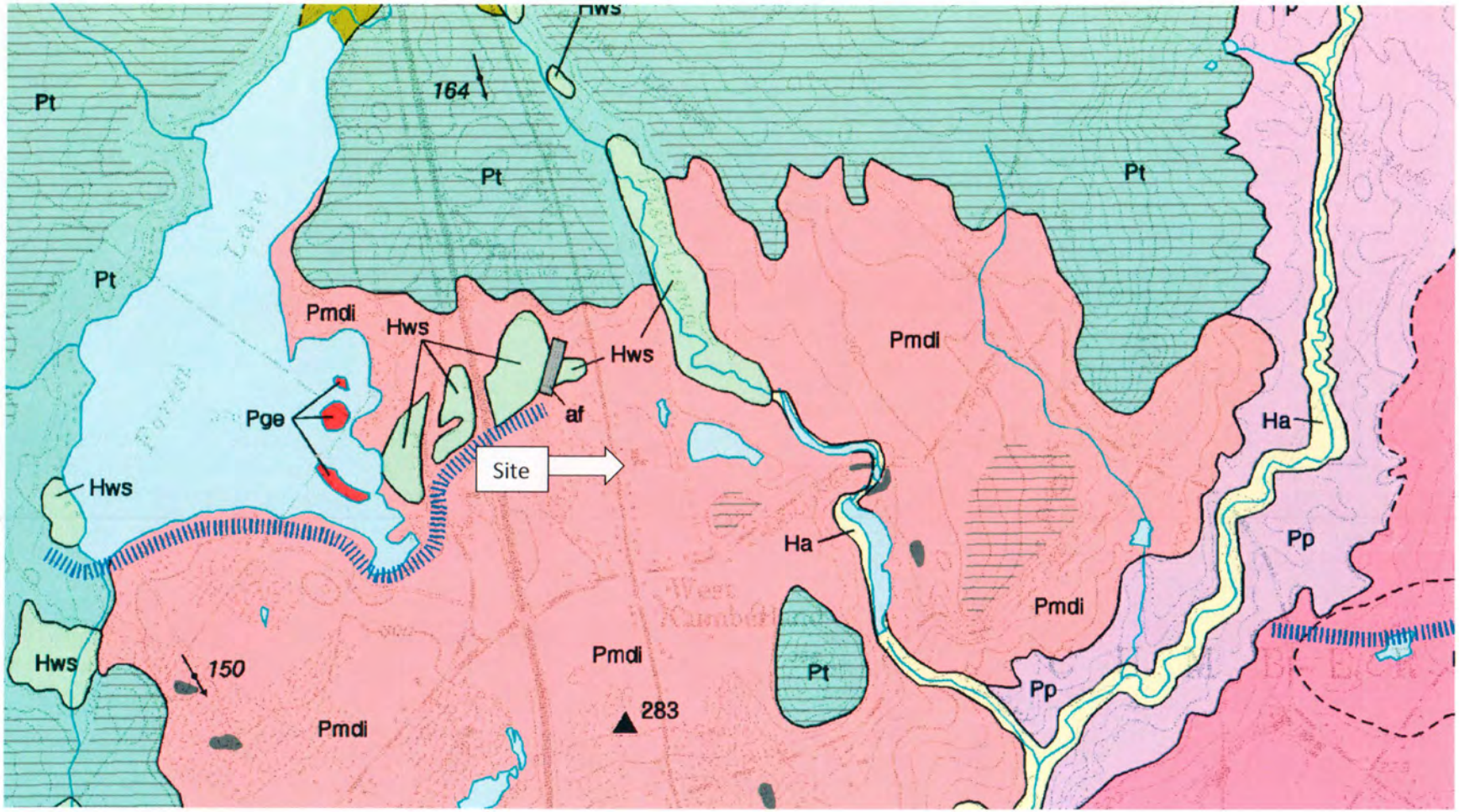


Figure 2.

Detail from *Surficial Geology of the Cumberland Center Quadrangle, Maine*

By Michael J. Ratelle, 1999, Maine Geological Survey, Open-File Map 99-81.

Where Pmdi = Pleistocene marine ice contact delta deposit

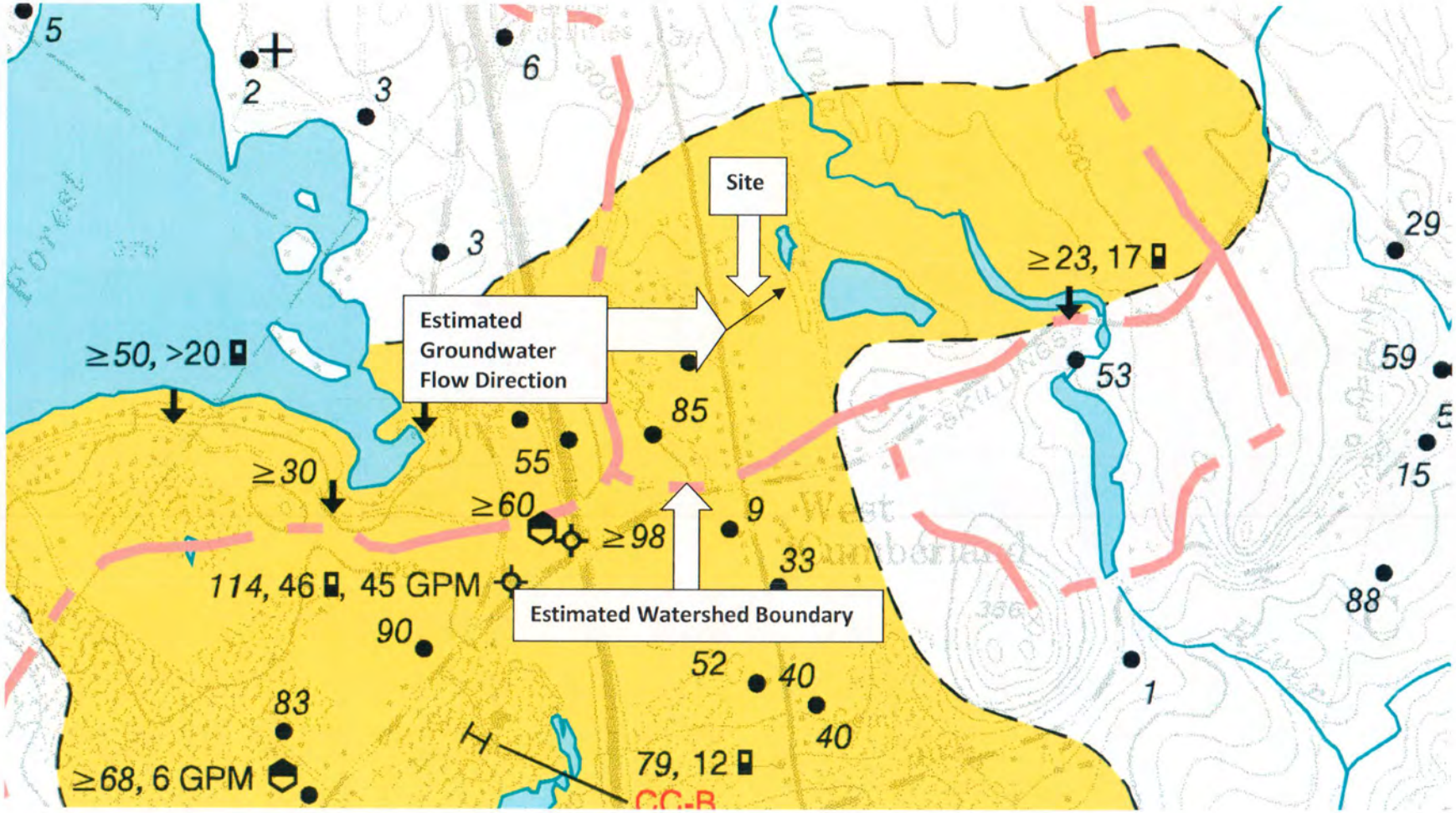


Figure 3

Detail from *Significant Sand and Gravel Aquifers of the Cumberland Center Quadrangle, Maine*

Craig D. Neil, 1999, Maine Geological Survey, Open–File 99-27.

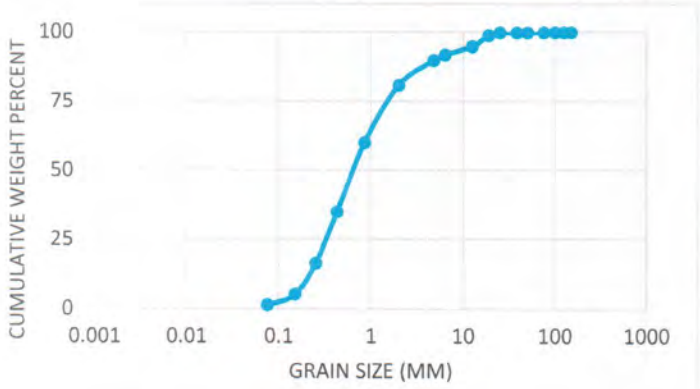
Estimated Groundwater Flow Direction Added

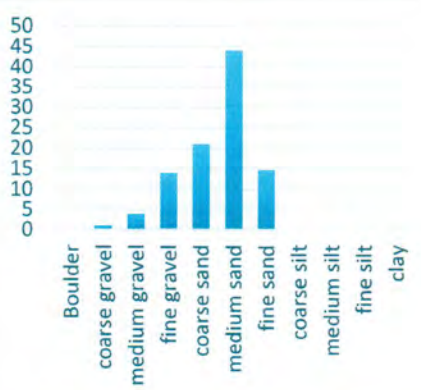
Grain Size Analysis Report Date: 3/22/2021

Sample Name: TEST PIT AT 4 FT COLLECTED BY CENCI ANALYZED BY SWCOLE

Mass Sample (g): T (oC)

Moderately well sorted gravelly sand low in fines





Sieve opening (ps) di (mm)	Mass of retained (mr) (g)	mass fraction (mf)	Percent Passing (pp)
150	0	0	100
125	0	0	100
100	0	0	100
75	0	0	100
50	0	0	100
38.1	0	0	100
25	0	0	100
19	1	0.01	99
12.5	4	0.04	95
6.3	3	0.03	92
4.75	2	0.02	90
2	9	0.09	81
0.85	21	0.21	60
0.425	25	0.25	35
0.25	19	0.19	16
0.15	11	0.11	5
0.075	3.7	0.037	1.3

Effective Grain Diameters (mm)		Other Useful Parameters	
d10	0.195	Uniformity Coef.	4.35
d17	0.259	n computed	0.37
d20	0.287	g (cm/s^2)	980.00
d50	0.680	ρ (g/cm^3)	0.9981
d60	0.850	μ (g/cm s)	0.0098
de (Kruger)	0.496	ρg/μ (1/cm s)	9.9327E+04
de (Kozeny)	0.450	tau (Sauerbrei)	1.053
de (Zunker)	0.465	$d_{geometric\ mean}$	0.813
de (Zamarin)	0.480	σ_ϕ	1.853
lo (Alyameni)	0.074		

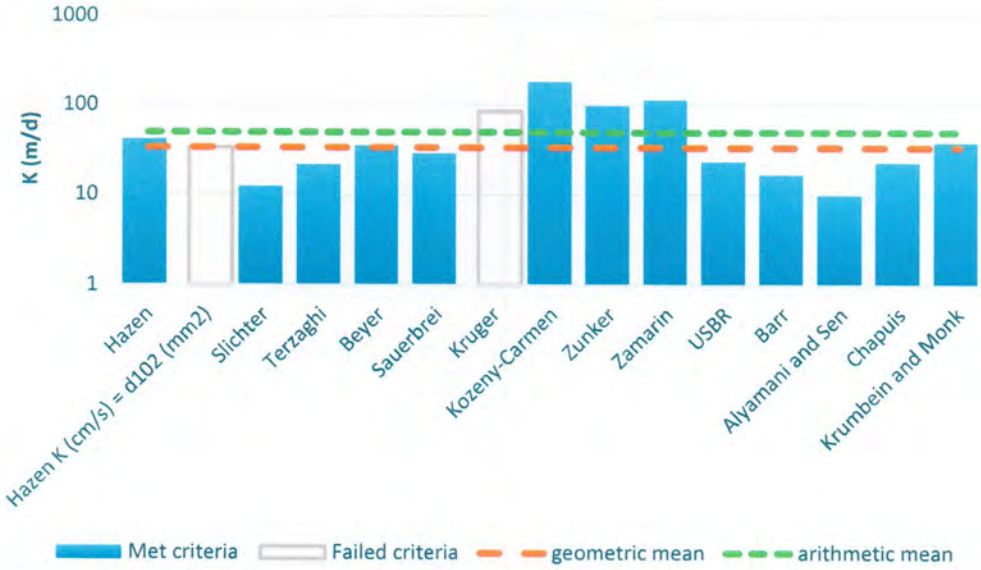
mm	0	% in sample
>64	Boulder	0
16 - 64	coarse gravel	1
8 - 16	medium gravel	4
2 - 8	fine gravel	14
0.5 - 2	coarse sand	21
0.25 - 0.5	medium sand	44
0.063 - 0.25	fine sand	14.7
0.016 - 0.063	coarse silt	
0.008 - 0.016	medium silt	
0.002 - 0.008	fine silt	
<0.002	clay	

K from Grain Size Analysis Report Date: 3/22/2021

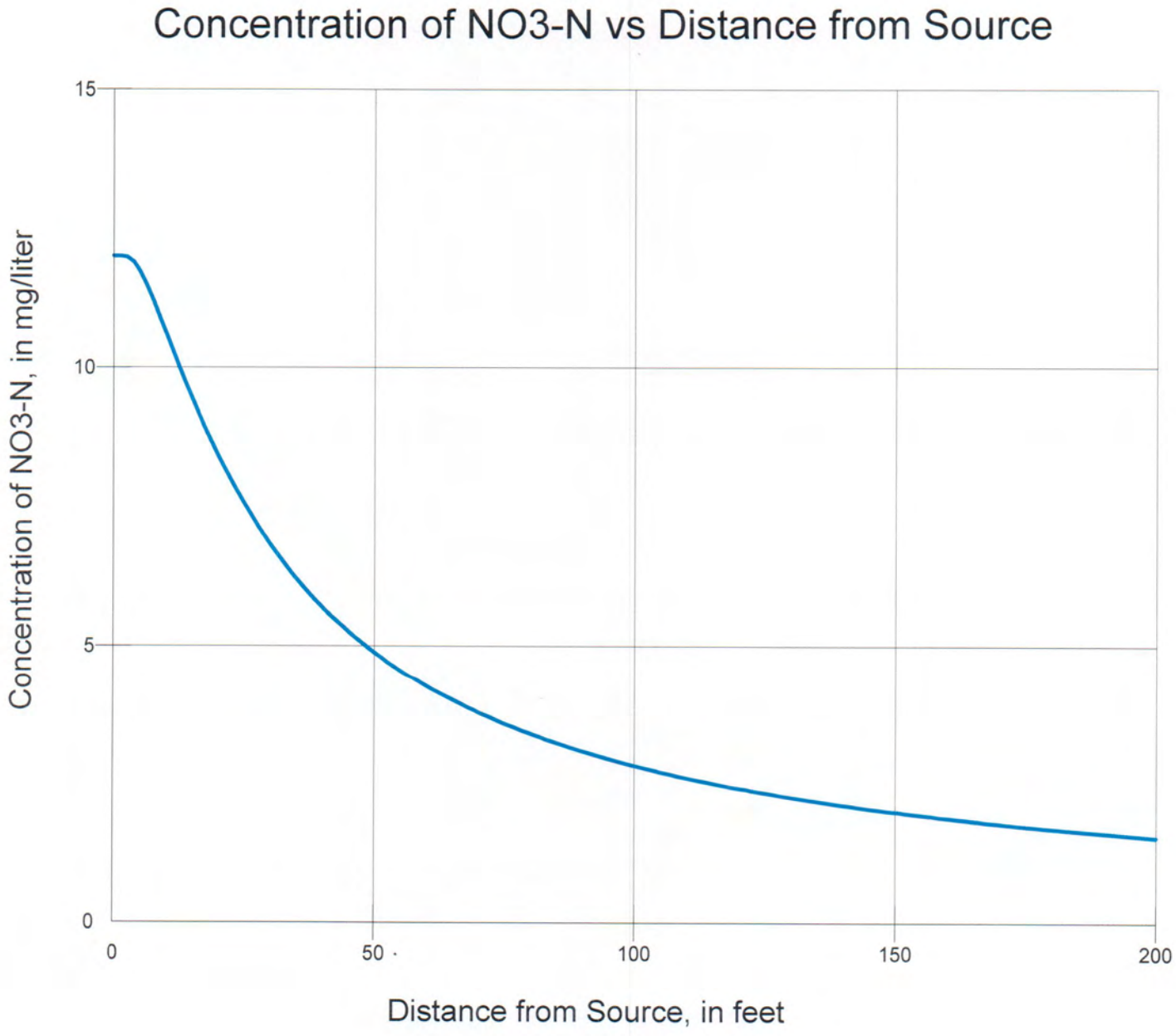
Sample Name: TEST PIT AT 4 FT COLLECTED BY CENCI ANALYZED BY SWCO

Mass Sample (g): _____ T (oC) _____

Moderately well sorted gravelly sand low in fines



Estimation of Hydraulic Conductivity	cm/s	m/s	m/d	de
Hazen	.474E-01	.474E-03	40.99	
Hazen K (cm/s) = d_{10} (mm)	.382E-01	.382E-03	33.01	
Slichter	.142E-01	.142E-03	12.31	
Terzaghi	.246E-01	.246E-03	21.26	
Beyer	.407E-01	.407E-03	35.13	
Sauerbrei	.330E-01	.330E-03	28.54	
Kruger	.980E-01	.980E-03	84.67	
Kozeny-Carmen	.210E+00	.210E-02	181.19	
Zunker	.113E+00	.113E-02	97.86	
Zamarin	.130E+00	.130E-02	111.99	
USBR	.270E-01	.270E-03	23.30	
Barr	.191E-01	.191E-03	16.52	
Alyamani and Sen	.112E-01	.112E-03	9.71	
Chapuis	.258E-01	.258E-03	22.33	
Krumbein and Monk	.435E-01	.435E-03	37.55	
geometric mean	.388E-01	.388E-03	33.50	**110 FT/DAY**
arithmetic mean	.569E-01	.569E-03	49.13	**161 FT/DAY**


Concentration of NO3-N vs Distance from Source
Concentration of NO3-N, in mg/liter
15
10
5
0
0
50
100
150
200
Distance from Source, in feet

March 25, 2021

PN: #21006

Mark Cenci Geologic, Inc.
93 Mill Road
North Yarmouth, ME 04097
Attn: Mark Cenci

REFERENCE: Mounding and Site Transmission Analysis
Condominium Unit #3 – Engineered Subsurface Wastewater Disposal Field
Faraday Drive, Cumberland, Maine

Dear Mark:

Marcotte Environmental (Marcotte) completed a mounding and transmission analysis for a proposed engineered subsurface wastewater disposal to serve a professional office building identified as condominium unit #3 on Faraday Drive in West Cumberland, Maine. The site and vicinity are served by public water and subsurface wastewater disposal fields (leachfields).

Information used to complete the analysis includes a draft plan prepared by Land Design Solution showing the proposed development; soil test pit logs provided by Mark Cenci Geologic, Inc. (Cenci); and published geologic maps and literature. Information provide by others is provided in Attachment 1.

PROPOSED DISPOSAL FIELD

The proposed disposal field will serve a 26,000 square foot office building to be fit out for processional offices, a dental office, and a spa. The disposal field design flow is 2,236 gallons per day (GPD). Domestic wastewater effluent will be treated at the point of generation by septic tank(s), an aerobic treatment tank, and conveyed to a concrete chamber subsurface wastewater disposal field measuring 24 feet by 48 feet.

SITE SETTING

The proposed engineered subsurface wastewater disposal field is located at the approximate location shown on a copy of the USGS topographic map provided in Attachment 2. The general direction of surface water drainage in the vicinity of the disposal field is easterly toward the Piscataqua River. Existing grade at the proposed disposal field area is elevation 295 feet.

Maine Geological Survey maps (Attachment 2) indicate the surficial geology at the site and vicinity is mapped as a marine ice-contact delta. The ice-contact delta deposits are composed primarily of sorted and stratified sand and gravel deposits that were graded to the surface of the late-glacial sea. The Maine Geological Survey has mapped the surficial deposits at the site as a significant sand and gravel aquifer with a groundwater yield generally greater than 10 gallons per minute for a properly constructed overburden well.

SUBSURFACE CONDITIONS

Site specific soils information for the disposal field area is provided in Attachment 1. Soils at the proposed disposal field consist of approximately 2 feet of recent gravelly channery sand fill overlying stratified gravelly coarse sand and medium to fine sand. No evidence of a water table or hydraulically restrictive horizon were encountered to the bottom of the test pit at 8 feet below the ground surface. The water table is estimated to be

at elevation 278 feet, 17 feet below the ground surface, or approximately the same elevation as the water level of the manmade pond located approximately 600 feet east of the disposal field.

Cenci obtained sample of sand collected at 4 to 5 feet below the ground surface and submitted the sample to SW Cole Engineering, Inc. for a grain size analysis. The grain size analysis report and a soil hydraulic conductivity (permeability) estimation report are provided as Attachment 3. The hydraulic conductivity of the unsaturated medium sand deposits directly under the proposed disposal field is estimated to be 110 feet per day (ft/day).

GROUNDWATER MOUNDING AND TRANSMISSION ANALYSIS

A groundwater mounding analysis was performed to estimate the rise of the groundwater table beneath the center of the proposed disposal field in response to wastewater infiltration. The analysis was performed using the method developed by Hantush (1967)[1] and a spreadsheet provided in Poeter et al (2005)[2].

Model input parameters and results are provided in Attachment 4. The saturated aquifer material was assigned a hydraulic conductivity of 40 feet per day to be conservative. The analysis was run using a range of initial aquifer thicknesses. Calculations indicate 2.2 feet or less of mounding at the center of the disposal field for loading at the design flow.

CLOSURE

Based on the results of our analysis, the maximum groundwater mound height is 2.2 feet. The bottom of the disposal field area should be no less than 3 feet above the estimate seasonal highwater table.

The findings discussed herein are based on an interpretation of site conditions and information provided by others. If there are changes to the disposal field design flow, or significant changes in layout, I request the opportunity to review the changes and conduct further analysis as necessary to confirm the changes do not alter the conclusions and recommendations provided herein.

Sincerely yours,
Marcotte Environmental

Stephen B. Marcotte, CG, LSE
Principal

Enclosures

[1] Hantush, M.S., "Growth and Decay for Groundwater-Mounds in Response to Uniform Percolation," Water Resources Research, Vol. 3, 1967, p.227.

[2] Poeter E., J. McCray, G. Thyne, and R. Siegrist (2005). Guidance for Evaluation of Potential Groundwater Mounding Associated with Cluster and High-Density Wastewater Soil Absorption Systems. Project No. WU-HT-02-45. Prepared for the National Decentralized Water Resources Capacity Development Project, Washington University, St. Louis, MO, by the International Groundwater Modeling Center, Colorado School of Mines, Golden, CO.

ATTACHMENT 1

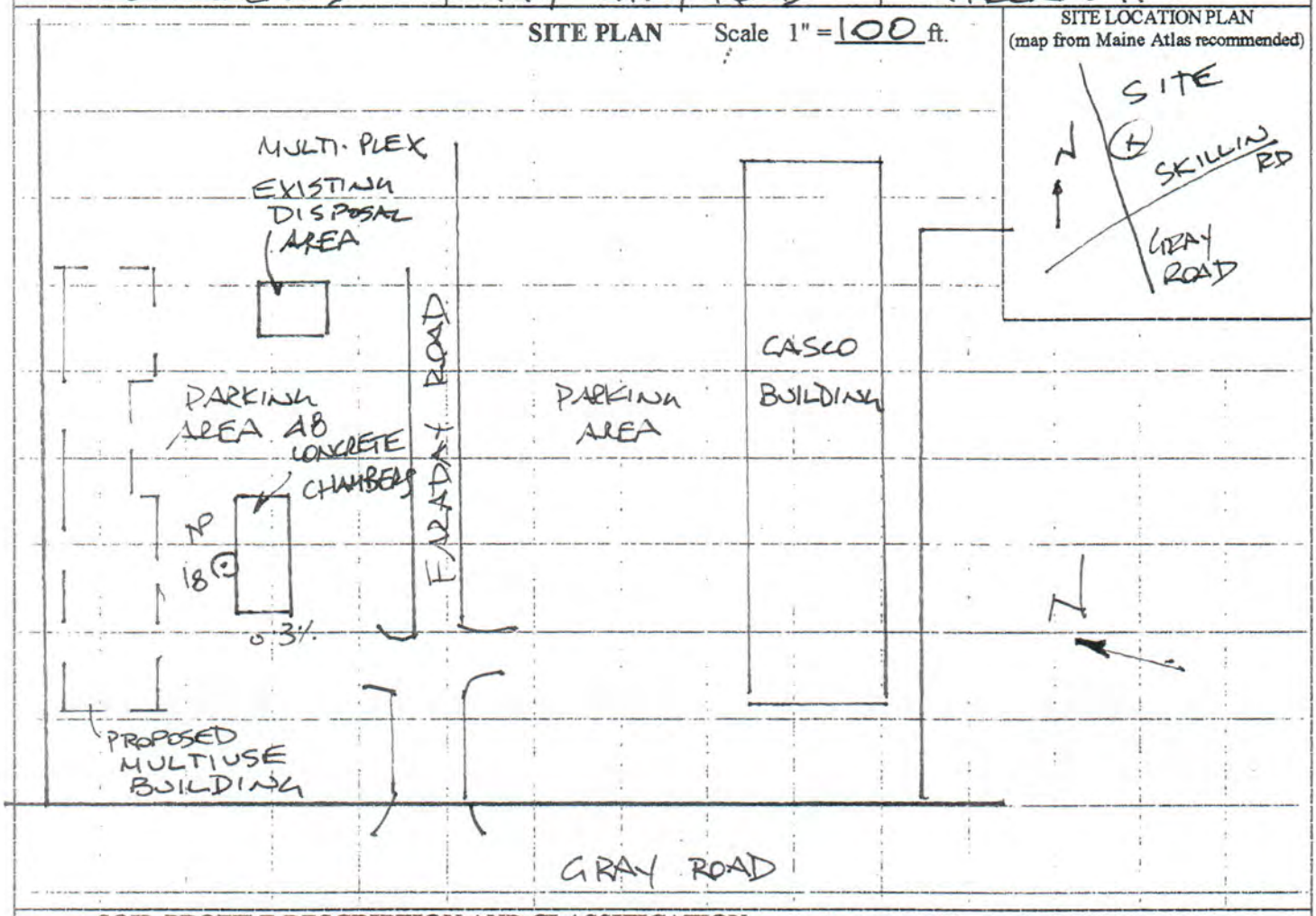
DRAFT DISPOSAL FIELD DESIGN
AND
SOIL TEST PITS LOGS

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Department of Human Services
Division of Health Engineering, Station 10
(207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation	Street, Road, Subdivision	Owner or Applicant Name
CUMBERLAND	197 GRAY ROAD	GREEN STP

SITE PLAN Scale 1" = 100 ft.



SITE LOCATION PLAN
(map from Maine Atlas recommended)

SOIL PROFILE DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole # TP-1B ☐ Test Pit ☐ Boring

" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0				
6	RECENT GRAVELLY CINDERY SAND FILL	LOOSE	MIXED BROWN	
12				
18				
24				
30	GRAVELLY COARSE SAND	LOOSE	MIXED GRAY/BROWN	NONE TO ~8'
36				
42	MED SAND		GRAY	
48				

Soil Profile	Classification Condition	Slope Percent	Limiting Factor Depth	
5	B	0-3	—	☐ Groundwater ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

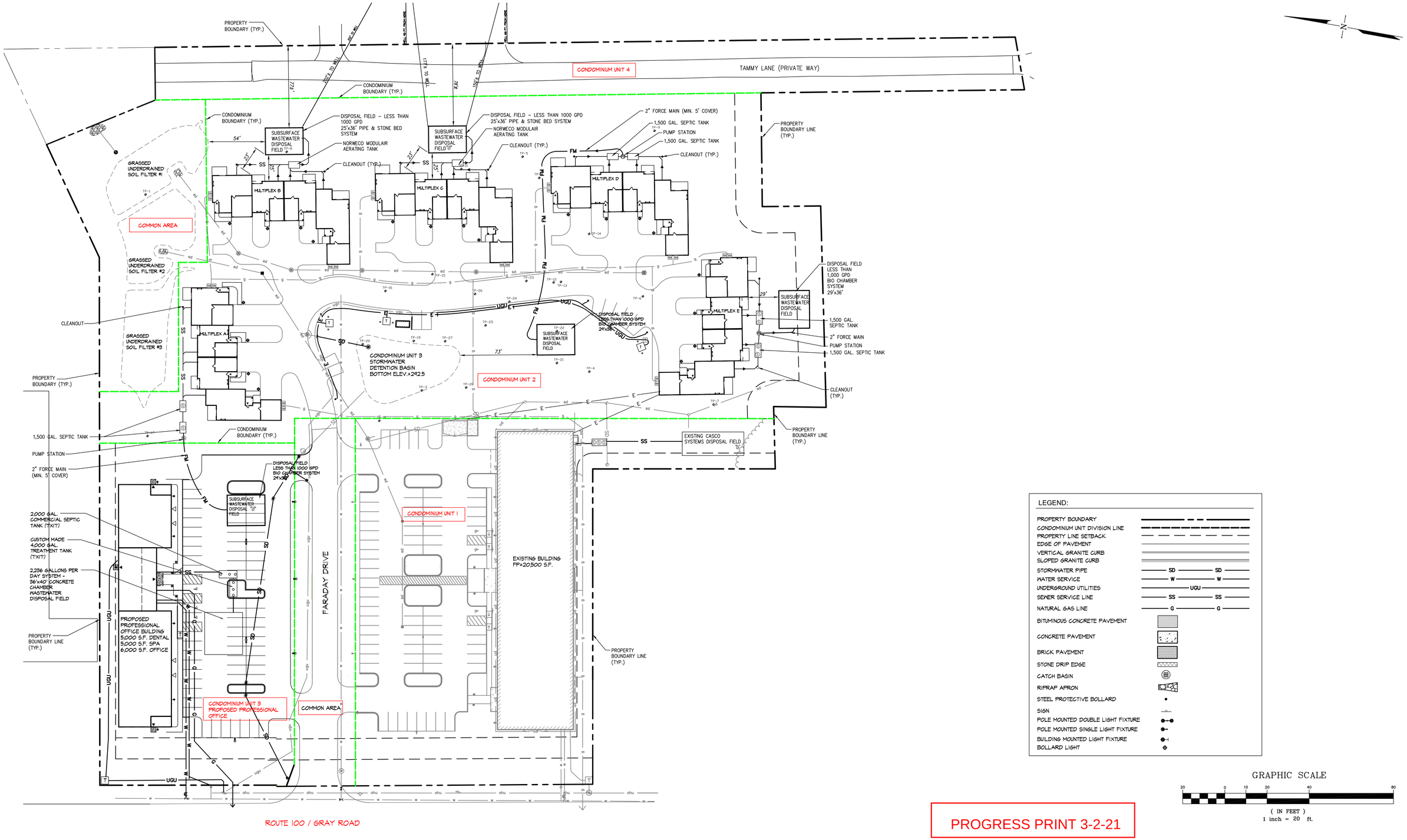
Observation Hole # _____ ☐ Test Pit ☐ Boring

" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0				
6				
12				
18				
24				
30				
36				
42				
48				

Soil Profile	Classification Condition	Slope Percent	Limiting Factor Depth	
				☐ Groundwater ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Site Evaluator Signature | 262 SE # | 3-11-21 Date



LEGEND:

- PROPERTY BOUNDARY
- CONDOMINIUM UNIT DIVISION LINE
- PROPERTY LINE SETBACK
- EDGE OF PAVEMENT
- VERTICAL GRANITE CURB
- SLOPED GRANITE CURB
- STORMWATER PIPE (SD)
- WATER SERVICE (W)
- UNDERGROUND UTILITIES (UGU)
- SEWER SERVICE LINE (SS)
- NATURAL GAS LINE (G)
- BITUMINOUS CONCRETE PAVEMENT
- CONCRETE PAVEMENT
- BRICK PAVEMENT
- STONE DRIP EDGE
- CATCH BASIN
- RIPRAP APRON
- STEEL PROTECTIVE BOLLARD
- SIGN
- POLE MOUNTED DOUBLE LIGHT FIXTURE
- POLE MOUNTED SINGLE LIGHT FIXTURE
- BUILDING MOUNTED LIGHT FIXTURE
- BOLLARD LIGHT

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

PROGRESS PRINT 3-2-21

REV.	DATE	STATUS	BY	CHKD.	APPD.
A	-/-/17	-	-	-	-

LAND DESIGN SOLUTIONS
LAND PLANNING, SITE PLANNING & LANDSCAPE ARCHITECTURE
1 Faraday Drive, Suite 7, Cumberland, ME 04021 tel:(207) 829-1717

OWNER & APPLICANT
GREEN SIP CONSTRUCTION
110 MARGINAL WAY, SUITE 193, PORTLAND, MAINE 04101

DESIGN: PBB
DRAWN: DEPT
CHKD: PBB
DATE: JANUARY 2021
SCALE: 1"=40'

PROPOSED MIXED USE DEVELOPMENT
197 GRAY ROAD, CUMBERLAND, MAINE

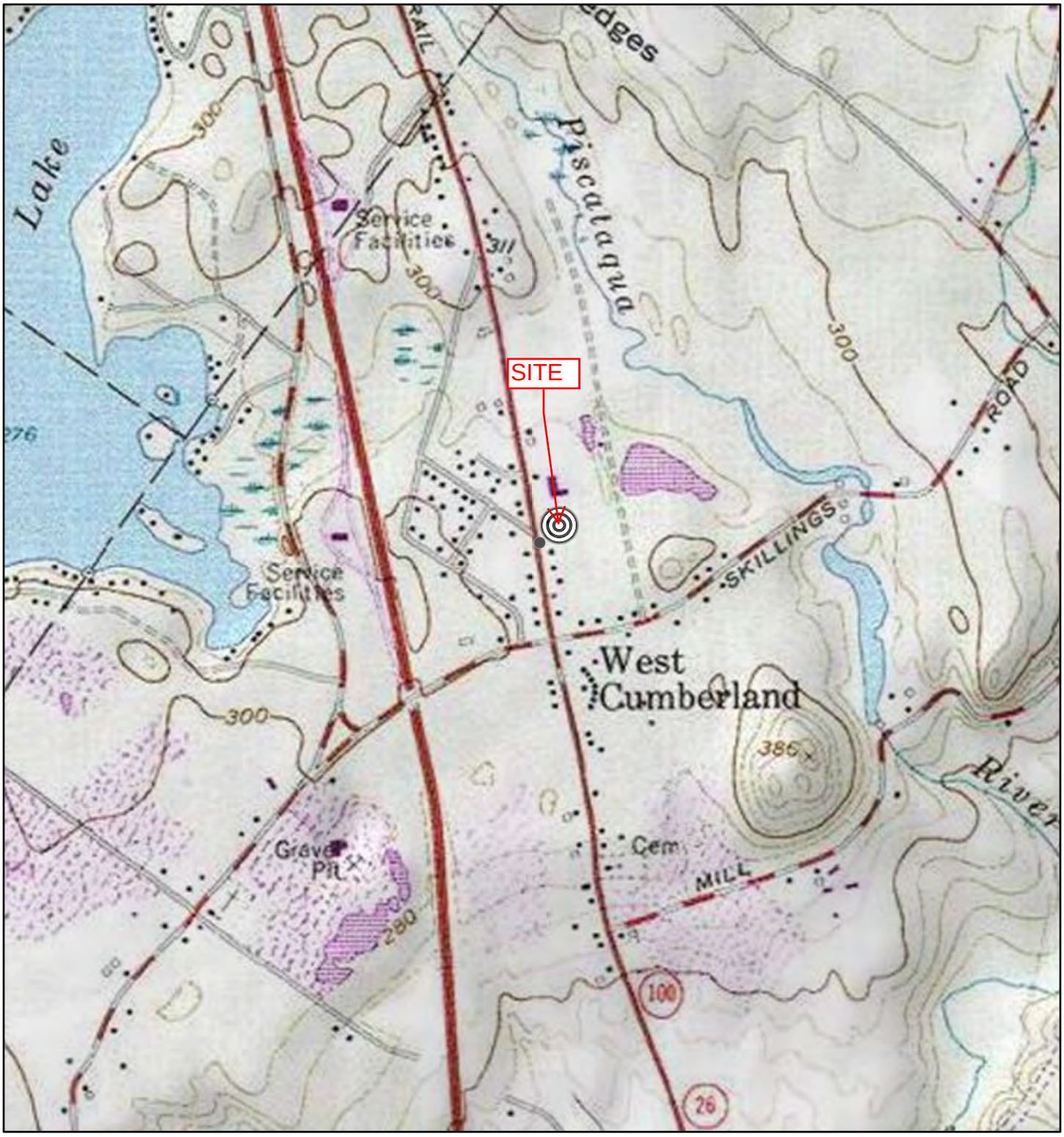
SEPTIC SYSTEM AND SOIL TEST PIT OVERVIEW PLAN

PROJ. NO. 17-131
DWG. NO. -
REV. A

ATTACHMENT 2

TOPOGRAPHIC AND GEOLOGIC MAPS

USGS 7.5-Minute Topographic Map



3/24/2021, 5:07:36 PM

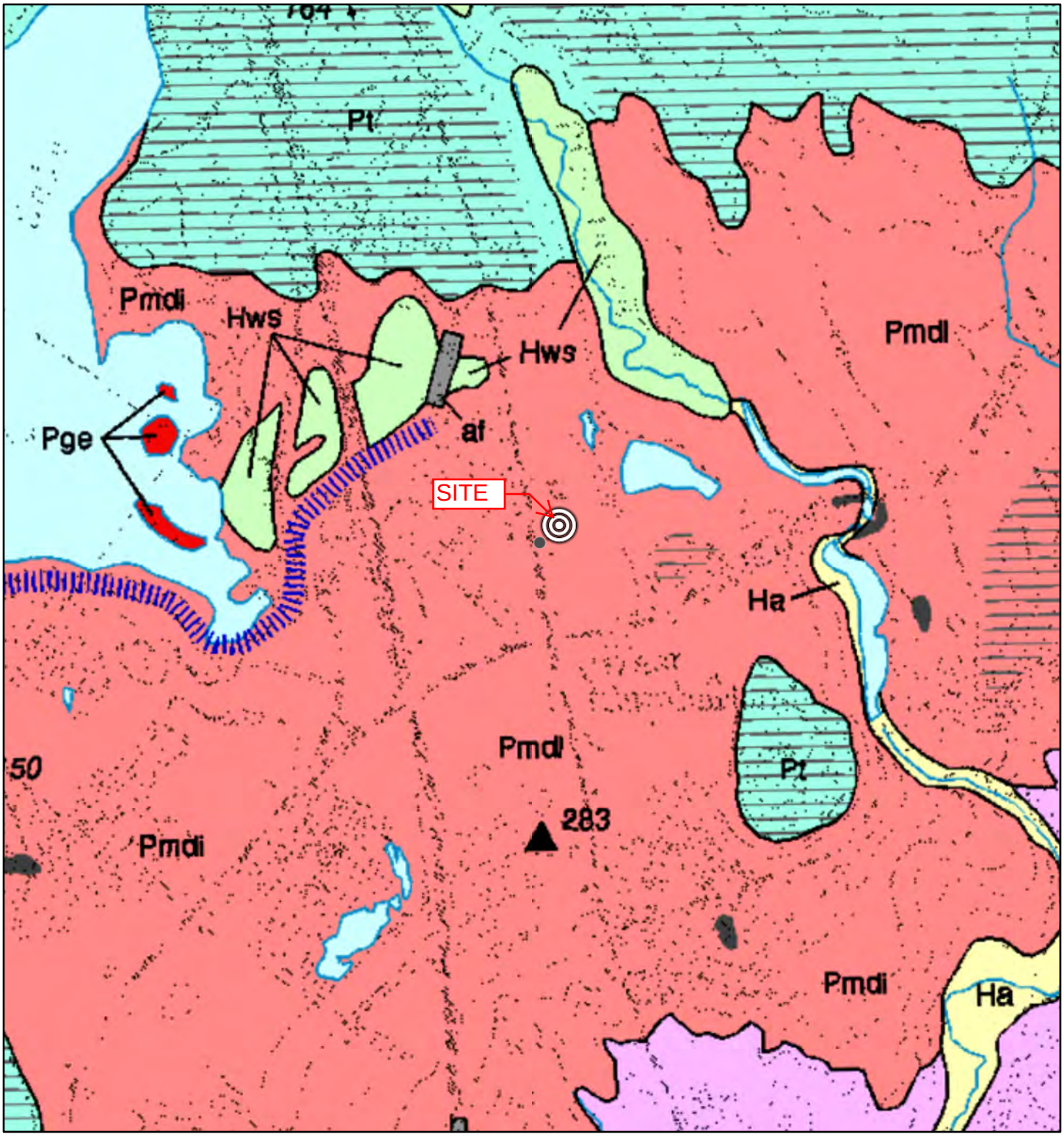
1:18,056

0 500 1,000 2,000 ft

0 180 360 720 m

s_ylw-pushpin

Surficial Geology Map



3/24/2021, 5:03:04 PM

1:18,056

0 500 1,000 2,000 ft

0 180 360 720 m

Image

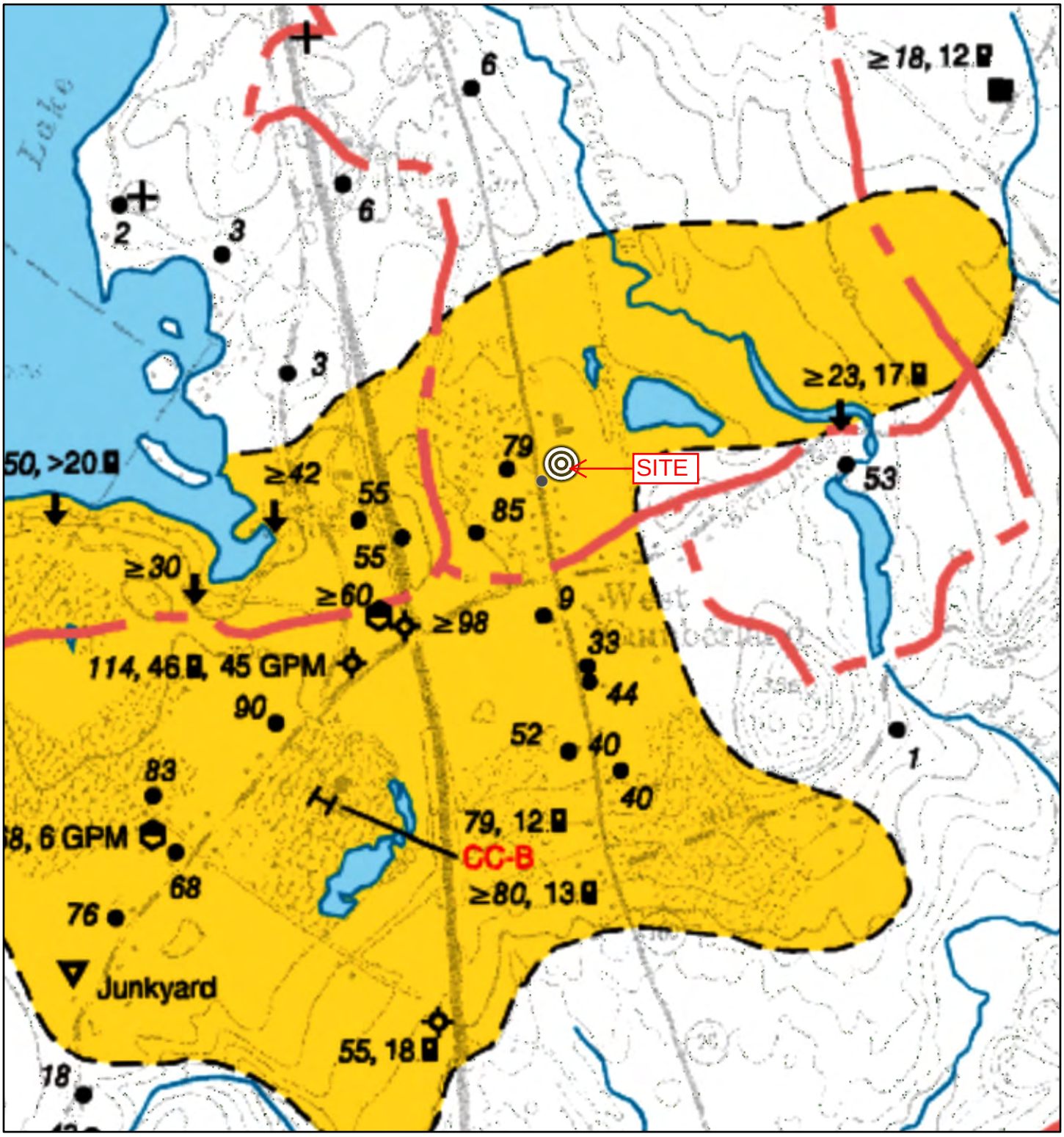
- Red: Band_1
- Green: Band_2
- Blue: Band_3

s_ylw-pushpin

Earthstar Geographics

Maine Geological Survey
2016

Significant Sand & Gravel Aquifer Map



3/24/2021, 4:58:24 PM

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0 500 1,000 2,000 ft

0 180 360 720 m

Image

- Red: Band_1
- Green: Band_2
- Blue: Band_3

s_ylw-pushpin

USDA FSA, GeoEye, Maxar, Maine Geological Survey

Maine Geological Survey
2016

ATTACHMENT 3

GRAIN SIZE ANALYSIS AND PERMEABILITY ESTIMATION

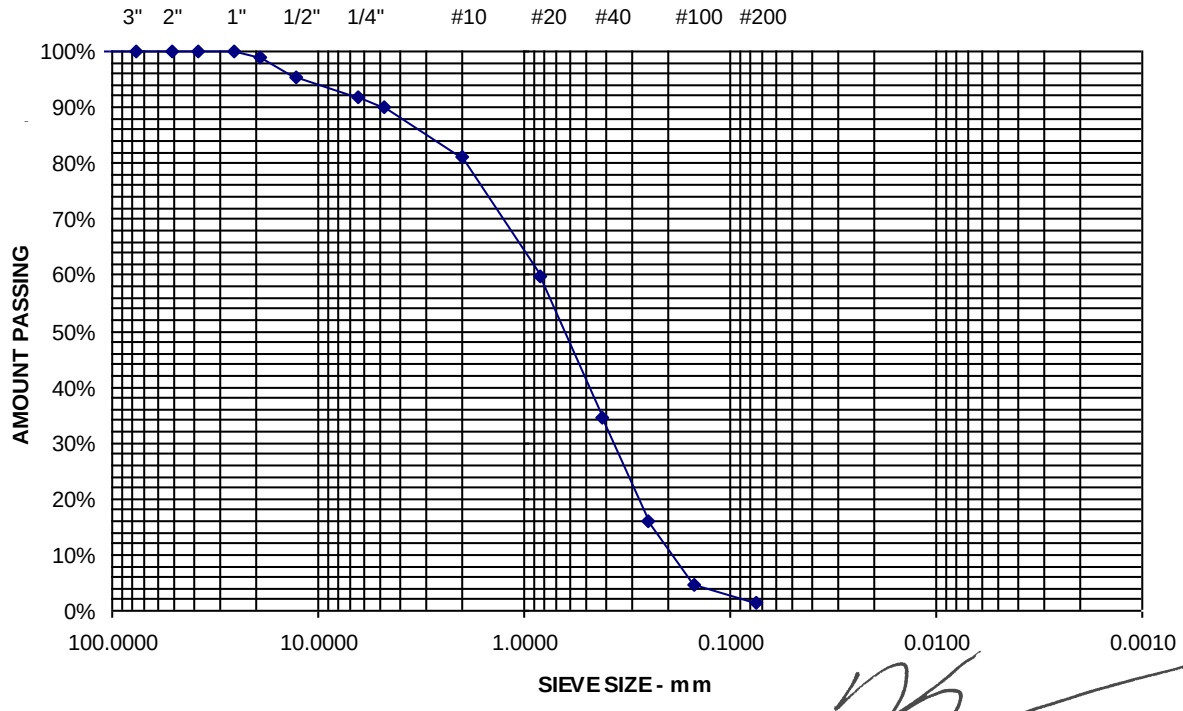
S.W.COLE ENGINEERING, INC.

Report of Gradation

ASTM C-117 & C-136

Project Name	WEST CUMBERLAND ME - ALLEN FARM REDEVELOPMENT - LABORATORY SERVICES	Project Number	21-0304
Client	MARK CENCI GEOLOGIC, INC.	Lab ID	27267G
Material Type	EXISTING MATERIAL	Date Received	3/11/2021
Material Source	TEST PIT AT 4 FT	Date Completed	3/12/2021
		Tested By	SARAH SYLVIA

STANDARD DESIGNATION (mm/µm)	SIEVE SIZE	AMOUNT PASSING (%)	SPECIFICATIONS (%)
150 mm	**6"**	**100**	
125 mm	**5"**	**100**	
100 mm	**4"**	**100**	
75 mm	**3"**	**100**	
50 mm	**2"**	**100**	
38.1 mm	**1-1/2"**	**100**	
25.0 mm	**1"**	**100**	
19.0 mm	**3/4"**	**99**	
12.5 mm	**1/2"**	**95**	
6.3 mm	**1/4"**	**92**	
4.75 mm	**No. 4**	**90**	
2.00 mm	**No. 10**	**81**	
850 um	**No. 20**	**60**	
425 um	**No. 40**	**35**	
250 um	**No. 60**	**16**	
150 um	**No. 100**	**5**	
75 um	**No. 200**	**1.3**	



Comments

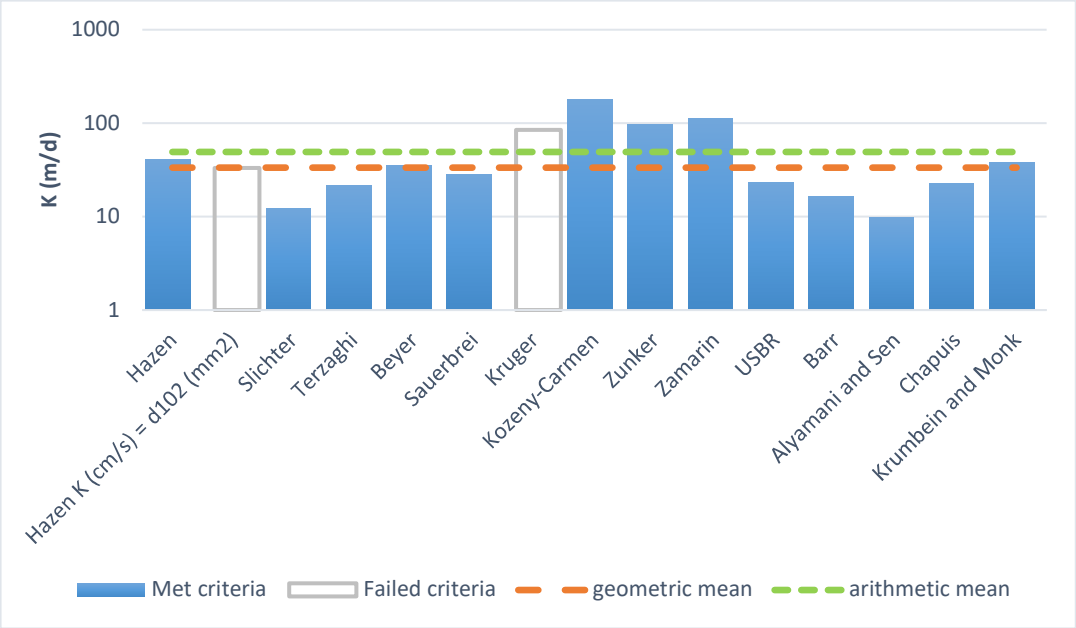
286 Portland Road, Gray, ME 04039-9586 • Tel (207) 657-2866 • Fax (207) 657-2840 • www.swcole.com

K from Grain Size Analysis Report Date: 3/22/2021

Sample Name: TEST PIT AT 4 FT COLLECTED BY CENCI ANALYZED BY SWCO

Mass Sample (g): T (oC)

Moderately well sorted gravelly sand low in fines



Estimation of Hydraulic Conductivity	cm/s	m/s	m/d	de
Hazen	.474E-01	.474E-03	40.99	
Hazen K (cm/s) = d_{10} (mm)	.382E-01	.382E-03	33.01	
Slichter	.142E-01	.142E-03	12.31	
Terzaghi	.246E-01	.246E-03	21.26	
Beyer	.407E-01	.407E-03	35.13	
Sauerbrei	.330E-01	.330E-03	28.54	
Kruger	.980E-01	.980E-03	84.67	
Kozeny-Carmen	.210E+00	.210E-02	181.19	
Zunker	.113E+00	.113E-02	97.86	
Zamarin	.130E+00	.130E-02	111.99	
USBR	.270E-01	.270E-03	23.30	
Barr	.191E-01	.191E-03	16.52	
Alyamani and Sen	.112E-01	.112E-03	9.71	
Chapuis	.258E-01	.258E-03	22.33	
Krumbein and Monk	.435E-01	.435E-03	37.55	
geometric mean	.388E-01	.388E-03	33.50	**110 FT/DAY**
arithmetic mean	.569E-01	.569E-03	49.13	**161 FT/DAY**

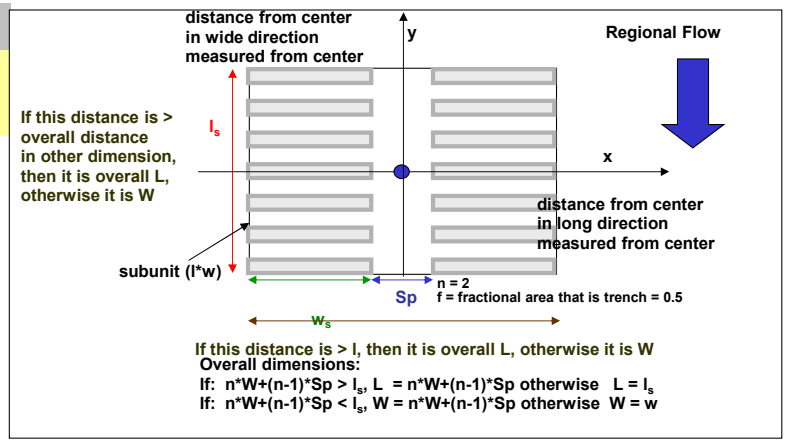
ATTACHMENT 4

MOUNDING ANALYSIS CALCULATIONS

Water Table Mounding calculated based on Hantush 1967, WRR

Enter data in green cells as per their yellow labels, other values will be computed from those entries.

Results are highlighted in pink.



Zmax Beneath Center of Entire Drain Field (L*W)

Meters and Days	Length of Drain Field Subunit	Width of Drain Field Subunit		Separation between Drain Field Subunits	Fraction of Drain Field Subunit that is Trench Area	Horizontal Hydraulic Conductivity	Specific Yield use 0.001 to approximate steady state at 10 years	time use 10 years to approximate steady state
	l_s	w_s		Sp	f	Kh	Sy	time
	ft	ft		ft		ft/days	none	days
	24	48		0	1	40	0.001	3650
Number of subunits, n	L ft	W ft	q effective in subunit ls x ws ft/day	q in trenches ft/day	q' effective on LxW ft/day	Q gallons/day	Zmax 12 iterations ft	Initial Saturated Thickness ft
1	48	24	0.2595	0.2595	0.2595	2236	2.214	2
1	48	24	0.2595	0.2595	0.2595	2236	1.686	4
1	48	24	0.2595	0.2595	0.2595	2236	1.334	6
1	48	24	0.2595	0.2595	0.2595	2236	0.920	10
1	48	24	0.2595	0.2595	0.2595	2236	0.793	12
1	48	24	0.2595	0.2595	0.2595	2236	0.696	14
1	48	24	0.2595	0.2595	0.2595	2236	0.620	16
1	48	24	0.2595	0.2595	0.2595	2236	0.559	18
1	48	24	0.2595	0.2595	0.2595	2236	0.509	20

alpha	beta	a2+b2	W part1	W(a2+b2)	S*	z1	hiter	alpha
0.000702247	0.000351123	6.16438E-07	13.722093	13.72209313	4.78497E-06	2.704	3.352021034	0.00054244
0.000496564	0.000248282	3.08219E-07	14.41524	14.41524	2.50129E-06	1.912	4.956029653	0.000446106
0.000405442	0.000202721	2.05479E-07	14.820705	14.820705	1.70996E-06	1.445	6.722724405	0.000383029
0.000314054	0.000157027	1.23288E-07	15.331531	15.33153055	1.05805E-06	0.956	10.47819056	0.000306804
0.000286691	0.000143346	1.0274E-07	15.513852	15.51385208	8.91249E-07	0.816	12.40818113	0.000281936
0.000265424	0.000132712	8.80626E-08	15.668003	15.66800275	7.70842E-07	0.712	14.35599228	0.000262113
0.000248282	0.000124141	7.70548E-08	15.801534	15.80153413	6.79727E-07	0.631	16.31566763	0.000245868
0.000234082	0.000117041	6.84932E-08	15.919317	15.91931716	6.0831E-07	0.567	18.28360658	0.00023226
0.00022207	0.000111035	6.16438E-08	16.024678	16.02467766	5.50787E-07	0.515	20.25751823	0.000220654

NOTE: if a2+b2>0.04, solution is inaccurate

Attachment 11 – Stormwater Management

While the original subdivision / Master Plan approval included a future building and associated parking on condominium unit 3 the stormwater for unit 3 was not included. The Maine DEP and Town of Cumberland reviewed and approved the stormwater design for everything, but Unit 3.) With this in mind a detention basin was sized to accommodate the unit 3 stormwater and constructed as part of the condominium unit 2 multiplex townhouse phase. The original DEP Stormwater Permit number is L-26821-NJ-B-A.

The development of condominium unit 3 trips the 3 acre impervious area threshold for a DEP Site Location of Development Permit. This permit includes stormwater management review. The application for the Site Location permit has been submitted to the Maine DEP.

A copy of the stormwater management report by Tom Saucier, P.E. (Site Design Associates) for the development proposed on condominium unit 3 is included with this attachment. The drainage plans referred to in the report are included in the plan set.

Site Design Associates
Consulting Engineering and Land Planning

STORMWATER MANAGEMENT REPORT
PROPOSED PROFESSIONAL OFFICE
197 GRAY ROAD
CUMBERLAND, MAINE
MARCH 12, 2021

Overview

Under the Stormwater Management Law (38 M.R.S.A §420-D) instituted by the Maine Department of Environmental Protection, a person may not construct, or cause to be constructed, a project that includes one acre or more of disturbed area without prior approval from the Department. This project is also required to meet the flooding standards of Chapter 500 Stormwater Law. Additionally, the stormwater management plan must meet the requirements of the Town of Cumberland. Section 10.3.1.2 of the Site Plan ordinance states that a project must detain runoff such that the rate of flow from the site after development does not exceed the predevelopment rate. Section 10.3.1.7 states that receiving waters must not be degraded by stormwater runoff from the project site.

Introduction

Site Design Associates has been retained by Land Design solutions to prepare a Stormwater Management Report for Phase 3 of a mixed use development on the former Allen Farms property on Route 100 in Cumberland, Maine. A map showing the project location follows this page. The existing development includes the following structures:

- Five 4-unit multiplex residential units with appurtenances.
- Previously approved Manufacturing/Office Facility

Phase 3 of the project includes a 10,660 sf footprint professional office building and associated parking.

Previous Approvals

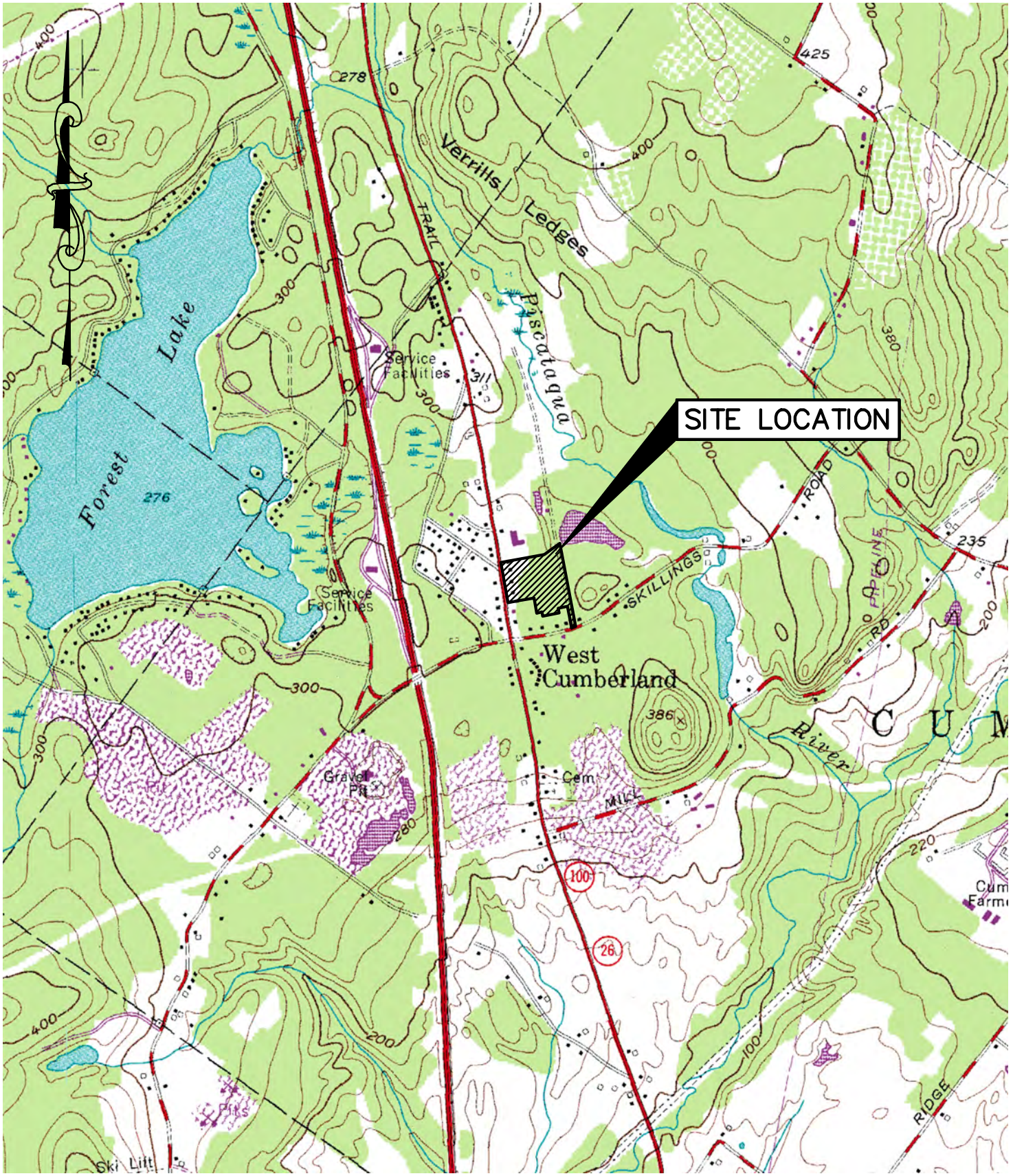
The Town of Cumberland previously granted site plan approval for the multiplex units and the manufacturing/office facility. The Applicant will be submitting a site plan amendment application to the Town based upon the current design concept.

In June of 2017, the MDEP approved a Stormwater Permit for the multiplex units and manufacturing/office facility with a paved access drive and 83-space parking area (Permit Number L-26821-NJ-B-A). The Applicant seeks approval under the Site Location of Development Act to amend the prior approval based upon the current design concept, which is described below.

Development Description

In permit #L-26821-NJ-B-A, the MDEP approved a stormwater permit for 2.87 acres of new impervious area and a total of 8.7 acres of cumulative development area.

23 Whitney Way Topsham, Maine 04086
Phone: (207) 449-4275 email: info@sitedesignassociates.biz



U.S.G.S. Location Map

Green SIP Construction, Route 100 Cumberland

U.S.G.S. Cumberland Center, Maine-7.5 Minute Series (Topographic)

Phase 3 of the project will include a proposed 20,000 +/- sf professional office building with a footprint of 10,660 sf, associated 68 space parking area and a private subsurface wastewater disposal field. The project will result in 1 acre of new developed area and 0.88 acres of new impervious area. The project site is located within the Piscataqua River watershed which is not an Urban Impaired Stream. Stormwater runoff from the project area flows to the rear of the site to an existing gravel pit pond off the property. As the proposed development will disturb greater than one acre of area and will result in more than one acre of impervious area and more than 3 acres of new non-vegetated surface, the proposed development is required to meet the Basic, General, and Flooding Standards of the Stormwater Rules (Chapter 500).

The MDEP Basic Standard will be met as presented in the Erosion and Sedimentation Control report for this project and in this report.

Under the General Standard, the project is required to meet the BMP standards identified in Chapter 500 and described in Volume III of the Stormwater BMP manual. The design of this development includes the use of grassed underdrain soil filters to treat runoff.

Surface Water

There are no lakes located on, adjacent to or downstream of the project site. There is a former gravel pit pond downstream of the site.

General Topography

Topography in the area of the proposed construction generally slopes in the northeast direction with slopes in the range of 1% to 5%.

Flooding

The site is not located within a mapped FEMA 100-year floodplain.

Natural Drainage Ways

The project as currently proposed does not include alteration of any natural drainage ways.

Alterations to Land Cover

Changes in land cover has included the removal of woods, roof and paved areas through portions of the project site and the addition of paved surfaces, building, lawn, and landscaped areas.

Stormwater Management Control

The Maine Department of Environmental Protection rules and regulations regarding stormwater concentrate on four stormwater management objectives:

- Effective Pollutant Removal
- Cooling
- Channel Protection
- Flood Control

These objectives may be met either directly by providing BMP's that manage and treat the runoff after it has been created, or indirectly by incorporating low impact development site planning concepts to minimize production and contamination of runoff by maximizing infiltration and evapotranspiration.

Approach and Analysis for Quality

The proposed development will be required to meet the Basic Standard and the BMP Standard under the General Standard of the MDEP Stormwater Law. Based upon review of the four recommended and approved methods for mitigating the increased frequency and duration of channel erosive flows, as required by the BMP Standards, multiple grassed underdrained soil filters were chosen for the previous phases of the project.

The DEP approved stormwater analysis undertaken for the previous phases of the project resulted in required treatment areas as follows:

Table 1– Redeveloped Treatment Summary			
Type	SF	Treatment Threshold	Area required to be treated
Developed	114,908	60%	68,945sf

Table 2 – New Development Treatment Summary			
Type	SF	Treatment Threshold	Area required to be treated
Impervious	59,854	95%	56,861 sf
Developed	166,193	80%	132,954 sf

Table 3 – Total Site Treatment Summary			
Type	New Development	Re-Development	Total
Impervious	56,861 sf	-	56,861 sf
Developed	132,954 sf	68,945 sf	201,899 sf

Grassed Underdrains are defined in Volume III, Section 7 of the Stormwater Management Best Management Practices Manual published by the Maine Department of Environmental Protection. The development is required to provide the treatment volume for 1.0 inch times the subcatchment's impervious area plus 0.4 inch times the subcatchment's landscaped developed area. The surface area of the filter is required to be no less than the sum of 5% of the impervious area and 2% of the landscaped area draining to the filter. The grassed underdrains were split into three ponds which were sized to have a maximum filter surface area of 3,000 sf and with watersheds less than 2.5 acres in accordance with Section 7 of the BMP Manual. Test pits indicated that the depth to groundwater is greater than five feet beneath the proposed bottom of underdrain

bedding. The channel protection volume is allowed to pond up to 18" deep within the grassed underdrain. Runoff from larger storms is detained within the grassed underdrain and will be released through the outlet control structure. The outlet control structure has a weir set at the channel protection volume elevation.

Under the previously DEP and town approved stormwater management analysis, it was assumed that the grassed underdrain ponds do not provide treatment for Subcatchment 1, as shown on the attached Pre-Development Drainage Plan, since the subcatchment contains offsite area tributary to a vegetated area on hydrologic soil type A. As noted in Maine Department of Environmental Protection Chapter 500, 4.C.2.b:

> *The runoff from any upgradient area must be either directed away from the stormwater treatment measure or that measure, not including buffers, must be sized to address the runoff volume from the upgradient area at 50% of the sizing requirements for an area that is landscaped, unless the upgradient area is on soil with hydrologic condition A or B.*

The following tables present information for the three grassed underdrains as previously designed and approved for Phase 2:

The runoff from Subcatchment 3 was tributary to Grassed Underdrain #1.

Table 4		
Proposed Grassed Underdrain #1		
	Required	**Provided**
Impervious Area		23,169 sq. ft.
Developed Area (non-impervious)		70,267 sq. ft.
Treatment Volume	4,273 cu. ft.	4,317 cu. ft.
Filter Surface Area	3,000 sq. ft. max	2,600 sq. ft.
5%(imp. Area)+2%(landscaped Area)	2,564 sq. ft.	2,600 sq. ft.
Cell Base Elevation		291.5 ft.
Channel Protection Volume elevation		292.91 ft.
Pond Outflow		0.05 cfs
Release Time	24-48 Hours	24 Hours

The runoff from Subcatchment 2 is tributary to Grassed Underdrain #2.

Table 5		
Proposed Grassed Underdrain #2		
	Required	**Provided**
Impervious Area		41,334 sq. ft.
Developed Area (non-impervious)		44,331 sq. ft.
Treatment Volume	4,922 cu. ft.	4,927 cu. ft.
Filter Surface Area	3,000 sq. ft. max	3,000 sq. ft.
5%(imp. Area)+2%(landscaped Area)	2,953 sq. ft.	3,000 sq. ft.
Cell Base Elevation		291.5 ft.
Channel Protection Volume elevation		292.91 ft.
Pond Outflow		0.06 cfs
Release Time	24-48 Hours	24 Hours

The runoff from Subcatchments 4A and 4B is tributary to Grassed Underdrain #3.

Table 6		
Proposed Grassed Underdrain #3		
	Required	**Provided**
Impervious Area		36,417 sq. ft.
Developed Area (non-impervious)		55,089 sq. ft.
Treatment Volume	4,871 cu. ft.	4,924 cu. ft.
Filter Surface Area	3,000 sq. ft. max	3,000 sq. ft.
5%(imp. Area)+2%(landscaped Area)	2,923 sq. ft.	3,000 sq. ft.
Cell Base Elevation		291.5 ft.
Channel Protection Volume elevation		292.91 ft.
Pond Outflow		0.06 cfs
Release Time	24-48 Hours	24 Hours

The following table summarizes the proposed treatment for the project as previously approved for Phase 2 by the MDEP and the town:

Table 7 – Overall Treatment as Approved for Phase 2		
	IMPERVIOUS	**DEVELOPED** (Impervious + Landscaped)
Area treated by Grassed Underdrain #1 (sf)(SC-3 Pre)	23,169	93,436
Area treated by Grassed Underdrain #2 (sf)	41,334	85,665
Area treated by Grassed Underdrain #3 (sf)	36,417	91,506
Total Area Treated (sf)	100,920	270,607
Total Area Required to be Treated per Table 3 (sf)	56,861	201,899

As can be seen in Table 7 above, the approved design for Phase 2 provided for treatment for areas significantly greater than the required treatment areas. The ponds were designed to treat the majority of the impervious area including the parking lot, access drives, and the majority of the proposed roofs within the disturbed area of the project.

Plans for Phase 3 alter the treatment table slightly. The development of Phase 3 involved the rerouting of stormwater from the Phase 3 site and a portion of the access road to an existing detention basin located in the central portion of the site for stormwater runoff "quantity" control. The addition of 38,237 sf of new impervious roof, parking and walks, along with 5,300 sf of new lawn and landscaped areas for a total of 43,537 sf of new developed area associated with Phase 3, were factored into the required treatment. The rules require 95% of the new imperious area (36,325 sf) and 80% of the new developed area (34,830 sf) to be treated on site. The following table summarizes the treatment provided and required.

Table 8 – Overall Treatment including Phase 3		
	IMPERVIOUS	**DEVELOPED** (Impervious + Landscaped)
Area treated by Grassed Underdrain #1 (sf) (SC-3A Post)	15,134	36,400
Area treated by Grassed Underdrain #2 (sf)	41,334	85,665
Area treated by Grassed Underdrain #3 (sf)	36,417	91,506
Roof Area 1 to Dripline Filter(sf)	5,600	5,600
Roof Area 2 to Dripline Filter(sf)	10,152	10,152
Total Area Treated (sf)	108,637	229,323
Total Area Required to be Treated (sf)	(56,861+36,325) 93,186	(201,899+34,830) 236,729

The treatment proposed is 116% of the impervious area required to be treated, and is 97% of the developed area required to be treated. It seems that the overtreatment of impervious areas by 15,451 sf would substantially offset a shortfall of 7,406 sf in the treatment of the overall developed area, and meets the intent of the General Standards for Chapter 500, and no degradation of the receiving waters due to the stormwater runoff from the site is anticipated in downgradient areas.

Stormwater Quantity

The Town of Cumberland Site Plan ordinance and DEP chapter 500 rules state that a project must detain runoff such that the rate of stormwater runoff from the site after development does not exceed the predevelopment rate.

The stormwater management study provides an analysis of predevelopment and post development stormwater runoff rates.

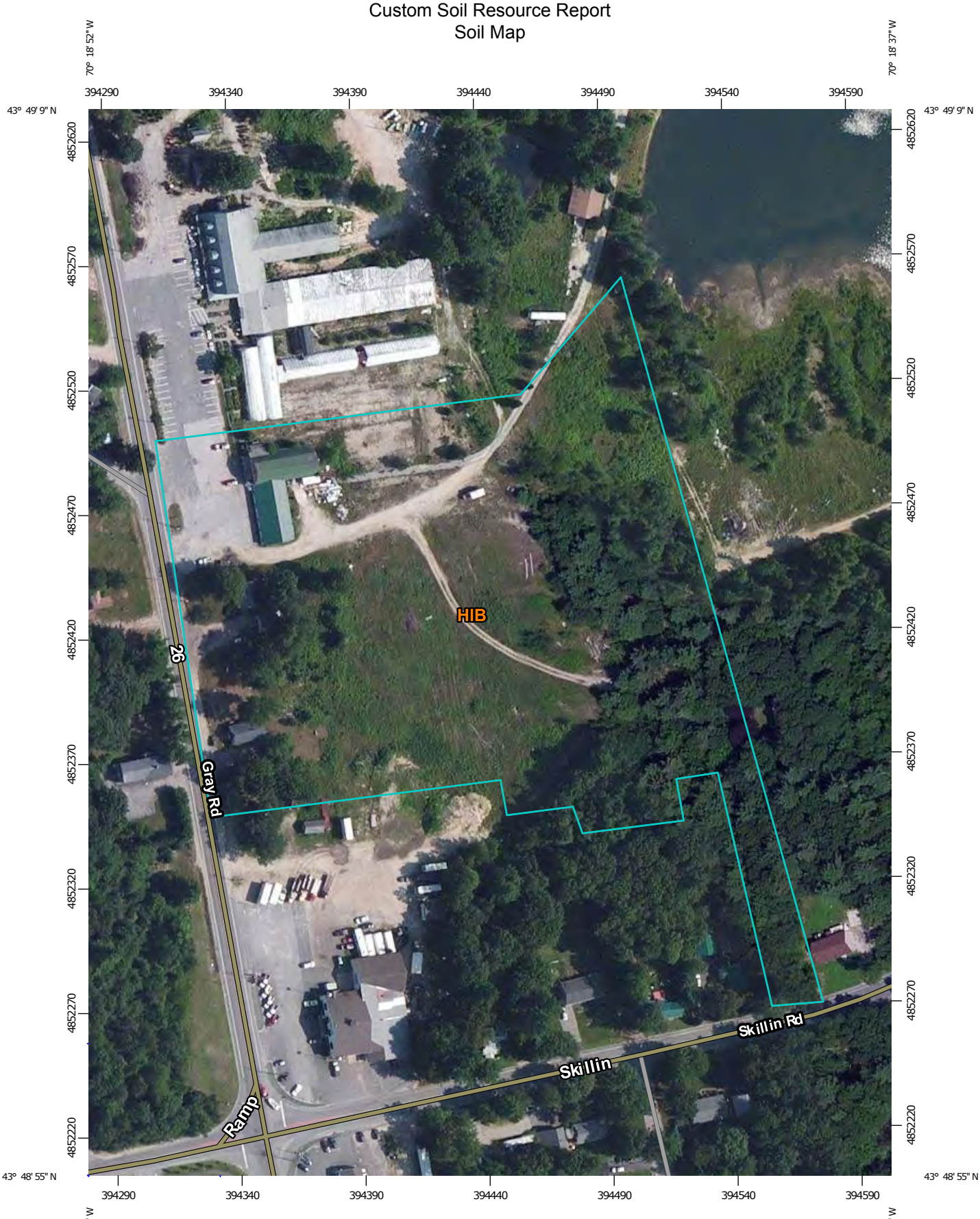
The Natural Resource Conservation Service Medium Intensity Soil Survey was used to identify onsite and offsite soils. The project site is comprised of hydrologic soil type A. An excerpt from the medium intensity soil survey follows this page.

The stormwater runoff analysis has been undertaken utilizing the HydroCAD Stormwater Modeling System software (Version 10.0) developed by the Applied Microcomputer Systems of Chocorua, New Hampshire. The program is based upon the TR-20 computer program and the TR-55 tabular method, both of which are based upon techniques developed by the USDA Soil Conservation Service. The analysis was undertaken for the 2, 10, and 25-year frequencies (3.1, 4.6, and 5.8 inches, respectively). Twenty-four hour storms with a Type III distribution were the basis for the analysis.

Land use cover, delineations of watershed hydraulic flow paths, and hydraulic soils data were obtained using the following data:

1. Cumberland 7.5 Minute Quadrangle Maps prepared by the U.S.G.S.

Custom Soil Resource Report
Soil Map



Map Scale: 1:2,090 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 100 200 400 600

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

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
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 11, Sep 17, 2015

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

Date(s) aerial images were photographed: Jun 20, 2010—Jul 18, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Cumberland County and Part of Oxford County, Maine (ME005)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
HIB	Hinckley loamy sand, 3 to 8 percent slopes	9.1	100.0%
Totals for Area of Interest		**9.1**	**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.

2. On-site topographic survey with 2' contour intervals from an existing conditions plan of the site.
3. Aerial photography of the project site, obtained from the Maine Office of GIS.
4. Field reconnaissance.
5. Stormwater management plans and study approved by MDEP and the town for Phase 2.

This drainage study utilized the Phase 2 post-development modeling and drainage plans approved by the town and MDEP as the existing conditions analysis for Phase 3 of the project.

Table 9 presents the peak flow rates at the point of interest in the predevelopment condition, prior to any development at the site, as approved by the town and MDEP. The peak flows have been rounded to the nearest 0.1 cfs.

Table 9 – Predevelopment Peak Flow Rates (cfs)

Point of Interest	Peak Flow (cfs)		
	2 Year	10 Year	25 Year
	Pre	Pre	Pre
POI # 1	0.8	5.1	10.3

Existing Condition

The existing condition was modeled as six subcatchments tributary to POI 1.

Subcatchment 1 consists of the area tributary to an existing low point (Pond 1P). Outflow from the pond is tributary to the grassed underdrain.

Subcatchment 2 is the largely impervious area tributary to the grassed underdrain and includes the grassed underdrain #2.

Subcatchment 3 is the largely pervious area tributary to the grassed underdrain and includes the grassed underdrain #1.

Subcatchment 4A is the largely impervious area tributary to the grassed underdrain.

Subcatchment 4B is the largely pervious area tributary to the grassed underdrain and includes the grassed underdrain #3.

Subcatchment 5 is the largely pervious area tributary to POI 1.

Pond 2P is the combined grassed underdrains #1, #2 and #3. The water quality volume is contained within the separate ponds. Runoff from larger storms is detained within the combined volume above the water quality stage.

A watershed map for the existing conditions is attached to this section as drawing

number D-100 in Attachment D. Attachments A and B include the TR-20 calculations.

Table 10 – Comparison of Peak flows- with Detention Phase 2 Post-development						
Point of Interest	Peak Flow (cfs)					
	2 Year		10 Year		25 Year	
	Pre	Post	Pre	Post	Pre	Post
POI # 1	0.8	0.2	5.1	3.0	10.3	8.4

As can be seen from Table 10, the post development peak flows for Phase 2 are less than predevelopment flows prior to development at the site.

Post-development Conditions

The post development areas were modelled similarly to the existing conditions model with modifications to SC-3. Existing SC-3 was divided into two subcatchments, 3A and 3 for the post development model. SC-3 was routed to the existing detention basin, while SC-3A was routed to the treatment ponds per the phase 2 model. An outlet control structure with a baffle and orifice is proposed at the detention basin to retain and limit the outflow to the underdrained soil filters and to meet the flooding standards at the point of interest. The following table summarizes the results of the analysis:

Table 11 – Comparison of Peak flows- with Detention Phase 3 Post-development						
Point of Interest	Peak Flow (cfs)					
	2 Year		10 Year		25 Year	
	Pre	Post	Pre	Post	Pre	Post
POI # 1	0.8	0.7	5.1	4.7	10.3	9.9

Note that although the peak runoff rates at the point of interest are expected to increase over the existing condition rates, which is to be expected, the model indicates that the rates of runoff will remain less than the rates of runoff prior to any development at the site.

Erosion Control

BMPs such as a stabilized construction entrance, silt fence and/or filter berms of erosion control mix, riprap pipe inlet and outlet protection, mulch, and permanent seeding will be used to prevent erosion and downstream migration of sediment during construction. The locations of temporary and permanent erosion control measures are shown on Drawing C-102, Grading, Drainage, and Erosion Control Plan. Erosion and sedimentation control notes and details can be found on Drawing C-300.

Inspection & Maintenance

The site contractor will be responsible for maintaining the stormwater facilities for the project during construction. Subsequent to the town's acceptance of the work, the town will assume maintenance responsibility. An Inspection and Maintenance Plan is included as Appendix C.

Conclusions

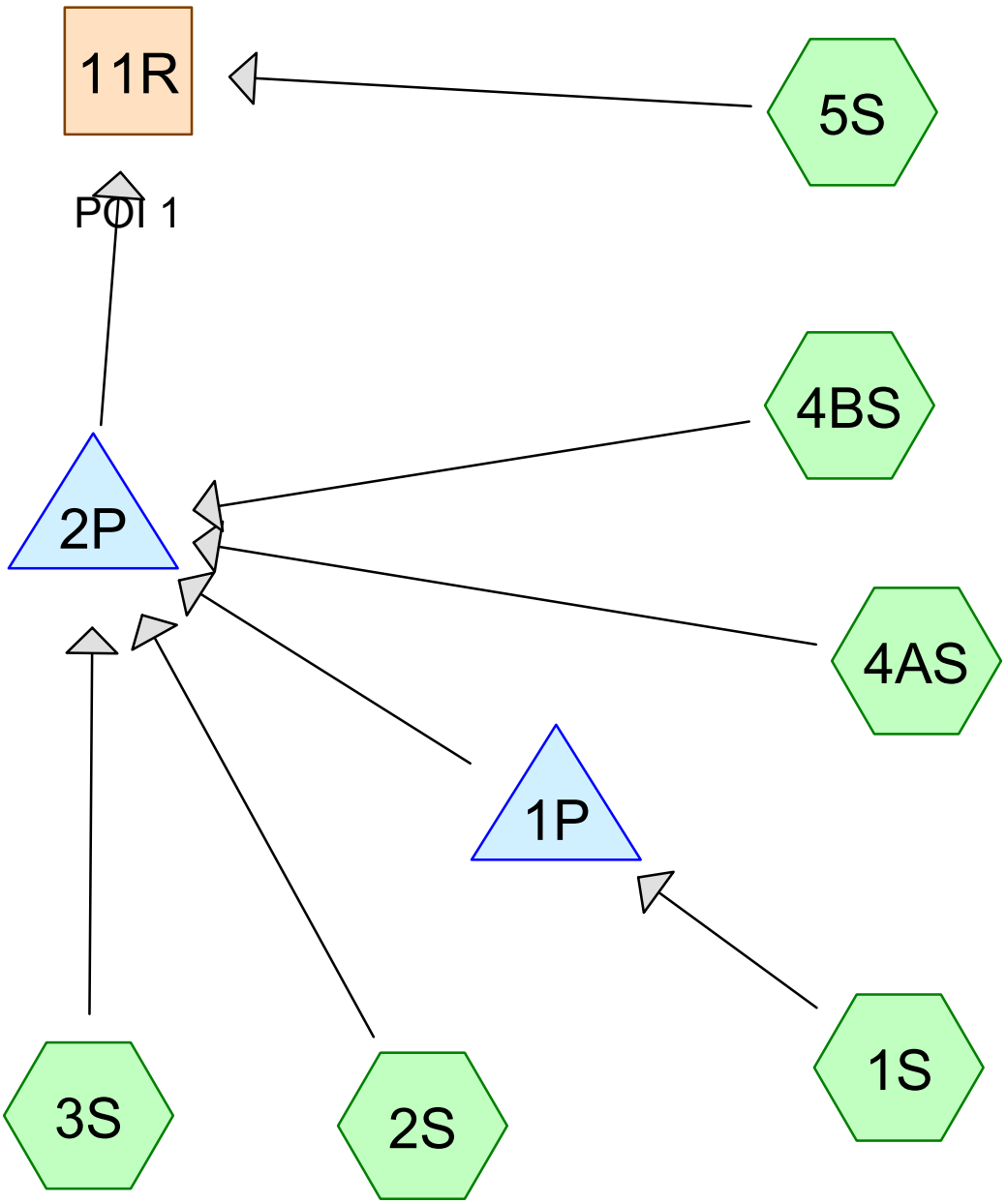
The stormwater management for this project includes a variety of BMPs to control both the quantity and quality of stormwater runoff. The HydroCAD calculations show that the peak runoff rates at the analysis points under post-development conditions are estimated to be less than the peak pre-development runoff rates for the 2, 10, and 25-year storm events. This meets the stormwater detention requirements of the DEP and the town. Stormwater treatment BMPs have been designed to treat stormwater runoff from the developed portion of the site in compliance with the Town of Yarmouth ordinance and the Maine DEP Chapter 500 rules. Based on the information provided, no adverse impacts to downstream receiving bodies are anticipated as a result of the project.

SUPPORTING DATA AND CALCULATIONS

The following material presents calculations and copies of source material used during the analysis for this study.

- Appendix A: Pre-Development HydroCAD Calculations
- Appendix B: Post-Development HydroCAD Calculations
- Appendix C: Inspection & Maintenance Plan
- Appendix D: Drainage Plans
    - D-101 – Pre Development Drainage Plan
    - D-102 – Post Development Drainage Plan
    - D-103 – Stormwater Treatment Plan

Appendix A:
Pre-Development HydroCAD Calculations



Subcat Reach Pond Link

Routing Diagram for Pre-development 03-14-21
Prepared by Site Design Associates, Printed 3/15/2021

Summary for Subcatchment 1S:

Runoff = 3.25 cfs @ 12.11 hrs, Volume= 0.272 af, Depth= 0.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
	54,593	98	Paved parking & roofs
*	47,872	92	Gravel Drives/Parking
	81,920	39	>75% Grass cover, Good, HSG A
	184,385	70	Weighted Average
	129,792		70.39% Pervious Area
	54,593		29.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	150	0.0056	0.88		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
3.0	220	0.0056	1.20		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
1.2	110	0.0100	1.50		**Shallow Concentrated Flow, C-D** Grassed Waterway Kv= 15.0 fps
7.0	480	Total			

Summary for Subcatchment 2S:

Runoff = 1.22 cfs @ 12.10 hrs, Volume= 0.104 af, Depth= 0.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

Area (sf)	CN	Description
40,883	98	Paved parking & roofs
44,782	39	>75% Grass cover, Good, HSG A
85,665	67	Weighted Average
44,782		52.28% Pervious Area
40,883		47.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	20	0.0750	0.14		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.5	99	0.0250	3.21		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
1.0	184	0.0050	3.21	2.52	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
0.9	165	0.0027	3.09	5.46	**Pipe Channel, D-E** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
0.6	113	0.0027	3.09	5.46	**Pipe Channel, E-F** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
5.4	581	Total			

Summary for Subcatchment 3S:

Runoff = 0.11 cfs @ 12.66 hrs, Volume= 0.035 af, Depth= 0.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

Area (sf)	CN	Description
23,169	98	Paved parking & roofs
70,267	39	>75% Grass cover, Good, HSG A
93,436	54	Weighted Average
70,267		75.20% Pervious Area
23,169		24.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.6	150	0.0133	0.11		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
1.4	170	0.0177	2.00		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
25.0	320	Total			

Summary for Subcatchment 4AS:

Runoff = 1.18 cfs @ 12.06 hrs, Volume= 0.084 af, Depth= 0.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

Area (sf)	CN	Description
29,457	98	Paved parking & roofs
24,108	39	>75% Grass cover, Good, HSG A
53,565	71	Weighted Average
24,108		45.01% Pervious Area
29,457		54.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	130	0.0170	1.34		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.9	200	0.0050	3.72	4.57	**Pipe Channel, B-C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013
0.6	113	0.0027	3.09	5.46	**Pipe Channel, C-D** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
3.1	443	Total			

Summary for Subcatchment 4BS:

Runoff = 0.01 cfs @ 13.98 hrs, Volume= 0.007 af, Depth= 0.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

Area (sf)	CN	Description
6,906	98	Paved parking & roofs
32,752	39	>75% Grass cover, Good, HSG A
39,658	49	Weighted Average
32,752		82.59% Pervious Area
6,906		17.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	55	0.0090	0.07		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
4.4	400	0.0100	1.50		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
16.8	455	Total			

Summary for Subcatchment 5S:

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	5,156	92	Gravel Drives/Parking
	34,458	30	Brush, Good, HSG A
	39,614	38	Weighted Average
	39,614		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	50	0.1000	0.19		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
4.4	600	0.0233	2.29		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
8.8	650	Total			

Summary for Reach 11R: POI 1

Inflow Area = 11.394 ac, 31.23% Impervious, Inflow Depth > 0.15" for 2-Year Storm event
Inflow = 0.24 cfs @ 18.45 hrs, Volume= 0.138 af
Outflow = 0.24 cfs @ 18.45 hrs, Volume= 0.138 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3

Summary for Pond 1P:

Inflow Area = 4.233 ac, 29.61% Impervious, Inflow Depth = 0.77" for 2-Year Storm event
Inflow = 3.25 cfs @ 12.11 hrs, Volume= 0.272 af
Outflow = 0.85 cfs @ 12.56 hrs, Volume= 0.233 af, Atten= 74%, Lag= 26.7 min
Primary = 0.85 cfs @ 12.56 hrs, Volume= 0.233 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 294.95' @ 12.57 hrs Surf.Area= 5,770 sf Storage= 3,801 cf

Plug-Flow detention time= 176.3 min calculated for 0.233 af (86% of inflow)
Center-of-Mass det. time= 111.4 min (990.5 - 879.1)

Volume	Invert	Avail.Storage	Storage Description
#1	294.00'	12,546 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
294.00	2,496	200.0	0	0	2,496
295.00	6,000	330.0	4,122	4,122	7,985
296.00	11,108	507.0	8,424	12,546	19,782

Device	Routing	Invert	Outlet Devices
#1	Primary	294.50'	**18.0" Round Culvert** L= 498.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 294.50' / 291.50' S= 0.0060 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=0.85 cfs @ 12.56 hrs HW=294.95' TW=291.95' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.85 cfs @ 2.90 fps)

Summary for Pond 2P:

Inflow Area = 10.485 ac, 33.94% Impervious, Inflow Depth > 0.53" for 2-Year Storm event
Inflow = 2.32 cfs @ 12.08 hrs, Volume= 0.463 af
Outflow = 0.24 cfs @ 18.45 hrs, Volume= 0.138 af, Atten= 90%, Lag= 382.3 min
Primary = 0.24 cfs @ 18.45 hrs, Volume= 0.138 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 292.97' @ 18.45 hrs Surf.Area= 11,691 sf Storage= 14,825 cf

Plug-Flow detention time= 559.0 min calculated for 0.138 af (30% of inflow)
Center-of-Mass det. time= 356.5 min (1,303.5 - 947.0)

Volume	Invert	Avail.Storage	Storage Description
#1	291.50'	43,241 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
291.50	8,600	675.0	0	0	8,600
292.00	9,558	702.0	4,537	4,537	11,579
293.00	11,761	764.0	10,640	15,178	18,849
294.00	14,240	556.0	12,981	28,159	40,707
295.00	15,941	578.0	15,083	43,241	42,772

Device	Routing	Invert	Outlet Devices
#1	Primary	292.91'	**6.0' long x 0.7' 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 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32

Primary OutFlow Max=0.24 cfs @ 18.45 hrs HW=292.97' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 0.24 cfs @ 0.68 fps)

Summary for Subcatchment 1S:

Runoff = 8.13 cfs @ 12.11 hrs, Volume= 0.615 af, Depth= 1.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
	54,593	98	Paved parking & roofs
*	47,872	92	Gravel Drives/Parking
	81,920	39	>75% Grass cover, Good, HSG A
	184,385	70	Weighted Average
	129,792		70.39% Pervious Area
	54,593		29.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	150	0.0056	0.88		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
3.0	220	0.0056	1.20		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
1.2	110	0.0100	1.50		**Shallow Concentrated Flow, C-D** Grassed Waterway Kv= 15.0 fps
7.0	480	Total			

Summary for Subcatchment 2S:

Runoff = 3.43 cfs @ 12.09 hrs, Volume= 0.251 af, Depth= 1.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

Area (sf)	CN	Description
40,883	98	Paved parking & roofs
44,782	39	>75% Grass cover, Good, HSG A
85,665	67	Weighted Average
44,782		52.28% Pervious Area
40,883		47.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	20	0.0750	0.14		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.5	99	0.0250	3.21		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
1.0	184	0.0050	3.21	2.52	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
0.9	165	0.0027	3.09	5.46	**Pipe Channel, D-E** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
0.6	113	0.0027	3.09	5.46	**Pipe Channel, E-F** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
5.4	581	Total			

Summary for Subcatchment 3S:

Runoff = 0.83 cfs @ 12.47 hrs, Volume= 0.131 af, Depth= 0.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

Area (sf)	CN	Description
23,169	98	Paved parking & roofs
70,267	39	>75% Grass cover, Good, HSG A
93,436	54	Weighted Average
70,267		75.20% Pervious Area
23,169		24.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.6	150	0.0133	0.11		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
1.4	170	0.0177	2.00		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
25.0	320	Total			

Summary for Subcatchment 4AS:

Runoff = 2.85 cfs @ 12.05 hrs, Volume= 0.186 af, Depth= 1.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

Area (sf)	CN	Description
29,457	98	Paved parking & roofs
24,108	39	>75% Grass cover, Good, HSG A
53,565	71	Weighted Average
24,108		45.01% Pervious Area
29,457		54.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	130	0.0170	1.34		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.9	200	0.0050	3.72	4.57	**Pipe Channel, B-C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013
0.6	113	0.0027	3.09	5.46	**Pipe Channel, C-D** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
3.1	443	Total			

Summary for Subcatchment 4BS:

Runoff = 0.20 cfs @ 12.42 hrs, Volume= 0.037 af, Depth= 0.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

Area (sf)	CN	Description
6,906	98	Paved parking & roofs
32,752	39	>75% Grass cover, Good, HSG A
39,658	49	Weighted Average
32,752		82.59% Pervious Area
6,906		17.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	55	0.0090	0.07		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
4.4	400	0.0100	1.50		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
16.8	455	Total			

Summary for Subcatchment 5S:

Runoff = 0.01 cfs @ 14.89 hrs, Volume= 0.008 af, Depth= 0.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	5,156	92	Gravel Drives/Parking
	34,458	30	Brush, Good, HSG A
	39,614	38	Weighted Average
	39,614		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	50	0.1000	0.19		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
4.4	600	0.0233	2.29		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
8.8	650	Total			

Summary for Reach 11R: POI 1

Inflow Area = 11.394 ac, 31.23% Impervious, Inflow Depth > 0.91" for 10-Year Storm event
Inflow = 2.98 cfs @ 12.96 hrs, Volume= 0.865 af
Outflow = 2.98 cfs @ 12.96 hrs, Volume= 0.865 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3

Summary for Pond 1P:

Inflow Area = 4.233 ac, 29.61% Impervious, Inflow Depth = 1.74" for 10-Year Storm event
Inflow = 8.13 cfs @ 12.11 hrs, Volume= 0.615 af
Outflow = 3.41 cfs @ 12.34 hrs, Volume= 0.577 af, Atten= 58%, Lag= 13.7 min
Primary = 3.41 cfs @ 12.34 hrs, Volume= 0.577 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 295.47' @ 12.39 hrs Surf.Area= 8,195 sf Storage= 7,428 cf

Plug-Flow detention time= 100.1 min calculated for 0.576 af (94% of inflow)
Center-of-Mass det. time= 67.3 min (920.5 - 853.2)

Volume	Invert	Avail.Storage	Storage Description
#1	294.00'	12,546 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
294.00	2,496	200.0	0	0	2,496
295.00	6,000	330.0	4,122	4,122	7,985
296.00	11,108	507.0	8,424	12,546	19,782

Device	Routing	Invert	Outlet Devices
#1	Primary	294.50'	**18.0" Round Culvert** L= 498.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 294.50' / 291.50' S= 0.0060 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=3.41 cfs @ 12.34 hrs HW=295.46' TW=292.63' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 3.41 cfs @ 4.05 fps)

Summary for Pond 2P:

Inflow Area = 10.485 ac, 33.94% Impervious, Inflow Depth = 1.35" for 10-Year Storm event
Inflow = 7.62 cfs @ 12.09 hrs, Volume= 1.182 af
Outflow = 2.97 cfs @ 12.96 hrs, Volume= 0.858 af, Atten= 61%, Lag= 52.1 min
Primary = 2.97 cfs @ 12.96 hrs, Volume= 0.858 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 293.23' @ 12.96 hrs Surf.Area= 12,300 sf Storage= 17,892 cf

Plug-Flow detention time= 204.6 min calculated for 0.857 af (73% of inflow)
Center-of-Mass det. time= 95.1 min (992.1 - 897.0)

Volume	Invert	Avail.Storage	Storage Description
#1	291.50'	43,241 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
291.50	8,600	675.0	0	0	8,600
292.00	9,558	702.0	4,537	4,537	11,579
293.00	11,761	764.0	10,640	15,178	18,849
294.00	14,240	556.0	12,981	28,159	40,707
295.00	15,941	578.0	15,083	43,241	42,772

Device	Routing	Invert	Outlet Devices
#1	Primary	292.91'	**6.0' long x 0.7' 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 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32

Primary OutFlow Max=2.97 cfs @ 12.96 hrs HW=293.23' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 2.97 cfs @ 1.57 fps)

Summary for Subcatchment 1S:

Runoff = 12.59 cfs @ 12.10 hrs, Volume= 0.934 af, Depth= 2.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
	54,593	98	Paved parking & roofs
*	47,872	92	Gravel Drives/Parking
	81,920	39	>75% Grass cover, Good, HSG A
	184,385	70	Weighted Average
	129,792		70.39% Pervious Area
	54,593		29.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	150	0.0056	0.88		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
3.0	220	0.0056	1.20		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
1.2	110	0.0100	1.50		**Shallow Concentrated Flow, C-D** Grassed Waterway Kv= 15.0 fps
7.0	480	Total			

Summary for Subcatchment 2S:

Runoff = 5.52 cfs @ 12.08 hrs, Volume= 0.390 af, Depth= 2.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

Area (sf)	CN	Description
40,883	98	Paved parking & roofs
44,782	39	>75% Grass cover, Good, HSG A
85,665	67	Weighted Average
44,782		52.28% Pervious Area
40,883		47.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	20	0.0750	0.14		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.5	99	0.0250	3.21		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
1.0	184	0.0050	3.21	2.52	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
0.9	165	0.0027	3.09	5.46	**Pipe Channel, D-E** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
0.6	113	0.0027	3.09	5.46	**Pipe Channel, E-F** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
5.4	581	Total			

Summary for Subcatchment 3S:

Runoff = 1.76 cfs @ 12.41 hrs, Volume= 0.238 af, Depth= 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

Area (sf)	CN	Description
23,169	98	Paved parking & roofs
70,267	39	>75% Grass cover, Good, HSG A
93,436	54	Weighted Average
70,267		75.20% Pervious Area
23,169		24.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.6	150	0.0133	0.11		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
1.4	170	0.0177	2.00		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
25.0	320	Total			

Summary for Subcatchment 4AS:

Runoff = 4.37 cfs @ 12.05 hrs, Volume= 0.281 af, Depth= 2.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

Area (sf)	CN	Description
29,457	98	Paved parking & roofs
24,108	39	>75% Grass cover, Good, HSG A
53,565	71	Weighted Average
24,108		45.01% Pervious Area
29,457		54.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	130	0.0170	1.34		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.9	200	0.0050	3.72	4.57	**Pipe Channel, B-C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013
0.6	113	0.0027	3.09	5.46	**Pipe Channel, C-D** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
3.1	443	Total			

Summary for Subcatchment 4BS:

Runoff = 0.55 cfs @ 12.30 hrs, Volume= 0.074 af, Depth= 0.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

Area (sf)	CN	Description
6,906	98	Paved parking & roofs
32,752	39	>75% Grass cover, Good, HSG A
39,658	49	Weighted Average
32,752		82.59% Pervious Area
6,906		17.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	55	0.0090	0.07		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
4.4	400	0.0100	1.50		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
16.8	455	Total			

Summary for Subcatchment 5S:

Runoff = 0.10 cfs @ 12.43 hrs, Volume= 0.026 af, Depth= 0.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	5,156	92	Gravel Drives/Parking
	34,458	30	Brush, Good, HSG A
	39,614	38	Weighted Average
	39,614		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	50	0.1000	0.19		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
4.4	600	0.0233	2.29		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
8.8	650	Total			

Summary for Reach 11R: POI 1

Inflow Area = 11.394 ac, 31.23% Impervious, Inflow Depth > 1.66" for 25-Year Storm event
Inflow = 8.39 cfs @ 12.56 hrs, Volume= 1.579 af
Outflow = 8.39 cfs @ 12.56 hrs, Volume= 1.579 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3

Summary for Pond 1P:

Inflow Area = 4.233 ac, 29.61% Impervious, Inflow Depth = 2.65" for 25-Year Storm event
Inflow = 12.59 cfs @ 12.10 hrs, Volume= 0.934 af
Outflow = 5.38 cfs @ 12.28 hrs, Volume= 0.895 af, Atten= 57%, Lag= 10.7 min
Primary = 5.38 cfs @ 12.28 hrs, Volume= 0.895 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 295.85' @ 12.37 hrs Surf.Area= 10,255 sf Storage= 10,967 cf

Plug-Flow detention time= 79.0 min calculated for 0.895 af (96% of inflow)
Center-of-Mass det. time= 56.0 min (896.9 - 840.9)

Volume	Invert	Avail.Storage	Storage Description
#1	294.00'	12,546 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
294.00	2,496	200.0	0	0	2,496
295.00	6,000	330.0	4,122	4,122	7,985
296.00	11,108	507.0	8,424	12,546	19,782

Device	Routing	Invert	Outlet Devices
#1	Primary	294.50'	**18.0" Round Culvert** L= 498.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 294.50' / 291.50' S= 0.0060 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=5.38 cfs @ 12.28 hrs HW=295.84' TW=293.23' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 5.38 cfs @ 4.29 fps)

Summary for Pond 2P:

Inflow Area = 10.485 ac, 33.94% Impervious, Inflow Depth = 2.15" for 25-Year Storm event
Inflow = 13.53 cfs @ 12.09 hrs, Volume= 1.878 af
Outflow = 8.31 cfs @ 12.56 hrs, Volume= 1.553 af, Atten= 39%, Lag= 28.1 min
Primary = 8.31 cfs @ 12.56 hrs, Volume= 1.553 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 293.52' @ 12.56 hrs Surf.Area= 13,011 sf Storage= 21,567 cf

Plug-Flow detention time= 138.0 min calculated for 1.553 af (83% of inflow)
Center-of-Mass det. time= 59.1 min (937.3 - 878.2)

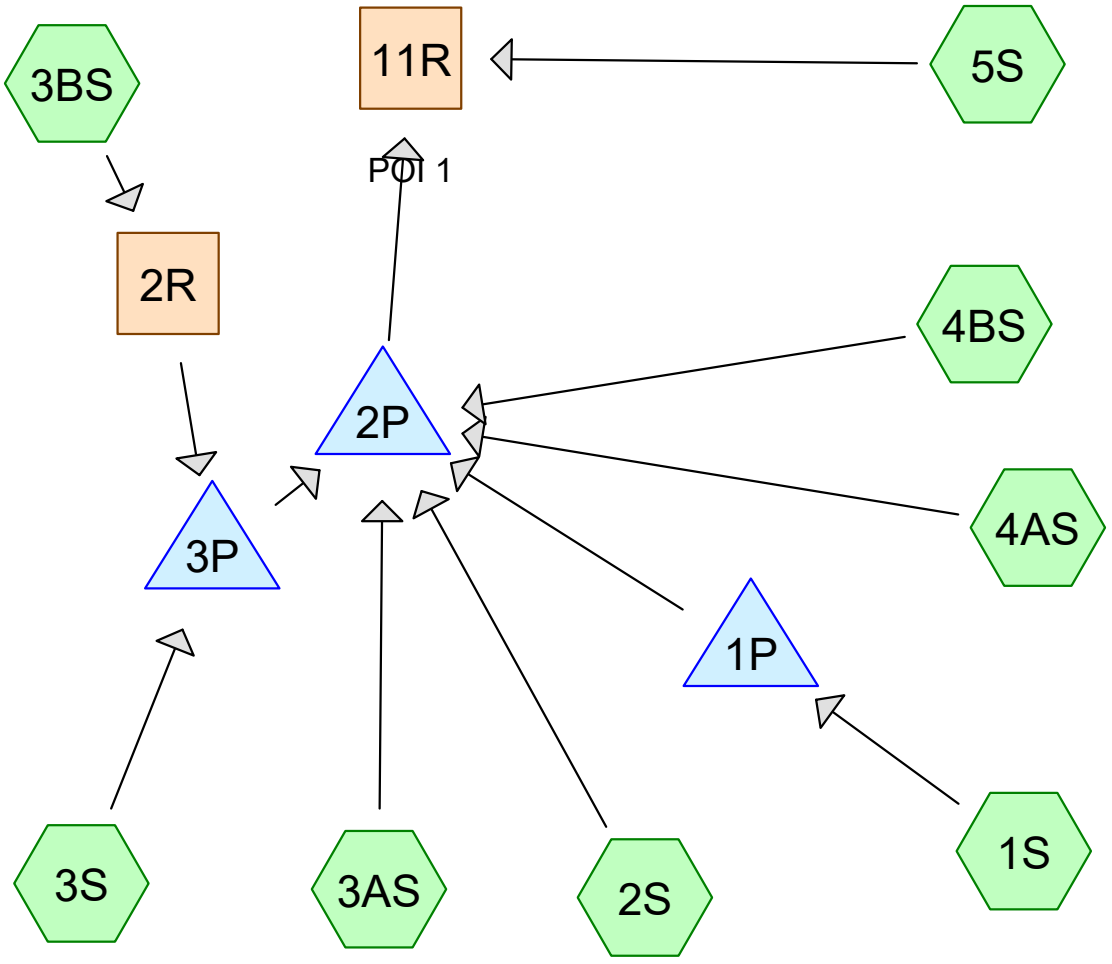
Volume	Invert	Avail.Storage	Storage Description
#1	291.50'	43,241 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
291.50	8,600	675.0	0	0	8,600
292.00	9,558	702.0	4,537	4,537	11,579
293.00	11,761	764.0	10,640	15,178	18,849
294.00	14,240	556.0	12,981	28,159	40,707
295.00	15,941	578.0	15,083	43,241	42,772

Device	Routing	Invert	Outlet Devices
#1	Primary	292.91'	**6.0' long x 0.7' 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 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32

Primary OutFlow Max=8.31 cfs @ 12.56 hrs HW=293.52' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 8.31 cfs @ 2.28 fps)

Appendix B:
Post-Development HydroCAD Calculations



Subcat Reach Pond Link

Routing Diagram for POST DEVELOPMENT 03-14-21 WITH EX
Prepared by Site Design Associates, Printed 3/15/2021

Summary for Subcatchment 1S:

Runoff = 3.31 cfs @ 12.11 hrs, Volume= 0.271 af, Depth= 0.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
	51,243	98	Paved parking & roofs
*	47,872	92	Gravel Drives/Parking
	73,757	39	>75% Grass cover, Good, HSG A
	172,872	71	Weighted Average
	121,629		70.36% Pervious Area
	51,243		29.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	150	0.0056	0.88		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
3.0	220	0.0056	1.20		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
1.2	110	0.0100	1.50		**Shallow Concentrated Flow, C-D** Grassed Waterway Kv= 15.0 fps
7.0	480	Total			

Summary for Subcatchment 2S:

Runoff = 1.22 cfs @ 12.10 hrs, Volume= 0.104 af, Depth= 0.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

Area (sf)	CN	Description
40,883	98	Paved parking & roofs
44,782	39	>75% Grass cover, Good, HSG A
85,665	67	Weighted Average
44,782		52.28% Pervious Area
40,883		47.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	20	0.0750	0.14		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.5	99	0.0250	3.21		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
1.0	184	0.0050	3.21	2.52	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
0.9	165	0.0027	3.09	5.46	**Pipe Channel, D-E** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
0.6	113	0.0027	3.09	5.46	**Pipe Channel, E-F** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
5.4	581	Total			

Summary for Subcatchment 3AS:

Runoff = 0.34 cfs @ 12.14 hrs, Volume= 0.036 af, Depth= 0.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

Area (sf)	CN	Description
15,134	98	Paved parking & roofs
21,266	39	>75% Grass cover, Good, HSG A
36,400	64	Weighted Average
21,266		58.42% Pervious Area
15,134		41.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	32	0.0200	0.09		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
1.7	165	0.0100	1.61		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
7.5	197	Total			

Summary for Subcatchment 3BS:

Runoff = 0.03 cfs @ 12.31 hrs, Volume= 0.005 af, Depth= 0.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

Area (sf)	CN	Description
3,351	98	Paved parking & roofs
8,163	39	>75% Grass cover, Good, HSG A
11,514	56	Weighted Average
8,163		70.90% Pervious Area
3,351		29.10% Impervious Area

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

Summary for Subcatchment 3S:

Runoff = 2.53 cfs @ 12.10 hrs, Volume= 0.184 af, Depth= 1.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

Area (sf)	CN	Description
46,037	98	Paved parking & roofs
14,163	39	>75% Grass cover, Good, HSG A
60,200	84	Weighted Average
14,163		23.53% Pervious Area
46,037		76.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.5	23	0.0200	0.09		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.2	40	0.0400	4.06		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
1.2	174	0.0030	2.48	1.95	**Pipe Channel, C-D** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
0.4	45	0.0020	2.03	1.59	**Pipe Channel, D-E** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
0.4	80	0.0040	3.76	6.64	**Pipe Channel, E-F** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
6.7	362	Total			

Summary for Subcatchment 4AS:

Runoff = 1.18 cfs @ 12.06 hrs, Volume= 0.084 af, Depth= 0.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

Area (sf)	CN	Description
29,457	98	Paved parking & roofs
24,108	39	>75% Grass cover, Good, HSG A
53,565	71	Weighted Average
24,108		45.01% Pervious Area
29,457		54.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	130	0.0170	1.34		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.9	200	0.0050	3.72	4.57	**Pipe Channel, B-C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013
0.6	113	0.0027	3.09	5.46	**Pipe Channel, C-D** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
3.1	443	Total			

Summary for Subcatchment 4BS:

Runoff = 0.01 cfs @ 13.98 hrs, Volume= 0.007 af, Depth= 0.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

Area (sf)	CN	Description
6,906	98	Paved parking & roofs
32,752	39	>75% Grass cover, Good, HSG A
39,658	49	Weighted Average
32,752		82.59% Pervious Area
6,906		17.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	55	0.0090	0.07		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
4.4	400	0.0100	1.50		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
16.8	455	Total			

Summary for Subcatchment 5S:

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Storm Rainfall=3.10"

	Area (sf)	CN	Description
*	5,156	92	Gravel Drives/Parking
	34,458	30	Brush, Good, HSG A
	39,614	38	Weighted Average
	39,614		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	50	0.1000	0.19		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
4.4	600	0.0233	2.29		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
8.8	650	Total			

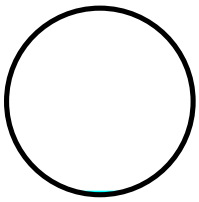
Summary for Reach 2R:

Inflow Area = 0.264 ac, 29.10% Impervious, Inflow Depth = 0.25" for 2-Year Storm event
Inflow = 0.03 cfs @ 12.31 hrs, Volume= 0.005 af
Outflow = 0.03 cfs @ 12.32 hrs, Volume= 0.005 af, Atten= 0%, Lag= 0.7 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 6.21 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 3.89 fps, Avg. Travel Time= 1.7 min

Peak Storage= 2 cf @ 12.32 hrs
Average Depth at Peak Storage= 0.02'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 31.22 cfs

12.0" Round Pipe
n= 0.013
Length= 385.0' Slope= 0.7677 '/'
Inlet Invert= 295.30', Outlet Invert= -0.26'



Summary for Reach 11R: POI 1

Inflow Area = 11.467 ac, 38.64% Impervious, Inflow Depth > 0.31" for 2-Year Storm event
Inflow = 0.65 cfs @ 14.83 hrs, Volume= 0.292 af
Outflow = 0.65 cfs @ 14.83 hrs, Volume= 0.292 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3

Summary for Pond 1P:

Inflow Area = 3.969 ac, 29.64% Impervious, Inflow Depth = 0.82" for 2-Year Storm event
Inflow = 3.31 cfs @ 12.11 hrs, Volume= 0.271 af
Outflow = 1.39 cfs @ 12.43 hrs, Volume= 0.270 af, Atten= 58%, Lag= 19.2 min
Primary = 1.39 cfs @ 12.43 hrs, Volume= 0.270 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 294.72' @ 12.43 hrs Surf.Area= 4,883 sf Storage= 2,624 cf

Plug-Flow detention time= 57.8 min calculated for 0.270 af (100% of inflow)
Center-of-Mass det. time= 56.5 min (931.9 - 875.4)

Volume	Invert	Avail.Storage	Storage Description
#1	294.00'	12,546 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
294.00	2,496	200.0	0	0	2,496
295.00	6,000	330.0	4,122	4,122	7,985
296.00	11,108	507.0	8,424	12,546	19,782

Device	Routing	Invert	Outlet Devices
#1	Primary	294.00'	**12.0" Round Culvert** L= 498.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 294.00' / 291.50' S= 0.0050 '/' Cc= 0.900 n= 0.010, Flow Area= 0.79 sf

Primary OutFlow Max=1.39 cfs @ 12.43 hrs HW=294.72' TW=292.16' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 1.39 cfs @ 2.29 fps)

Summary for Pond 2P:

Inflow Area = 10.557 ac, 41.97% Impervious, Inflow Depth = 0.70" for 2-Year Storm event
Inflow = 3.81 cfs @ 12.11 hrs, Volume= 0.617 af
Outflow = 0.65 cfs @ 14.83 hrs, Volume= 0.292 af, Atten= 83%, Lag= 163.1 min
Primary = 0.65 cfs @ 14.83 hrs, Volume= 0.292 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 293.03' @ 14.83 hrs Surf.Area= 11,820 sf Storage= 15,474 cf

Plug-Flow detention time= 341.9 min calculated for 0.292 af (47% of inflow)
Center-of-Mass det. time= 198.4 min (1,092.1 - 893.7)

Volume	Invert	Avail.Storage	Storage Description
#1	291.50'	43,241 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
291.50	8,600	675.0	0	0	8,600
292.00	9,558	702.0	4,537	4,537	11,579
293.00	11,761	764.0	10,640	15,178	18,849
294.00	14,240	556.0	12,981	28,159	40,707
295.00	15,941	578.0	15,083	43,241	42,772

Device	Routing	Invert	Outlet Devices
#1	Primary	292.91'	**6.0' long x 0.7' 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 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32

Primary OutFlow Max=0.65 cfs @ 14.83 hrs HW=293.03' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 0.65 cfs @ 0.94 fps)

Summary for Pond 3P:

Inflow Area = 1.646 ac, 68.87% Impervious, Inflow Depth = 1.38" for 2-Year Storm event
Inflow = 2.53 cfs @ 12.10 hrs, Volume= 0.190 af
Outflow = 0.90 cfs @ 12.42 hrs, Volume= 0.190 af, Atten= 65%, Lag= 19.2 min
Discarded = 0.04 cfs @ 10.65 hrs, Volume= 0.073 af
Primary = 0.86 cfs @ 12.42 hrs, Volume= 0.117 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 293.57' @ 12.42 hrs Surf.Area= 2,400 sf Storage= 2,318 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 137.4 min (972.6 - 835.2)

Volume	Invert	Avail.Storage	Storage Description
#1	292.00'	13,162 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
292.00	668	0	0
293.00	1,661	1,165	1,165
294.00	2,962	2,312	3,476
295.00	4,442	3,702	7,178
296.00	7,525	5,984	13,162

Device	Routing	Invert	Outlet Devices
#1	Primary	294.00'	**5.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Discarded	292.00'	**0.04 cfs Exfiltration at all elevations**
#3	Primary	292.50'	**6.0" Vert. Orifice/Grate** C= 0.600

Discarded OutFlow Max=0.04 cfs @ 10.65 hrs HW=292.04' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=0.86 cfs @ 12.42 hrs HW=293.57' TW=292.14' (Dynamic Tailwater)
├**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
└**3=Orifice/Grate** (Orifice Controls 0.86 cfs @ 4.35 fps)

Summary for Subcatchment 1S:

Runoff = 8.00 cfs @ 12.11 hrs, Volume= 0.602 af, Depth= 1.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
	51,243	98	Paved parking & roofs
*	47,872	92	Gravel Drives/Parking
	73,757	39	>75% Grass cover, Good, HSG A
	172,872	71	Weighted Average
	121,629		70.36% Pervious Area
	51,243		29.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	150	0.0056	0.88		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
3.0	220	0.0056	1.20		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
1.2	110	0.0100	1.50		**Shallow Concentrated Flow, C-D** Grassed Waterway Kv= 15.0 fps
7.0	480	Total			

Summary for Subcatchment 2S:

Runoff = 3.43 cfs @ 12.09 hrs, Volume= 0.251 af, Depth= 1.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

Area (sf)	CN	Description
40,883	98	Paved parking & roofs
44,782	39	>75% Grass cover, Good, HSG A
85,665	67	Weighted Average
44,782		52.28% Pervious Area
40,883		47.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	20	0.0750	0.14		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.5	99	0.0250	3.21		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
1.0	184	0.0050	3.21	2.52	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
0.9	165	0.0027	3.09	5.46	**Pipe Channel, D-E** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
0.6	113	0.0027	3.09	5.46	**Pipe Channel, E-F** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
5.4	581	Total			

Summary for Subcatchment 3AS:

Runoff = 1.14 cfs @ 12.12 hrs, Volume= 0.092 af, Depth= 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

Area (sf)	CN	Description
15,134	98	Paved parking & roofs
21,266	39	>75% Grass cover, Good, HSG A
36,400	64	Weighted Average
21,266		58.42% Pervious Area
15,134		41.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	32	0.0200	0.09		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
1.7	165	0.0100	1.61		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
7.5	197	Total			

Summary for Subcatchment 3BS:

Runoff = 0.21 cfs @ 12.09 hrs, Volume= 0.019 af, Depth= 0.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

Area (sf)	CN	Description
3,351	98	Paved parking & roofs
8,163	39	>75% Grass cover, Good, HSG A
11,514	56	Weighted Average
8,163		70.90% Pervious Area
3,351		29.10% Impervious Area

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

Summary for Subcatchment 3S:

Runoff = 4.58 cfs @ 12.10 hrs, Volume= 0.335 af, Depth= 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

Area (sf)	CN	Description
46,037	98	Paved parking & roofs
14,163	39	>75% Grass cover, Good, HSG A
60,200	84	Weighted Average
14,163		23.53% Pervious Area
46,037		76.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.5	23	0.0200	0.09		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.2	40	0.0400	4.06		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
1.2	174	0.0030	2.48	1.95	**Pipe Channel, C-D** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
0.4	45	0.0020	2.03	1.59	**Pipe Channel, D-E** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
0.4	80	0.0040	3.76	6.64	**Pipe Channel, E-F** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
6.7	362	Total			

Summary for Subcatchment 4AS:

Runoff = 2.85 cfs @ 12.05 hrs, Volume= 0.186 af, Depth= 1.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

Area (sf)	CN	Description
29,457	98	Paved parking & roofs
24,108	39	>75% Grass cover, Good, HSG A
53,565	71	Weighted Average
24,108		45.01% Pervious Area
29,457		54.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	130	0.0170	1.34		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.9	200	0.0050	3.72	4.57	**Pipe Channel, B-C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013
0.6	113	0.0027	3.09	5.46	**Pipe Channel, C-D** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
3.1	443	Total			

Summary for Subcatchment 4BS:

Runoff = 0.20 cfs @ 12.42 hrs, Volume= 0.037 af, Depth= 0.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

Area (sf)	CN	Description
6,906	98	Paved parking & roofs
32,752	39	>75% Grass cover, Good, HSG A
39,658	49	Weighted Average
32,752		82.59% Pervious Area
6,906		17.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	55	0.0090	0.07		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
4.4	400	0.0100	1.50		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
16.8	455	Total			

Summary for Subcatchment 5S:

Runoff = 0.01 cfs @ 14.89 hrs, Volume= 0.008 af, Depth= 0.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Storm Rainfall=4.60"

	Area (sf)	CN	Description
*	5,156	92	Gravel Drives/Parking
	34,458	30	Brush, Good, HSG A
	39,614	38	Weighted Average
	39,614		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	50	0.1000	0.19		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
4.4	600	0.0233	2.29		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
8.8	650	Total			

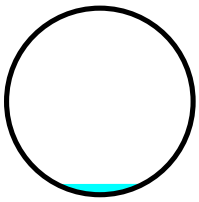
Summary for Reach 2R:

Inflow Area = 0.264 ac, 29.10% Impervious, Inflow Depth = 0.84" for 10-Year Storm event
Inflow = 0.21 cfs @ 12.09 hrs, Volume= 0.019 af
Outflow = 0.21 cfs @ 12.10 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.4 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 11.31 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 5.01 fps, Avg. Travel Time= 1.3 min

Peak Storage= 7 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.06'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 31.22 cfs

12.0" Round Pipe
n= 0.013
Length= 385.0' Slope= 0.7677 '/'
Inlet Invert= 295.30', Outlet Invert= -0.26'



Summary for Reach 11R: POI 1

Inflow Area = 11.467 ac, 38.64% Impervious, Inflow Depth > 1.18" for 10-Year Storm event
Inflow = 4.66 cfs @ 12.73 hrs, Volume= 1.125 af
Outflow = 4.66 cfs @ 12.73 hrs, Volume= 1.125 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3

Summary for Pond 1P:

Inflow Area = 3.969 ac, 29.64% Impervious, Inflow Depth = 1.82" for 10-Year Storm event
Inflow = 8.00 cfs @ 12.11 hrs, Volume= 0.602 af
Outflow = 2.80 cfs @ 12.41 hrs, Volume= 0.601 af, Atten= 65%, Lag= 18.1 min
Primary = 2.80 cfs @ 12.41 hrs, Volume= 0.601 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 295.38' @ 12.45 hrs Surf.Area= 7,781 sf Storage= 6,766 cf

Plug-Flow detention time= 46.2 min calculated for 0.601 af (100% of inflow)
Center-of-Mass det. time= 45.7 min (896.2 - 850.5)

Volume	Invert	Avail.Storage	Storage Description
#1	294.00'	12,546 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
294.00	2,496	200.0	0	0	2,496
295.00	6,000	330.0	4,122	4,122	7,985
296.00	11,108	507.0	8,424	12,546	19,782

Device	Routing	Invert	Outlet Devices
#1	Primary	294.00'	**12.0" Round Culvert** L= 498.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 294.00' / 291.50' S= 0.0050 '/' Cc= 0.900 n= 0.010, Flow Area= 0.79 sf

Primary OutFlow Max=2.80 cfs @ 12.41 hrs HW=295.38' TW=293.17' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 2.80 cfs @ 3.57 fps)

Summary for Pond 2P:

Inflow Area = 10.557 ac, 41.97% Impervious, Inflow Depth = 1.64" for 10-Year Storm event
Inflow = 9.98 cfs @ 12.09 hrs, Volume= 1.441 af
Outflow = 4.66 cfs @ 12.73 hrs, Volume= 1.117 af, Atten= 53%, Lag= 38.5 min
Primary = 4.66 cfs @ 12.73 hrs, Volume= 1.117 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 293.33' @ 12.73 hrs Surf.Area= 12,558 sf Storage= 19,217 cf

Plug-Flow detention time= 158.8 min calculated for 1.117 af (77% of inflow)
Center-of-Mass det. time= 71.6 min (943.1 - 871.5)

Volume	Invert	Avail.Storage	Storage Description
#1	291.50'	43,241 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
291.50	8,600	675.0	0	0	8,600
292.00	9,558	702.0	4,537	4,537	11,579
293.00	11,761	764.0	10,640	15,178	18,849
294.00	14,240	556.0	12,981	28,159	40,707
295.00	15,941	578.0	15,083	43,241	42,772

Device	Routing	Invert	Outlet Devices
#1	Primary	292.91'	**6.0' long x 0.7' 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 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32

Primary OutFlow Max=4.66 cfs @ 12.73 hrs HW=293.33' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 4.66 cfs @ 1.84 fps)

Summary for Pond 3P:

Inflow Area = 1.646 ac, 68.87% Impervious, Inflow Depth = 2.58" for 10-Year Storm event
Inflow = 4.79 cfs @ 12.10 hrs, Volume= 0.353 af
Outflow = 2.29 cfs @ 12.27 hrs, Volume= 0.353 af, Atten= 52%, Lag= 10.2 min
Discarded = 0.04 cfs @ 9.23 hrs, Volume= 0.079 af
Primary = 2.25 cfs @ 12.27 hrs, Volume= 0.274 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 294.19' @ 12.28 hrs Surf.Area= 3,243 sf Storage= 4,066 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 96.9 min (915.7 - 818.9)

Volume	Invert	Avail.Storage	Storage Description
#1	292.00'	13,162 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
292.00	668	0	0
293.00	1,661	1,165	1,165
294.00	2,962	2,312	3,476
295.00	4,442	3,702	7,178
296.00	7,525	5,984	13,162

Device	Routing	Invert	Outlet Devices
#1	Primary	294.00'	**5.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Discarded	292.00'	**0.04 cfs Exfiltration at all elevations**
#3	Primary	292.50'	**6.0" Vert. Orifice/Grate** C= 0.600

Discarded OutFlow Max=0.04 cfs @ 9.23 hrs HW=292.04' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=2.25 cfs @ 12.27 hrs HW=294.19' TW=292.85' (Dynamic Tailwater)
├**1=Broad-Crested Rectangular Weir** (Weir Controls 1.15 cfs @ 1.22 fps)
└**3=Orifice/Grate** (Orifice Controls 1.10 cfs @ 5.58 fps)

Summary for Subcatchment 1S:

Runoff = 12.24 cfs @ 12.10 hrs, Volume= 0.906 af, Depth= 2.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
	51,243	98	Paved parking & roofs
*	47,872	92	Gravel Drives/Parking
	73,757	39	>75% Grass cover, Good, HSG A
	172,872	71	Weighted Average
	121,629		70.36% Pervious Area
	51,243		29.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	150	0.0056	0.88		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
3.0	220	0.0056	1.20		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
1.2	110	0.0100	1.50		**Shallow Concentrated Flow, C-D** Grassed Waterway Kv= 15.0 fps
7.0	480	Total			

Summary for Subcatchment 2S:

Runoff = 5.52 cfs @ 12.08 hrs, Volume= 0.390 af, Depth= 2.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

Area (sf)	CN	Description
40,883	98	Paved parking & roofs
44,782	39	>75% Grass cover, Good, HSG A
85,665	67	Weighted Average
44,782		52.28% Pervious Area
40,883		47.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	20	0.0750	0.14		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.5	99	0.0250	3.21		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
1.0	184	0.0050	3.21	2.52	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
0.9	165	0.0027	3.09	5.46	**Pipe Channel, D-E** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
0.6	113	0.0027	3.09	5.46	**Pipe Channel, E-F** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
5.4	581	Total			

Summary for Subcatchment 3AS:

Runoff = 1.91 cfs @ 12.11 hrs, Volume= 0.148 af, Depth= 2.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

Area (sf)	CN	Description
15,134	98	Paved parking & roofs
21,266	39	>75% Grass cover, Good, HSG A
36,400	64	Weighted Average
21,266		58.42% Pervious Area
15,134		41.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	32	0.0200	0.09		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
1.7	165	0.0100	1.61		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
7.5	197	Total			

Summary for Subcatchment 3BS:

Runoff = 0.42 cfs @ 12.09 hrs, Volume= 0.033 af, Depth= 1.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

Area (sf)	CN	Description
3,351	98	Paved parking & roofs
8,163	39	>75% Grass cover, Good, HSG A
11,514	56	Weighted Average
8,163		70.90% Pervious Area
3,351		29.10% Impervious Area

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

Summary for Subcatchment 3S:

Runoff = 6.26 cfs @ 12.10 hrs, Volume= 0.462 af, Depth= 4.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

Area (sf)	CN	Description
46,037	98	Paved parking & roofs
14,163	39	>75% Grass cover, Good, HSG A
60,200	84	Weighted Average
14,163		23.53% Pervious Area
46,037		76.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.5	23	0.0200	0.09		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
0.2	40	0.0400	4.06		**Shallow Concentrated Flow, B-C** Paved Kv= 20.3 fps
1.2	174	0.0030	2.48	1.95	**Pipe Channel, C-D** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
0.4	45	0.0020	2.03	1.59	**Pipe Channel, D-E** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013
0.4	80	0.0040	3.76	6.64	**Pipe Channel, E-F** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
6.7	362	Total			

Summary for Subcatchment 4AS:

Runoff = 4.37 cfs @ 12.05 hrs, Volume= 0.281 af, Depth= 2.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

Area (sf)	CN	Description
29,457	98	Paved parking & roofs
24,108	39	>75% Grass cover, Good, HSG A
53,565	71	Weighted Average
24,108		45.01% Pervious Area
29,457		54.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	130	0.0170	1.34		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.9	200	0.0050	3.72	4.57	**Pipe Channel, B-C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013
0.6	113	0.0027	3.09	5.46	**Pipe Channel, C-D** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
3.1	443	Total			

Summary for Subcatchment 4BS:

Runoff = 0.55 cfs @ 12.30 hrs, Volume= 0.074 af, Depth= 0.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

Area (sf)	CN	Description
6,906	98	Paved parking & roofs
32,752	39	>75% Grass cover, Good, HSG A
39,658	49	Weighted Average
32,752		82.59% Pervious Area
6,906		17.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	55	0.0090	0.07		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
4.4	400	0.0100	1.50		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
16.8	455	Total			

Summary for Subcatchment 5S:

Runoff = 0.10 cfs @ 12.43 hrs, Volume= 0.026 af, Depth= 0.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Storm Rainfall=5.80"

	Area (sf)	CN	Description
*	5,156	92	Gravel Drives/Parking
	34,458	30	Brush, Good, HSG A
	39,614	38	Weighted Average
	39,614		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	50	0.1000	0.19		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.10"
4.4	600	0.0233	2.29		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
8.8	650	Total			

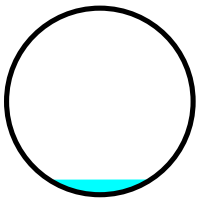
Summary for Reach 2R:

Inflow Area = 0.264 ac, 29.10% Impervious, Inflow Depth = 1.48" for 25-Year Storm event
Inflow = 0.42 cfs @ 12.09 hrs, Volume= 0.033 af
Outflow = 0.42 cfs @ 12.09 hrs, Volume= 0.033 af, Atten= 0%, Lag= 0.3 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 14.00 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 5.76 fps, Avg. Travel Time= 1.1 min

Peak Storage= 12 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.08'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 31.22 cfs

12.0" Round Pipe
n= 0.013
Length= 385.0' Slope= 0.7677 '/'
Inlet Invert= 295.30', Outlet Invert= -0.26'



Summary for Reach 11R: POI 1

Inflow Area = 11.467 ac, 38.64% Impervious, Inflow Depth = 2.00" for 25-Year Storm event
Inflow = 10.03 cfs @ 12.41 hrs, Volume= 1.910 af
Outflow = 10.03 cfs @ 12.41 hrs, Volume= 1.910 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3

Summary for Pond 1P:

Inflow Area = 3.969 ac, 29.64% Impervious, Inflow Depth = 2.74" for 25-Year Storm event
Inflow = 12.24 cfs @ 12.10 hrs, Volume= 0.906 af
Outflow = 2.95 cfs @ 12.71 hrs, Volume= 0.905 af, Atten= 76%, Lag= 36.4 min
Primary = 2.95 cfs @ 12.71 hrs, Volume= 0.905 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 295.96' @ 12.53 hrs Surf.Area= 10,859 sf Storage= 12,078 cf

Plug-Flow detention time= 50.5 min calculated for 0.905 af (100% of inflow)
Center-of-Mass det. time= 50.2 min (888.7 - 838.5)

Volume	Invert	Avail.Storage	Storage Description
#1	294.00'	12,546 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
294.00	2,496	200.0	0	0	2,496
295.00	6,000	330.0	4,122	4,122	7,985
296.00	11,108	507.0	8,424	12,546	19,782

Device	Routing	Invert	Outlet Devices
#1	Primary	294.00'	**12.0" Round Culvert** L= 498.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 294.00' / 291.50' S= 0.0050 '/' Cc= 0.900 n= 0.010, Flow Area= 0.79 sf

Primary OutFlow Max=2.95 cfs @ 12.71 hrs HW=295.91' TW=293.47' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 2.95 cfs @ 3.75 fps)

Summary for Pond 2P:

Inflow Area = 10.557 ac, 41.97% Impervious, Inflow Depth = 2.51" for 25-Year Storm event
Inflow = 16.51 cfs @ 12.11 hrs, Volume= 2.209 af
Outflow = 9.94 cfs @ 12.41 hrs, Volume= 1.884 af, Atten= 40%, Lag= 17.8 min
Primary = 9.94 cfs @ 12.41 hrs, Volume= 1.884 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 293.58' @ 12.41 hrs Surf.Area= 13,181 sf Storage= 22,463 cf

Plug-Flow detention time= 115.2 min calculated for 1.884 af (85% of inflow)
Center-of-Mass det. time= 50.5 min (912.8 - 862.3)

Volume	Invert	Avail.Storage	Storage Description
#1	291.50'	43,241 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
291.50	8,600	675.0	0	0	8,600
292.00	9,558	702.0	4,537	4,537	11,579
293.00	11,761	764.0	10,640	15,178	18,849
294.00	14,240	556.0	12,981	28,159	40,707
295.00	15,941	578.0	15,083	43,241	42,772

Device	Routing	Invert	Outlet Devices
#1	Primary	292.91'	**6.0' long x 0.7' 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 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32

Primary OutFlow Max=9.94 cfs @ 12.41 hrs HW=293.58' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 9.94 cfs @ 2.46 fps)

Summary for Pond 3P:

Inflow Area = 1.646 ac, 68.87% Impervious, Inflow Depth = 3.60" for 25-Year Storm event
Inflow = 6.68 cfs @ 12.10 hrs, Volume= 0.494 af
Outflow = 4.57 cfs @ 12.18 hrs, Volume= 0.494 af, Atten= 32%, Lag= 5.1 min
Discarded = 0.04 cfs @ 8.40 hrs, Volume= 0.083 af
Primary = 4.53 cfs @ 12.18 hrs, Volume= 0.411 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 294.39' @ 12.18 hrs Surf.Area= 3,540 sf Storage= 4,746 cf

Plug-Flow detention time= 78.1 min calculated for 0.494 af (100% of inflow)
Center-of-Mass det. time= 78.2 min (888.3 - 810.1)

Volume	Invert	Avail.Storage	Storage Description
#1	292.00'	13,162 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
292.00	668	0	0
293.00	1,661	1,165	1,165
294.00	2,962	2,312	3,476
295.00	4,442	3,702	7,178
296.00	7,525	5,984	13,162

Device	Routing	Invert	Outlet Devices
#1	Primary	294.00'	**5.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Discarded	292.00'	**0.04 cfs Exfiltration at all elevations**
#3	Primary	292.50'	**6.0" Vert. Orifice/Grate** C= 0.600

Discarded OutFlow Max=0.04 cfs @ 8.40 hrs HW=292.04' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=4.53 cfs @ 12.18 hrs HW=294.39' TW=293.33' (Dynamic Tailwater)
├**1=Broad-Crested Rectangular Weir** (Weir Controls 3.55 cfs @ 1.82 fps)
└**3=Orifice/Grate** (Orifice Controls 0.97 cfs @ 4.95 fps)

Appendix C:
Inspection & Maintenance Plan

Site Design Associates

Consulting Engineering and Land Planning

PROPOSED PROFESSIONAL OFFICE
CUMBERLAND, MAINE

INSPECTION AND MAINTENANCE PLAN
OF STORMWATER MANAGEMENT
FACILITIES

Stormwater Management Facilities include swales, paved surfaces, manholes and catch basins, drain pipe, riprapped aprons, level spreaders, wooded buffers, and underdrained soil filters. Periodic inspection and maintenance of these site features and devices is necessary to prevent erosion, protect roadways and other paved areas, and remove pollutants from stormwater runoff.

Green Sip Construction is responsible for the inspections and maintenance of stormwater facilities associates with this project once the project is accepted as complete.

RECERTIFICATION REQUIREMENT:

Within three months of the expiration of each five-year interval from the date of issuance of the permit, the Owner shall certify the following to the Maine Department of Environmental Protection (the department):

a) All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas.

b) All aspects of the stormwater control system have been inspected for damage, wear, and malfunction, and appropriate steps have been taken to repair or replace the facilities.

c) The erosion and stormwater maintenance plan for the site is being implemented as written, or modifications to the plan have been submitted to and approved by the department and the maintenance log is being maintained and kept on file with Town Engineers office.

d) A copy of the certification along with any required mitigation shall be provided to the Town Engineer.

SWALES, DITCHES, CURBS AND PAVED AREAS:

Swales, ditches, curbs and paved areas are easily inspected during a site walk or even a ride-by. Since visual inspection is easy, their condition should be assessed during and/or after significant rainfall events such as thunder showers and periods of heavy or extended rainfall and during periods of significant snowmelt. Any damage or unusual condition such as sedimentation of a ditch, erosion, damaged curb or dying vegetation should be recorded, dated and initialed by the inspector when observed. Even if there is no damage, the inspector should make record of these inspections at least twice annually.

Paved areas should be visually inspected monthly during the winter. The inspector should pay particular attention to the buildup of sand around catch basin grates and remove accumulations that block the free flow of surface runoff to the catch basins. The date and initials of the inspector should be recorded on the forms provided as well as a notation of any cleanup effort that was made and the

approximate volume of sand that was removed.

Open swales and ditches shall be inspected twice per year (in spring and fall) to assure that debris and/or sediments do not reduce the effectiveness of the system. Debris and sediments shall be removed at that time. Any sign of erosion or blockage shall be immediately repaired to assure a vigorous growth of vegetation for the stability of the ditches and slopes proper function. Maintenance shall include, but not be limited to, mowing, trimming and removal of vegetation in the ditches and slopes as required in order to prevent vegetation from blocking or diverting storm flows, replacement of riprap channel lining to prevent scour of the channel invert, removing vegetation and debris from the culverts.

Vegetated ditches should be mowed at least monthly during the growing season. Larger brush or trees must not be allowed to become established in the channel. Any areas where the vegetation fails will be subject to erosion and should be reseeded and mulched immediately.

CATCH BASINS, FIELD INLETS AND DRAIN MANHOLES:

Catch Basins and field inlets are precast concrete structures with sumps and cast iron grates used to collect stormwater and trap heavy sediments. Drain Manholes are similar structures constructed with a channel instead of a sump and a solid cast iron cover instead of a grate. Drain Manholes exist at changes in direction and/or size of storm drain pipe. Catch Basins, field inlets and drain manholes provide access to the closed storm drain system for inspection and maintenance.

Throughout the winter / spring sanding period, inspect catch basins and field inlets monthly and after every significant rainfall event or period of heavy snowmelt. Clean catch basin and field inlet sumps when sediment level is within 12 inches of the outlet pipe invert. At a minimum, remove floating debris and hydrocarbons at the time of the inspection. The removed material must be disposed of in accordance with the Maine Solid Waste Disposal Rules. Confined space entry safety procedures shall be practiced should entry into these structures be required.

Record dates of inspections, observations and maintenance measures implemented (if any) on the forms provided and initial the entry.

DRAIN PIPES:

Drain pipes are road culverts and pipes connecting drain manholes. Inspect drain pipes when inspecting other stormwater maintenance facilities. At least annually make a visual inspection of the pipe. During the daylight you should be able to see light through most pipes as they have been laid to a straight line and grade. In some cases (e.g. pipe runs to a drain manhole, or is blocked) you will need a light to inspect pipes.

Remove any obstructions to flow; remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit; and to repair any erosion damage at the pipe inlet and outlet. Sediment should be removed when its level exceeds 20% of the pipe diameter. This may be accomplished by hydraulic flushing or any mechanical means; however, care should be taken to contain the sediment at the pipeoutlet, and not flush the sediments into the stormwater filter or wetland areas.

Riprap aprons where stone is displaced should be replaced and chinked to assure stability. With time, additional riprap may be added. Vegetation growing through riprap should be removed on an annual basis.

Record inspections on the forms provided noting condition of pipe and any maintenance procedures implemented.

LEVEL SPREADERS:

Level Spreaders are shallow basins or ditches constructed at the ends of ditches or pipe outlets to disperse or "spread" concentrated flow thinly over a receiving area. Level Spreaders are constructed along the natural contour of the land to create a level "lip" on the outlet side. The integrity of the level lip is critical to the proper performance of this device.

There are two (2) Level Spreaders on the site. Detail for the level spreaders can be found on Detail Sheet C-303. The individual level spreader locations are at the outlets to GUSF #1 and GUSF #2.

Inspect the Level Spreader at least once each season and following significant rainfall events (1 inch or more of rain in 12 hours). Record inspections on the forms provided noting your observations and any corrective action taken. Any sign of erosion or blockage shall be immediately repaired to assure a vigorous growth of vegetation and stability of stone berms for the stability of the level spreader for proper function. Minor regrading, releveling of the stone “lip,” and reseeding of the level lip on an annual basis should be anticipated. Mow level lips at least twice during the growing season. Maintenance may also include removal of sediment buildup especially on the inlet end.

UNDERDRAINED SOIL FILTERS:

An underdrained soil filter is a landscaped depression with an underdrained soil bed or soil filter that exfiltrates the stormwater. The depression is designed to temporarily store runoff, which will drain through the soil filter into the underdrains; excess runoff will flow into structures or over earthen spillways.

There are two (3) underdrained soil filters on the site.

Soil Filter Inspection: The soil filter should be inspected after every major storm in the first few months to ensure proper function. Thereafter, the filter should be inspected at least once every six months to ensure that it is draining within 48 hours; and that, after storms that fill the system to overflow, it drains in no less than 24 hours. If the filter drains too rapidly, (i.e. prior to 24 hours), then the outflow should be adjusted with the ball valve on the underdrain outlets into the catch basins . The orifice shall be adjusted such that the filter completely drains within 24 to 72 hours.

Underdrain System: The soil filter outlet consists of a layer of planting loam and sand with a stone and perforated pipe underdrain. Outlet inspections shall include flushing of the underdrain through the cleanouts at the end of the pipes. Trash, sediment, and debris shall be removed from the vicinity of the outlet and must be disposed of in accordance with the Maine Solid Waste Disposal Rules.

Soil Filter Replacement: If the filter fails to drain within 72 hours, the surface of the pond shall be rototilled to promote aeration of the filter media and vegetation shall be re-established. If aeration of the surface soil fails to promote filtration of impounded water within 72 hours, then the filter media shall be replaced as necessary. The stone underdrain shall also be replaced at this time, along with the perforated pipe.

Sediment Removal: Sediment and plant debris should be removed from the pretreatment structure at least annually.

Mowing: Filters with grass cover should be mowed no more than 2 times per growing season to maintain grass heights less than 12 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. Add new mulch as necessary for bioretention cells.

Underdrained soil filters shall not be used for snow storage area. Vehicular equipment used to maintain or rehabilitate underdrained soil filters should work from the basin perimeter and not enter the basin area, as this will compact the soil surface and reduce the design infiltration rate. Record all maintenance on forms provided.

SEDIMENT DISPOSAL:

Any sediment or debris removed during maintenance of the stormwater system must be disposed of in accordance with the Maine Solid Waste Disposal Rules.

Professional Office Building			
INSPECTION / MAINTENANCE LOG			
SWALES, DITCHES, CURBS AND PAVED SURFACES			
I: INSPECTED - C: CLEANED - S: SWEPT - R: REPAIRED			
DATE	**INITIALS**	**ACTION**	**COMMENT**
5/10/19	RST	I, C	EXAMPLE: Removed sand around CB's 19 and 20. Heavy rain over the weekend.

Professional Office Building			
INSPECTION / MAINTENANCE LOG			
CATCH BASINS, FIELD INLETS, AND DRAIN MANHOLES			
I: INSPECTED - C: CLEANED - R: REPAIRED			
DATE	**INITIALS**	**ACTION**	**COMMENT**
6/13/19	JKL	I, C	EXAMPLE: Called ACME to clean catch basins.

Professional Office Building			
INSPECTION / MAINTENANCE LOG			
DRAIN PIPES			
I: INSPECTED - C: CLEANED - R: REPAIRED			
DATE	**INITIALS**	**ACTION**	**COMMENT**
4/19/18	JKL	I, C	EXAMPLE: Called ACME to clean debris from culvert inlets along Main Road and Loop Road.

Professional Office Building			
INSPECTION / MAINTENANCE LOG			
LEVEL SPREADERS			
I: INSPECTED - C: CLEANED - R: REPAIRED			
DATE	**INITIALS**	**ACTION**	**COMMENT**
8/16/19	JKL	I, C	EXAMPLE: Inspected level spreaders on site, found minimal sediment build up, stone lips appeared consistently level and functional. Mowed level lips.

Professional Office Building				
INSPECTION / MAINTENANCE LOG				
UNDERDRAINED SOIL FILTERS				
I: INSPECTED - C: CLEANED - R: REPAIRED				
DATE	**INITIALS**	**Unit #**	**ACTION**	**COMMENT**
7/6/19	PQR	LA2	I, C	EXAMPLE: Cleared sediment and plant debris from inlet area, mowed filter area, crest, and sideslopes.

STORMWATER MANAGEMENT SYSTEM
MAINTENANCE PROGRAM
SUMMARY CHECKLIST

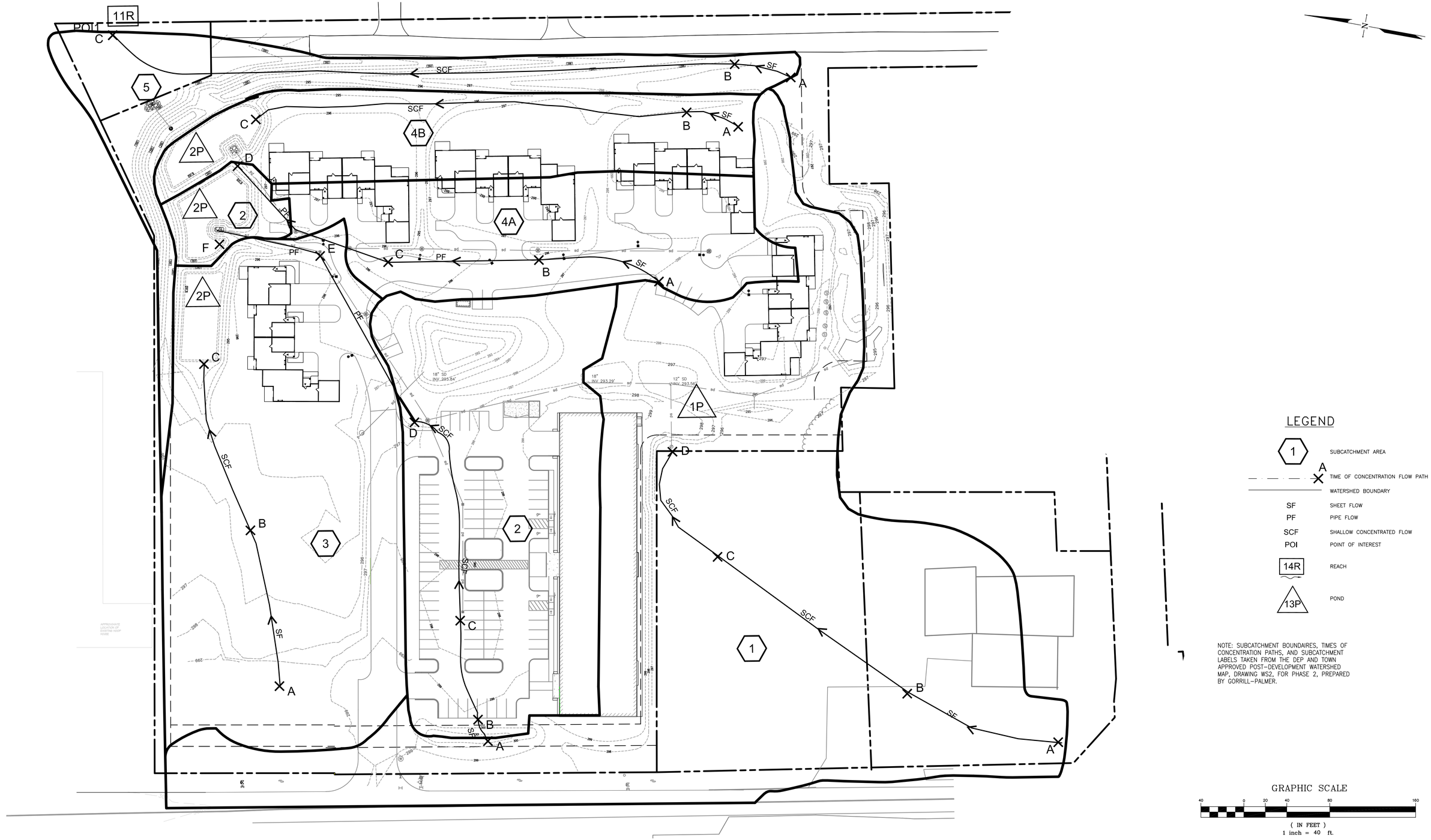
Item	Commentary	Frequency			
		Monthly	Semi-Annual	Annual	Long-Term
All Pond and Filter side slopes	Inspect slopes for sloughing, erosion or undesirable tree growth. Mow slopes to control vegetation, repair any structure flaws identified	**X Mow Summer**		**X**	
All Pond and Filter Sediment Removal	Remove sediment when it occupies 15% of volume.				**X 5 Years**
Open Swale, Ditches & Inlet Structures	Inspect for debris accumulation, erosion and excessive vegetation. Mow monthly, remove debris, repair and revegetate any area of erosion	**X Mow**		**X**	
Pavement	Review for damage and buildup of debris and sand.	**X**	**X Sweep**		
Level Spreaders	Review level lip for stability and grass growth, remove sediment and debris		**X**		
Catchbasin and Drain Manholes	Inspect grates to assure optimum water flows into the structures. Inspect sumps for blockage and sediment accumulation. Clean out sumps .	**X Inspect**		**X Sediment removal**	
Pipelines	Inspect for sediment build-up in pipe. Flush and remove as required.			**X**	
Underdrain Soil Filter	Mow twice per year. Inspect for erosion.		**X**		

Appendix D
Drainage Plans

D-101 – Pre Development Drainage Plan:

D-102 – Post Development Drainage Plan

D-103 – Water Quality Plan



LEGEND

- 1 — SUBCATCHMENT AREA
- A — TIME OF CONCENTRATION FLOW PATH
- WATERSHED BOUNDARY
- SF — SHEET FLOW
- PF — PIPE FLOW
- SCF — SHALLOW CONCENTRATED FLOW
- POI — POINT OF INTEREST
- 14R — REACH
- 13P — POND

NOTE: SUBCATCHMENT BOUNDAIRES, TIMES OF CONCENTRATION PATHS, AND SUBCATCHMENT LABELS TAKEN FROM THE DEP AND TOWN APPROVED POST-DEVELOPMENT WATERSHED MAP, DRAWING WS2, FOR PHASE 2, PREPARED BY GORRILL-PALMER.

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

REV.	DATE	STATUS	BY	CHKD.	APPD.
A	3/12/21	ISSUED FOR MAINE DEP SITE LOCATION OF DEVELOPMENT ACT REVIEW	DEPT.	TWS	TWS

FOR PERMITTING ONLY

STATE OF MAINE — THOMAS W. SALICIER — NO. 6088 — LICENSED PROFESSIONAL ENGINEER
03-12-21

LAND DESIGN SOLUTIONS
LAND PLANNING, SITE PLANNING & LANDSCAPE ARCHITECTURE
1 Faraday Drive, Suite 7, Cumberland, ME 04021 tel:(207) 494-1717

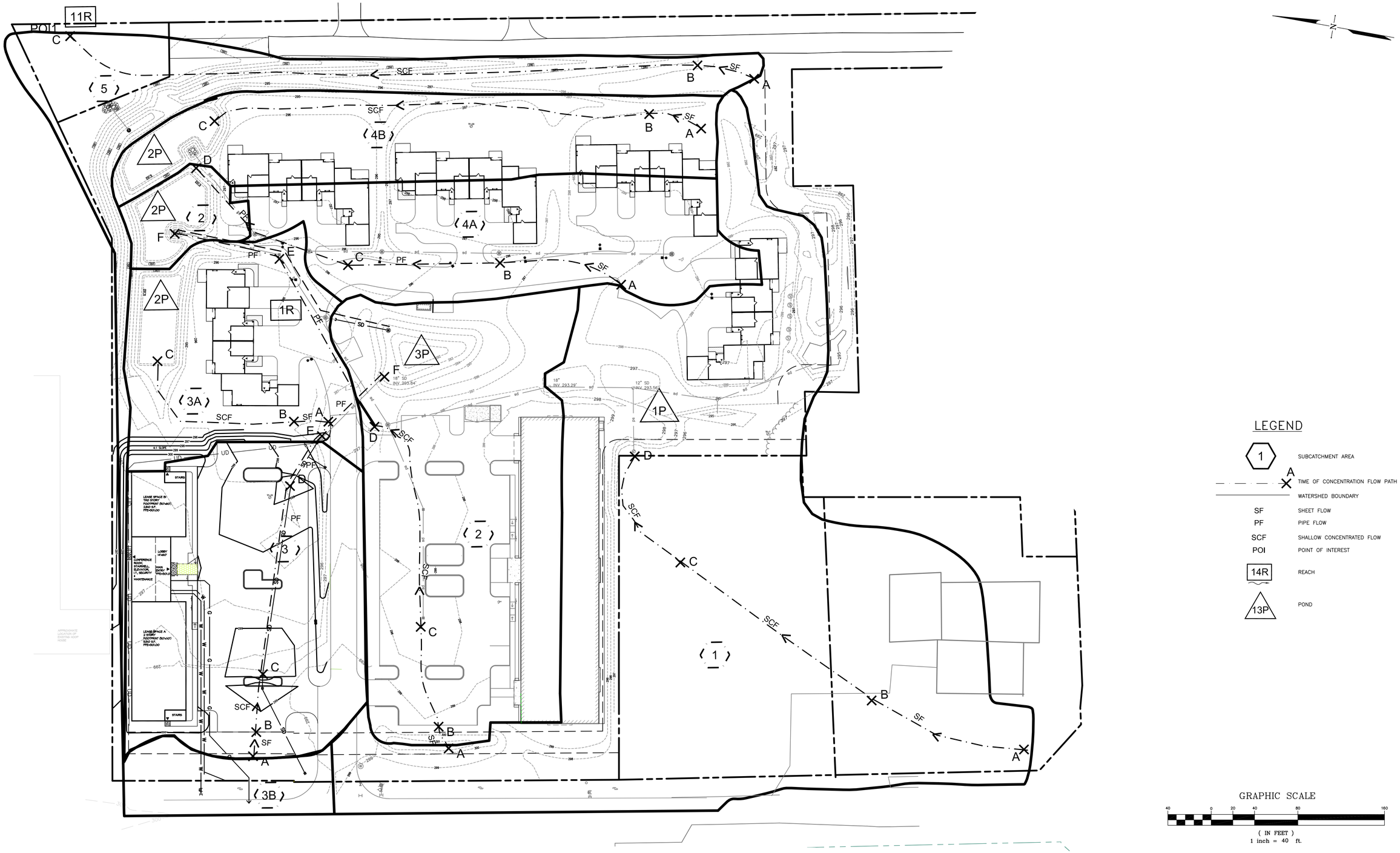
OWNER & APPLICANT
GREEN SIP CONSTRUCTION
110 MARGINAL WAY, SUITE 193, PORTLAND, MAINE 04101

DESIGN: DEPT.
DRAWN: DEPT
CHKD: TWS
DATE: JANUARY 2021
SCALE: 1"=40'

PROPOSED PROFESSIONAL OFFICE / CONDOMINIUM UNIT #3
197 GRAY ROAD, CUMBERLAND, MAINE

PRE-DEVELOPMENT DRAINAGE PLAN

PROJ. NO. 17-131
DWG. NO. D-100
REV. A



REV.	DATE	STATUS	BY	CHKD.	APPD.
A	3/12/21	ISSUED FOR MAINE DEP SITE LOCATION OF DEVELOPMENT ACT REVIEW	DEPT.	TWS	TWS

FOR PERMITTING ONLY

STATE OF MAINE
THOMAS W. SAUCIER
NO. 6096
LICENSED
PROFESSIONAL ENGINEER
03-12-21

LAND DESIGN SOLUTIONS
LAND PLANNING, SITE PLANNING & LANDSCAPE ARCHITECTURE
1 Faraday Drive, Suite 7, Cumberland, ME 04021 tel:(207) 894-1717

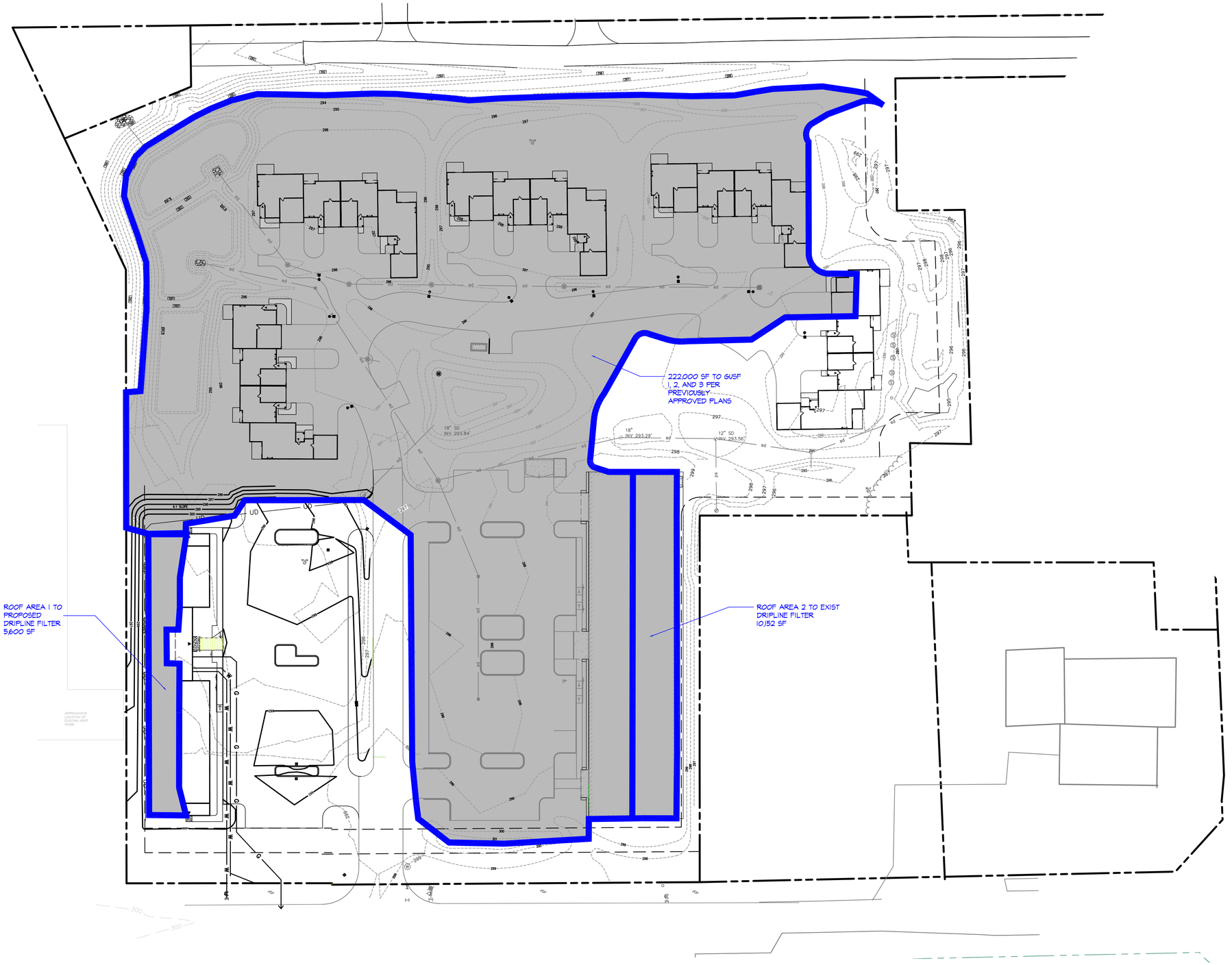
OWNER & APPLICANT
GREEN SIP CONSTRUCTION
110 MARGINAL WAY, SUITE 193, PORTLAND, MAINE 04101

DESIGN: DEPT.
DRAWN: DEPT
CHKD: TWS
DATE: JANUARY 2021
SCALE: 1"= 40'

PROPOSED PROFESSIONAL OFFICE / CONDOMINIUM UNIT #3
197 GRAY ROAD, CUMBERLAND, MAINE

POST-DEVELOPMENT DRAINAGE PLAN

PROJ. NO. 17-131
DWG. NO. D-101
REV. A



NOTE: TREATED AREA SHOWN AS SHADED IS TAKEN FROM THE DEP AND TOWN APPROVED WATER QUALITY MAP, DRAWING WQ, FOR PHASE 2, PREPARED BY GORRILL-PALMER. BOUNDARIES WERE MODIFIED AS NOTED.

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

REV.	DATE	STATUS	BY	CHKD.	APPD.
A	3/12/21	ISSUED FOR MAINE DEP SITE LOCATION OF DEVELOPMENT ACT REVIEW	DEPT.	TWS	TWS

FOR PERMITTING ONLY

STATE OF MAINE
THOMAS W. SKLICIER
NO. 6086
REGISTERED
PROFESSIONAL ENGINEER
03-12-21

LAND DESIGN SOLUTIONS
LAND PLANNING, SITE PLANNING & LANDSCAPE ARCHITECTURE
1 Faraday Drive, Suite 7, Cumberland, ME 04021 tel:(207) 829-1717

OWNER & APPLICANT
GREEN SIP CONSTRUCTION
110 MARGINAL WAY, SUITE 193, PORTLAND, MAINE 04101

DESIGN: DEPT.
DRAWN: DEPT
CHKD: TWS
DATE: JANUARY 2021
SCALE: 1"= 40'

PROPOSED PROFESSIONAL OFFICE / CONDOMINIUM UNIT #3
197 GRAY ROAD, CUMBERLAND, MAINE

WATER QUALITY PLAN

PROJ. NO. 17-131
DWG. NO. D-102
REV. A

Attachment 12 – Waiver Request

1. Traffic Study Waiver Request – A traffic study was prepared by Gorrill Palmer and submitted for the original project. The traffic study included razing of the Allen Farm convenience store and residential home and the construction of the proposed 12,960 s.f. shoe manufacturing facility (condominium unit 1) and five 4-unit multiplex buildings (condominium unit 2).

   An MDOT Entrance permit (MDOT # 17180) was obtained in January 2016 for the above shoe manufacturing facility (condominium unit 1). A revision was then made in December 2016 to include five 4-unit multiplex structures (condominium unit 2) and a 9,000 s.f. retail building with 52 parking spaces (condominium unit 3). I contacted MDOT with the current proposed changes to the development of condominium unit 3 and was told that the proposed changes do not require an amendment to the permit and MDOT does not see anything in the current proposed project that will trigger the MDOT to require a traffic analysis and Traffic Movement Permit. The trigger is traffic volume exceeding 99 one-way trips in any peak hour.

   I have included the MDOT Entrance Permit and my email correspondence with MDOT Representative Anthony Fontaine as part of this attachment.

Maine Department of Transportation

Paul R. LePage
Governor

Driveway/Entrance Permit

David Bernhardt, P.E.,
Commissioner

Permit Number: 17180 - **Entrance ID:** 1

OWNER

Name: **James Burgess**
Address: **35 West Custogo Point**
Yarmouth, ME 04096
Telephone: **(207)632-1992**

Date Printed: **December 01, 2016**

LOCATION

Route: **0100X, Gray Road**
Municipality: **Cumberland**
County: **Cumberland**
Tax Map: **U20** Lot Number: **73**
Culvert Size: **inches**
Culvert Type: **N/R**
Culvert Length: **feet**
Date of Permit: **October 31, 2016**
Approved Entrance Width: **36 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 and multi-family residential units** at a point **143** feet **South** from **Highland Avenue**, 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: 43.817510N, -70.314140W.

S - The entrance shall be constructed as shown on the plan titled "Master / Subdivision Plan, West Cumberland Multiplex Units" for Grun Development, LLC, drawn by Gorrill Palmer and signed/stamped 9/27/16.

S - In the town of Cumberland on the easterly side of Route 100 / Gray Road, approximately 143 feet southerly of Highland Avenue and approximately 91 feet southerly of utility pole 25.

Approved by: Anthony Fontaine Date: 12-01-2016

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.

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.

Peter Biegel

From: Fontaine, Anthony <Anthony.Fontaine@maine.gov>
Sent: Friday, March 26, 2021 12:47 PM
To: Peter Biegel
Subject: RE: Cumberland Maine - Entrance Permit 17180

The proposed changes do not require amendment of the permit. Should traffic volume exceed 99 one-way trips in any peak hour, the Department will require a traffic analysis and may require the approval of a Traffic Movement Permit but I see nothing in your current proposal that will trigger that event.

Tony

From: Peter Biegel <pbiegel@landdesignsolutions.com>
Sent: Thursday, March 25, 2021 3:18 PM
To: Fontaine, Anthony <Anthony.Fontaine@maine.gov>
Subject: Cumberland Maine - Entrance Permit 17180

Hi Tony,

I am assisting with the permitting for the final building in a three phase project which was begun in 2016. The final phase is a 20,000 s.f. (16,620 gross leasable area) professional office building with a 66 space parking area. Do we need to amend the existing permit to account for the proposed project or was that, or part of it taken care of in the original permit (see the attached first page of the revised entrance application where they mention a 9,000 s.f. retail building with a 54 space parking area?

Thank you,
Peter

Peter Biegel, ASLA, LEED AP
Maine Licensed Landscape Architect
Land Design Solutions
1 Faraday Drive, Suite 7
Cumberland, ME 04021

tel: (207) 939-1717
email: pbiegel@landdesignsolutions.com

Attachment 13 – Site Plan Review Approval Standards

A. Utilization of the Site – The proposed development (location of building, parking and entrances) of condominium unit 3 is identical to the layout presented and approved by the Town in the original approval. The original C100 Updated Master / Subdivision Plan is included in the plan set.

B. Traffic, Circulation and Parking – The two parking lot entrance are located opposite the Casco Systems (condominium unit 1) parking area entrances to avoid vehicular conflicts. The internal parking area circulation and parking is simple two way aisles with 90 degree parking to maximize space efficiency. There is a sidewalk adjacent to the proposed building side of the parking area to "collect" pedestrians and provide an easy and safe walking route to the main door. A traffic study was prepared by Gorrill Palmer and submitted for the original project. The traffic study included razing of the Allen Farm convenience store and residential home and the construction of the proposed 12,960 s.f. shoe manufacturing facility (condominium unit 1) and five 4-unit multiplex buildings (condominium unit 2). An MDOT Entrance permit (MDOT # 17180) was obtained in January 2016 for the above shoe manufacturing facility (condominium unit 1). A revision was then made in December 2016 to include five 4-unit multiplex structures (condominium unit 2) and a 9,000 s.f. retail building with 52 parking spaces (condominium unit 3). I contacted MDOT with the current proposed changes to the development of condominium unit 3 and was told that the proposed changes do not require an amendment to the permit and MDOT does not see anything in the current proposed project that will trigger the MDOT to require a traffic analysis and Traffic Movement Permit. The trigger is traffic volume exceeding 99 one-way trips in any peak hour. A copy of the MDOT Entrance Permit and my email correspondence with MDOT Representative Anthony Fontaine is included in attachment 12.

C. Stormwater Management and Erosion Control – The proposed project will result in one acre of new developed area and .88 acres of new impervious area. Stormwater Management for the proposed project is being reviewed as part of the Maine DEP Site Location of Development Act permit. A stormwater management report including erosion control is included as part of attachment 11. Erosion and Sedimentation Control Notes and Details are shown on Plan C-300 and Plan C-301 located in the plan set.

D. Water, Sewer and Fire Protection:

1. Water Supply Provisions – The project proposes to utilize the Municipal Public Water Supply (The Portland Water District) for both domestic drinking water and fire protection. A letter from the Portland Water District indicating that the water main located in Route 100 has the capacity to serve the project is included with this attachment.

2. Sewage Disposal Provisions – The project proposes to construct an engineered (over 2,000 gallon per day) wastewater disposal system. The system has been designed to comply for all Local and State Subsurface Wastewater Disposal Rules. The HHE-200 Design is included in Attachment 10, and the Sealed Engineered Design Plans are included in the Plan Set.

3. Utilities – The project proposes to install underground electric power, cable and tel/data from the utility pole in front of the property. A connection to the natural gas main in Route 100 is also proposed.

4. Fire Protection – The building is proposed to be sprinkled. A 6" dia. water protection service is proposed to be connected to the water main in Route 100. An ability to serve letter is included with this attachment.

E. <u>Water Protection</u>:
   1. Groundwater Protection – As stated in the section above a wastewater disposal system greater than 2,000 gallons per day is proposed. The impacts of this system have been investigated and analyzed and the results are shown in a Groundwater Impact Assessment report prepared by Mark Cenci of Mark Cenci Geologic, and through a Mounding and Site Transmission Analysis performed by Steve Marcotte of Marcotte Environmental. Both the reports (included in attachment 10) indicate that the proposed wastewater disposal system will meet the standards set by the Town of Cumberland and the State of Maine. The nitrate plume is shown on Plan C-103 Site Utilities Plan.

   2. Water Quality - The project does not propose the storage or discharge of any hazardous materials or substances. The only pollutants anticipated are those that are typical for a parking lot containing motor vehicles. The stormwater from the parking area will be collected in the stormwater system and conveyed to grass underdrained soil filters prior to being discharged.

3. Aquifer Protection – The project site is in an area considered to be a significant sand and gravel aquifer. The original and subsequent aspects of the project are have been scrutinized to make sure the aquifer is not negatively impacted. Based on the results of the Groundwater Impact Assessment and the Mounding and Site Transmission Analysis (included in attachment 10) we do not believe that the aquifer will be negatively impacted by the project. The Sand and Gravel Aquifer Map is included with this attachment.

F. Floodplain Management - The site is not located within a floodplain it is located in ZONE C which is designated as an area of minimal flooding. The FEMA Flood map is included in attachment 6.

G. Historic and Archaeological Resources - The response letter from the Maine Historic Preservation Commission obtained in November 2015 as part of the original project's permitting concludes that there will be no historic properties affected by the existing projects and proposed project. A copy of the letter is included with this attachment.

H. Exterior Lighting – The exterior site lighting for the proposed project was selected to match the previously installed LED light fixtures which were used in the Casco Systems parking lot (pole mounted fixtures and light bollards at the entrance) and the pole mounted fixtures along Faraday Drive. Catalog cut sheets of the fixtures are included with this attachment and a photometric plan showing 0.0 footcandles at the property line is included with the plan set. The parking area lighting will be set to turn off when the businesses are closed.

I. Buffering & Landscaping -
   1. Buffering of Adjacent Uses – The proposed building is bordered by Route 100 on the west, Faraday Drive on the south, Skillins Nursery on the north and condominium unit 2 (multiplex townhouse) on the east. A street tree planting is proposed along Faraday Drive, and a street tree and shrub planting is proposed along Route 100. A group of 3 Serbian Spruce trees are proposed on each end of the northern property line (Skillins Nursery side) with 20 Fire Light Hydrangea (6'htx6'w) shrubs spaced 12' on center in between. We are using the shrubs to define the property edge and soften the building on that side without blocking the daylight for the windows on that side. There is an existing planted berm on the east side which was constructed by the applicant/developer separating the proposed office building from the adjacent multiplex townhouse on condominium unit 2.

2. Landscaping – The greenspace surrounding the building and the parking area have been landscaped with a variety of trees and shrubs. The parking area islands have been planted with street trees, and flowering perennials which will provide a nice splash of color from late spring into the fall all the while standing up to tough winter environment of a Maine parking area. The main entrance will utilize brick or unit pavers. A street tree planting matching the Casco Systems side is proposed along Faraday Drive, and street tree and shrub planting is proposed along Route 100.

J. Noise - Noise over and above that typically associated with a typical professional office building is not anticipated. The building will be served by a heat pump system with exterior chiller and condenser units and an interior mechanical room.

K. Storage of Materials – No outside storage areas are proposed as part of this project.

L. Financial Capacity – The applicant is proposing to work with a financial institution (HUB Financing) for the financing of the project. Please see attachment 7 which includes a pre-qualification letter from a HUB Financing.

M. Design and Performance Standards
   1. Route 100 Design Standards – The building and the site have been designed with the Route 100 Design Standards in mind. The proposed building has a hip roof and is broken up into three sections so as not to look as large. The façade incorporates many windows and detailing to provide interest and scale. A perspective of the building is included in the plan set. The landscape incorporates plantings for shade, color, accent and the definition of edges. Snow storage areas are coordinated with the plantings.

Portland Water District

FROM SEBAGO LAKE TO CASCO BAY

February 16, 2021

Peter Biegel, ASLA, LEED AP
Maine Licensed Landscape Architect
Land Design Solutions
1 Faraday Drive, Suite 7
Cumberland, ME 04021

Re: 195 Gray Road, CU
Ability to Serve with PWD Water

Dear Mr. Biegel:

The Portland Water District has received your request for an Ability to Serve Determination for the noted site submitted on February 4, 2021. Based on the information provided per plans dated February 13, 2021, 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 6-inch fire service may be installed from the water main in Gray Road. The service should enter through the properties frontage on Gray Road at least 10-feet from any side property lines.
- The existing 2-inch HDPE domestic service (CUN-WSL202712) may be used by this development. A 1.5-inch meter will be required to meet the peak demand of the site. Please note that only one meter and one bill will be associated to each domestic service line. This one master meter would be located in a common space that all tenants could gain access to if necessary.
- An approved backflow prevention device 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.
- Since Gray Road is under MDOT jurisdiction, the District will be responsible for submission of the highway opening permit. An estimate of the application fee will be collected at the time of the service application.

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 currently have existing water service. A 2-inch diameter HDPE domestic service line provides water service to the site. Please refer to the "Conditions of Service" section of this letter for requirements related to the use of this service.

Water System Characteristics

According to District records, there is an 16-inch diameter ductile iron water main in Gray Road and a public fire hydrant located approximately 100 feet from the site. The most recent static pressure reading was 56 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 Cumberland 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.

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.

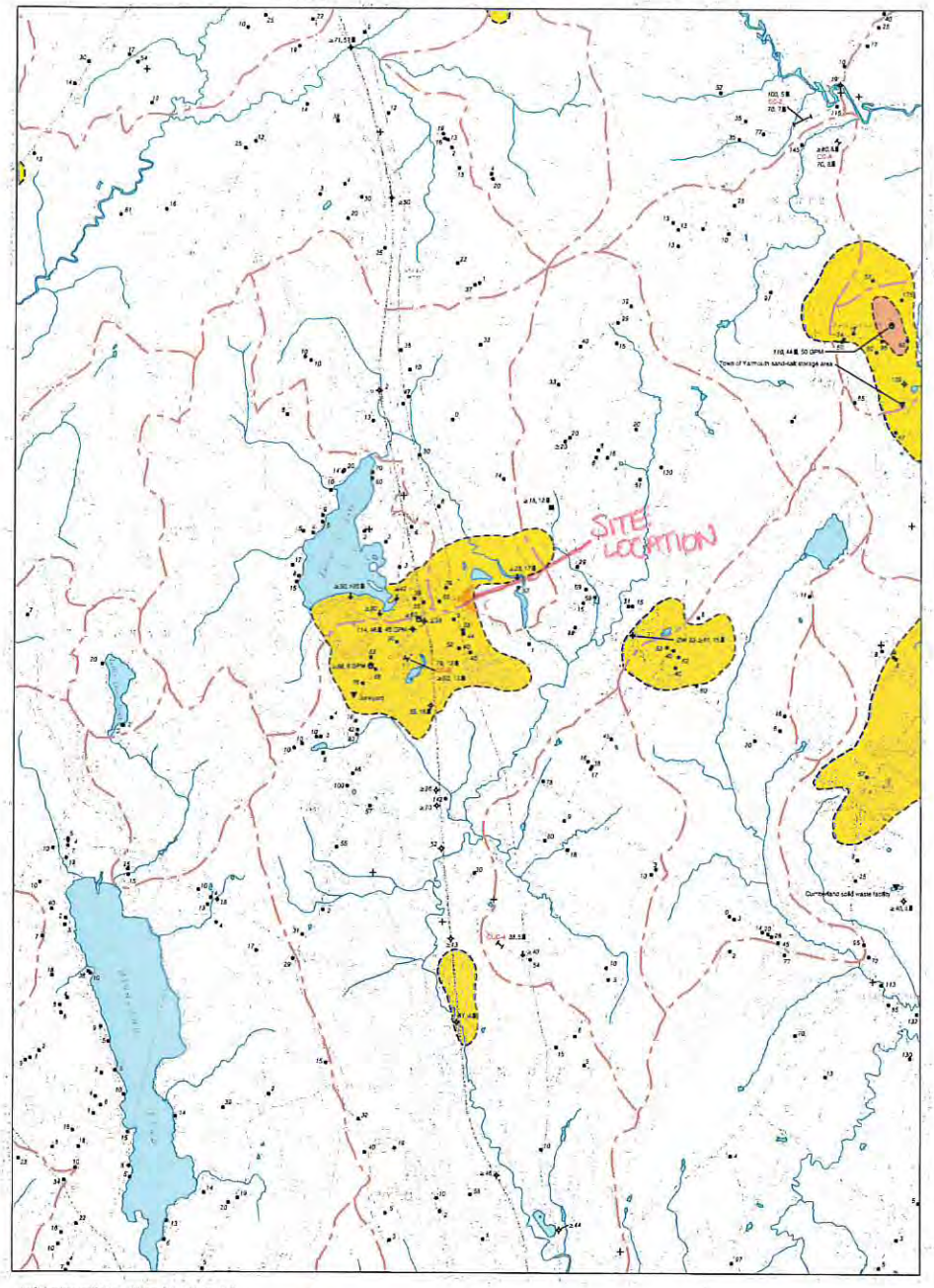
Should you disagree with this determination, you may request a review by the District's Internal Review Team. Your request for review must be in writing and state the reason for your disagreement with the determination. The request must be sent to MEANS@PWD.org or mailed to 225 Douglass Street, Portland 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

Significant Sand and Gravel Aquifers



Aquifer boundaries modified from: Williams, J. S., and Lanctot, E. M. (compilers), 1985, Hydrogeologic data for significant sand and gravel aquifers in part of Androscoggin, Cumberland, and Sagadahoc Counties, Maine: Map 10: Maine Geological Survey, Open-File Map 85-82, scale 1:50,000.

Well inventory data from U.S. Geological Survey Basic-Data Reports and additional data collected by Maine Geological Survey field assistants during the 1982 field season.

Drainage basin boundaries compiled by U.S. Geological Survey, Water Resources Division, Augusta, Maine, with funding from the Maine Low-Level Radioactive Waste Authority.

Quadrangle Location

SCALE 1 : 24,000

0 1 MILE

1000 0 2000 4000 6000 8000 FEET

0 1 KILOMETER

CONTOUR INTERVAL 20 FEET

TRUE NORTH

Topographic base from U.S. Geological Survey Cumberland Center quadrangle, scale 1:24,000 using standard U.S. Geological Survey topographic map symbols.

The use of trade, firm, or brand government insurance in this map is for location purposes only and does not imply responsibility on any present or potential effects on the natural resources.

SIGNIFICANT SAND AND GRAVEL AQUIFERS (yields greater than 10 gallons per minute)

Approximate boundary of surficial deposits with significant saturated thickness where potential ground-water yield is moderate to excellent.

Surficial deposits with good to excellent potential ground-water yield; yields generally greater than 50 gallons per minute to a properly constructed well. Deposits consist primarily of glacial sand and gravel, but can include areas of sandy till and alluvium; yield zones are based on subsurface data where available, and may vary from mapped extent in areas where data are unavailable.

Surficial deposits with moderate to good potential ground-water yield; yields generally greater than 10 gallons per minute to a properly constructed well. Deposits consist primarily of glacial sand and gravel, but can include areas of sandy till and alluvium; yields may exceed 50 gallons per minute in deposits hydraulically connected with surface-water bodies, or in extensive deposits where subsurface data are available.

SURFICIAL DEPOSITS WITH LESS FAVORABLE AQUIFER CHARACTERISTICS (yields less than 10 gallons per minute)

Areas with moderate to low or no potential ground-water yield (includes areas underlain by till, marine deposits, eolian deposits, alluvium, swamp, thin glacial sand and gravel deposits, or bedrock); yields in surficial deposits generally less than 10 gallons per minute to a properly constructed well.

SEISMIC-LINE INFORMATION

Profiles for 12-channel seismic lines are shown in Figure 8 of Open-File Report 85-82a (Tepper and others, 1985), or may be viewed at the Maine Geological Survey. Length of 12-channel seismic lines as shown on the map is to scale. All single-channel lines ranged from 90 to 300 feet long and are not shown to scale.

- 83 — Depth to bedrock, in feet below land surface.
- ≥83 — Depth to bedrock exceeds depth shown (based on calculations).
- 12 ψ — Depth to water level, in feet below land surface.
- MAP-T 121, 23 ψ — Twelve-channel seismic line, with depth to bedrock and depth to water shown at the midpoint of the line, in feet below land surface.
- MAP-2: 89, 12 ψ; 72, 12 ψ — Single-channel seismic line, with depth to bedrock and depth to water shown at each end of the line, in feet below land surface. Unless otherwise indicated, data shown above the line-identifier box refers to the northern end of the seismic line.

The 3-letter identifier for a line is an abbreviation for the topographic quadrangle. If the 3-letter identifier for the line is followed by a number (ex: MAP - 7, MAP - 8), the line is a 12-channel line. If the identifier is followed by a letter (ex: MAP - E, MAP- P), the line is a single-channel line. Single-channel seismic interpretation by D. H. Tepper. Twelve-channel seismic interpretations by D. H. Tepper and C. D. Neil.

GEOLOGIC AND WELL INFORMATION

- 50 — Depth to bedrock, in feet below land surface
- ≥12 — Penetration depth of boring, arrow/label refers to minimum depth to bedrock based on boring depth or refusal
- 8 ψ — Depth to water level in feet below land surface (observed in well, spring, test boring, pit, or seismic line)
- Gravel pit (no/unburden thickness noted in feet, e.g. 5-12)
- Quarry
- 4 GPM — Yield (flow) of well or spring in gallons per minute (GPM)
- Spring, with general direction of flow
- Drilled overburden well
- Dug well
- Observation well (project well if labeled, nonproject well if unlabeled)
- Test boring (project boring if labeled, nonproject boring if unlabeled)
- Driven point
- Test pit
- Drilled bedrock well
- Potential point source of ground-water contamination
- Bedrock outcrop
- Surface-water drainage-basin boundary; surface-water divides generally correspond to ground-water divides. Horizontal direction of ground-water flow generally at right angles from divides and toward surface-water bodies.

OTHER SOURCES OF INFORMATION

1. Tepper, D. H., Williams, J. S., Tolman, A. L., and Pennett, G. C., Jr., 1985, Hydrogeology and water quality of significant sand and gravel aquifers in parts of Androscoggin, Cumberland, Franklin, Kennebec, Lincoln, Oxford, Sagadahoc, and Somerset Counties, Maine: Maine Geological Survey, Open-File Report 85-82a, 106 p.
2. Bastle, M. J., 1999, Surficial materials of the Cumberland Center quadrangle, Maine: Maine Geological Survey Open-File Map 99-64.
3. Bastle, M. J., 1999, Surficial geology of the Cumberland Center quadrangle, Maine: Maine Geological Survey, Open-File Map 99-81.
4. Caswell, W. B., 1987, Ground water handbook for the state of Maine, Second Edition: Maine Geological Survey, Bulletin 39, 135 p.
5. Thompson, W. B., 1976, Surficial geology handbook for coastal Maine: Maine Geological Survey, 64 p. (out of print)
6. Kendall, D. L., 1987, Glaciers and granite: A guide to Maine's landscape and geology: Down East Books, Camden, Maine, 240 p.
7. Thompson, W. B., and Borns, H. W., Jr., 1985, Surficial geologic map of Maine: Maine Geological Survey, scale 1:500,000.

Cumberland Center Quadrangle, Maine

Compiled by
Craig D. Neil

Preliminary aquifer boundaries mapped by:
Daniel S. Locke

Digital cartography by:
Michael E. Foley

Robert G. Marvinney
State Geologist

Cartographic design and editing by:
Robert D. Tucker
Bennett J. Wilson, Jr.

Funding for the preparation of this map was provided in part by the Maine Department of Environmental Protection.

Maine Geological Survey

Address: 22 State House Station, Augusta, Maine 04333
Telephone: 207-287-2801 **E-mail:** mgs@maine.gov
Home page: http://www.maine.gov/doc/nrimc/mgs/mgs.htm

Open-File No. 99-27
1999

WHAT IS AN AQUIFER?

Ground water, as the name implies, is water found below the land surface in the pore spaces between sand grains and in fractures in the bedrock (see diagrams below). An *aquifer* is a water-bearing geologic formation capable of yielding a usable amount of ground water to a well. In Maine there are two types of aquifers: loose soil materials (such as sand, gravel, and other sediments) and fractured bedrock. A sand and gravel deposit is considered a *significant aquifer* when a well in that deposit is capable of being continuously pumped at a rate of 10 gallons per minute (gpm) or more. To sustain a yield of 10 gpm or more, a deposit must be permeable enough for water to flow readily into the well as it is pumped (see section on *porosity and permeability* below), and there must be a sufficient depth of water in the well so that it will not be pumped dry.

The diagram below shows a schematic cross section of a sand and gravel aquifer in Maine. The symbols above the diagram correspond to the well symbols shown on the map at left. Information typically shown for these wells includes type of well, depth to bedrock, depth to water, and well's yield. The blue line in the diagram is the *water table*. The area below the water table is called the *saturated zone*, where all pore spaces between the sediment particles are filled with water. In order to yield water, a well must extend below the water table into the saturated zone. Notice that the water table corresponds to the water level in most wells and in the stream.

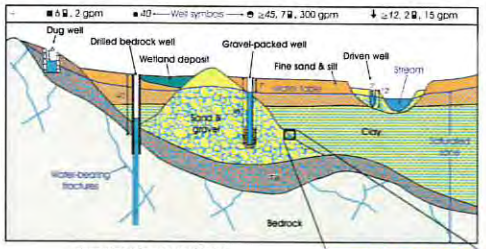
Several types of well, common in Maine, are shown in the diagram. A *dug well* is a large diameter hole excavated by hand or backhoe. The hole is kept from caving in by installing a lining that may be stone, tile, or cement blocks. The hole must be deep enough to extend below the water table. The shallow dug well in the diagram has a yield of 2 gpm. Although the yield is often low, dug wells generally supply enough ground water for a household because of the large amount of water stored in the well.

A *gravel-packed well* is usually installed into coarse-grained sediment and is drilled with a much larger diameter than the final casing and screen diameter. To increase the yield and pumping efficiency of the well, the space around the well screen is filled with selected gravel that increases the permeability in the immediate vicinity of the well. The gravel-packed well in the diagram has a high yield of 300 gpm. Such high-yielding gravel-packed wells are commonly drilled for municipal or industrial water systems.

A *driven well or well point* can be installed into sand and gravel where the water table is within about 20 feet of the ground surface. A 2 to 3 inch diameter pipe, equipped with a well screen at its lower end, is driven into the deposit until the screen is below the water table. This pipe acts as a casing, and water is pumped directly from the aquifer. The driven well in the diagram has a significant yield of 15 gpm. Although the yield is relatively high, driven wells generally only supply a single household because very little water is stored in the well casing.

Wells of any type constructed in the other sediments shown in the diagram (clay or fine sand and silt) would yield some water but yields would be less than wells in coarse-grained sand and gravel deposits.

Another type of well common in Maine is the *drilled bedrock well*. This well is drilled into the underlying rock with steel casing to isolate the well from potential surface-water contamination. In this type of well, water is found when the well hole intersects water-bearing fractures in the bedrock. Notice how the water level in this well is at the same level as the water table. The well casing isolates the bedrock well from the overlying sediments. The water level is controlled by water pressure in the fractures in the bedrock and is not related to the water table in the overlying materials.

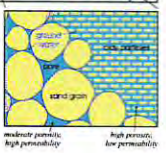


POROSITY AND PERMEABILITY

The diagram at right is an enlarged view of a section of the diagram above. Note that the section shown is below the water table and that ground water completely fills the pore spaces between the sediment grains. In an aquifer, the more pore space there is, the more water the aquifer can hold. This is called the *porosity* of a deposit. *Permeability* refers to the ability of a surficial deposit to transmit water. Permeability depends on the size of the spaces between the sediment grains.

Permeability is related to porosity, but is not the same. Porosity determines the capacity of the material to hold water. Permeability determines its ability to yield water. For example, clay is made of tiny particles with a large amount of pore space between them. However, the pore spaces are so small that they create a resistance to flow which reduces ground water permeability. Sand and gravel may not be as porous as clay, but the pore spaces are larger and better connected and the materials are much more permeable.

Permeability is an important characteristic since it determines whether ground water can actually be drawn into a pumping well.



HOW ARE AQUIFERS MAPPED?

Operating a two-channel seismograph, Piscataquis County, Maine

When mapping sand and gravel aquifers, geologists visit gravel pits, stream banks, road cuts, and other surface exposures to describe materials and identify deposits. This surficial geology mapping is supplemented with seismic-refraction studies and the installation of observation wells and test borings. In addition, much information about an aquifer may already be available from water-company explorations, large construction projects, town well inventories, and other sources. This information, along with aerial photography and previously published maps, allows the geologist to define the boundaries of favorable surficial deposits and estimate how well the deposits will yield water to a well.

The boundaries of favorable surficial deposits do not necessarily coincide with the aquifer boundaries. In some areas, a thin cover of favorable coarse-grained material may overlie fine-grained sediments, till, or bedrock. A well in this material would not be able to sustain a yield of 10 gpm, so the area would not be mapped as an aquifer. In other areas, fine-grained sediments or till may overlie favorable coarse-grained sediments and the subsurface deposit may not be recognized as an aquifer.

Single- and 12-channel seismic-refraction studies are conducted to determine the saturated thickness of a deposit by establishing the depth to water table and bedrock surface. The 12-channel seismic survey has the additional advantage of providing the topography of the buried bedrock surface at a site.

Installing monitoring wells and drilling test borings provide direct information about the aquifer characteristics of a deposit. This work provides information on the depth to water table and bedrock surface, water quality, and how easily the sediment transmits water.

GROUND-WATER FLOW AND CONTAMINATION

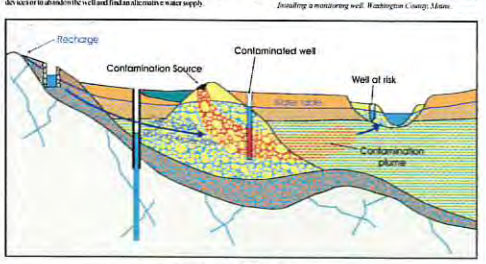
Ground water is replenished or *recharged* by rain after and melting snow that soak into the soil. This water percolates downward and eventually reaches the water table. When recharge is high during spring snowmelt and fall rains, the amount of ground water increases and the water table rises. When recharge is low during the late summer or when the ground is frozen during the winter, the water table becomes lower.

Notice in the diagram below that ground water is not static; it flows. This concept is very important, especially when ground water becomes contaminated. Once in the ground-water system, contaminants usually travel along the path followed by ground water and are sometimes able to migrate considerable distances or times.

In the diagram below, a plume of contamination originates at the source in the sand and gravel deposit. This source could be a landfill, a leaking fuel storage tank, or an accidental spill. As the contaminant seeps into the subsurface system and enters the aquifer, it flows with the ground water. In the diagram, the plume contaminated the gravel-packed well as it passed by. The driven well near the stream is not contaminated, but is at risk since the plume is flowing in that direction. The dug well on the hillside, however, is not affected because it is upgradient of the source, hence the contaminated ground water flows away from this well.

Once ground water is contaminated, it is very difficult and expensive to correct. To design a clean-up plan, monitoring wells are installed under the direction of a hydrogeologist or other specialist. These wells define the three-dimensional extent of the affected area. Sometimes it is possible to pump contaminants to the surface using remediation wells within the plume. Often the only solution for a homeowner is to install filtering devices or to abandon the well and find an alternative water supply.

Installing a monitoring well, Washington County, Maine.



HOW TO USE THIS MAP

Types of Information Shown on this Map: Sand and gravel aquifer maps are useful in two major categories of decision-making: ground-water supply and ground-water protection. For ground-water supply, these maps are useful in locating areas favorable for developing water supplies for municipal, industrial, or residential use. Information on the map, such as depth to bedrock and well yield, indicate the potential for ground-water production.

Ground-water protection is another important function of these maps. Knowledge of the location and extent of sand and gravel aquifers is critical when siting potential contamination sites such as landfills and salt storage facilities. When used in conjunction with other geologic information, this map can help planners and municipal officials make much more informed decisions to guide industrial growth or residential development.

If ground-water contamination occurs, the general trend of the plume migration can be deduced from these maps by studying the drainage basin boundaries and the local surface water bodies.

For further assistance in interpreting this map, contact a geologist at the Maine Geological Survey.

GORRILL PALMER

PO Box 1237, 15 Shaker Road
Gray, Maine 04039
207.657.6910

November 17, 2015

Mr. Earle G. Shettleworth, Jr.
State Historic Preservation Officer
Maine Historic Preservation Commission
55 Capitol Street, State House Station 65
Augusta, ME 04333

NOV 20 2015
1655-15

Subject: Presence of Historical Areas
Mill Run– Cumberland, Maine

Dear Mr. Shettleworth:

Grun Development, LLC has retained Gorrill Palmer to prepare plans and permit applications for a proposed manufacturing facility on Route 100. The development is anticipated to include one 12,960 square foot shoe manufacturing facility building with a paved access drive and 82 space parking area.

The project site consists of Tax Map U20, Lots 70A, 70E, 73 and 74 as shown on the Cumberland Assessor's Map. Lot 70A is currently developed as the Allen Farm convenience store. Lots 73 and 74 are residential homes and Lot 70E is the undeveloped rear portion of the Allen Farm store. The total area of the four lots is approximately 9.5 acres and has approximately 467 feet of frontage along Route 100. The attached Figure 1 shows the project location.

As part of the permit applications for the site, Gorrill Palmer requests information from MHPC relative to the presence of any nearby structure or area with historical, architectural or archeological significance as defined by the National Historic Preservation Act of 1966.

Thank you for your consideration. If you have any questions regarding the proposed project, please contact our office. Your response may be mailed to our office or emailed to cholmes@gorrillpalmer.com

Sincerely,

Gorrill Palmer

Christi Holmes

Christi Holmes, E.I.
Design Engineer

Enclosure

Based on the information submitted, I have concluded that there will be no historic properties affected by the proposed undertaking, as defined by Section 106 of the National Historic Preservation Act. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.

Kirk F. Mohney
Kirk F. Mohney,
Deputy State Historic Preservation Officer
Maine Historic Preservation Commission

12/2/15
Date

CEH/ceh/U:\3071 Allen Farms Redevelopment Rt 100 Cumberland\P Applications\Resource Letters

11

12

architectural arealighting

UCM2

ARCHITECTURAL AREA/SITE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

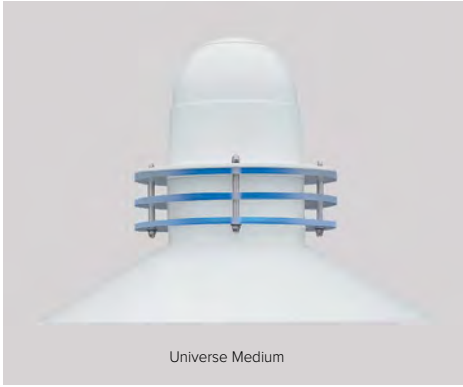
UNIVERSE®

FEATURES

- Reliable, uniform, glare free illumination
- Types 1, 2, 3, 4W, 5Q, and 5W distributions
- 3000K, 4000K, 5000K CCT
- 0-10V dimming ready
- Integral Surge protection: 10k in parallel, 20k in series
- Upgrade Kits

3000K and warmer CCTs only

See Certification Specifications



Universe Medium

RELATED PRODUCTS

UCL2 UCL2-LK UCS UCB

SPECIFICATIONS

CONSTRUCTION

- All housing components aluminum 360 alloy, sealed with continuous silicone rubber gaskets
- Standard configurations do not require a flat lens, optional lenses is tempered glass
- All internal and external hardware is stainless steel
- Finish: fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) polyester powdercoat
- Optical bezel finish is match the luminaire housing

LED/OPTICS

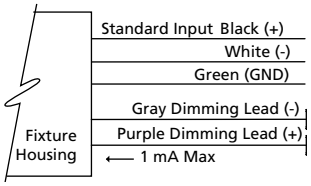
- Optical cartridge system consisting of a die cast heat sink, LED engine, TIR optics, gasket and bezel plate
- Optics are held in place without the use of adhesives
- Molded silicone gasket ensures a weather-proof seal around each individual LED.
- Features individual LED optical control based on high performance TIR optical designs.
- House Side Shield is available on Standard and Clear Lens options except any Type 5 distribution. House Side Shield is not available for any distribution using a Diffused Lens.

INSTALLATION

- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

ELECTRICAL

- Luminaires have integral surge protection, UL recognized and have a surge current rating of 10,000 Amps using the industry standard 8/20uSec wave and surge rating of 372J
- Drivers are UL recognized with an inrush current maximum of <20.0 Amps maximum at 230VAC
- 100%-1% dimming range. Fixture will be wired for low voltage 0-10V dimming control



- Driver and surge suppressor are mounted to a prewired tray with quick disconnects that may be removed from the gear compartment

CONTROLS

- Egress adapter(s) shall slip over a 4"/100mm DIA. pole with the luminaire or arm slipping over the adapter to add a total of 4.5"/114mm to the overall height. Adapter(s) shall be prewired, independently rotatable 359°, and have a cast access cover with an integral lens and lanyard.

CONTROLS (CONTINUED)

- Photocell adapter shall include an internal twist lock receptacle. Photocell by others.
- Egress adapter shall require an auxiliary 120 volt supply for operation of an integral MR16 lamp in the event of emergency. The lamp may be aimed and locked into position with an adjustment range of 15°-45°. Adapter shall have a socket that accepts miniature bi-pin MR16 lamps up to 50 watts, lamp by others

CERTIFICATIONS

- ETL listed under UL 1598 and CSA C22.2 No. 250.0-08 for wet locations
- This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 6/06/2020. See Buy American Solutions.

WARRANTY

- See HLI Standard Warranty for additional information

KEY DATA	
LUMEN RANGE	1,821–9,336
WATTAGE RANGE	31.52–71.6
EFFICACY RANGE (LPW)	54.5–138.5
INPUT CURRENT RANGE (mA)	260/420/615 mA
WEIGHT	18 lbs 4.1 kg to 27 lbs 12.25 kg
EPA	.53 to 1.05

HUBBELL Lighting

architectural arealighting

UCM2

ARCHITECTURAL AREA/SITE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

ORDERING GUIDE

Example: UCM2-WND-BLU-FLR-36L-420-4K7-2-CL-BL-WIRSC-SLA2-D-UNV

CATALOG #

HOUSING

UCM2

Housing		LED Quantity		Lumen output		CCT/CRI		Distribution		Finish	
UCM2	Universe Medium 2.0	**36L**	36 LED	**260**	260mA, 4000 Lumens	**AMB**	Amber-595nm Peak[1]	**1**	Type I	**BLS**	Black Gloss Smooth
Optional Element				**325**	450mA Microcore Equivalent	**3K7**	3000K, 70 CRI	**2**	Type II	**BLT**	Black Matte Textured
WND	Universe Medium with Luminous Window			**420**	420mA, 6000 Lumens	**4K7**	4000K, 70 CRI	**3**	Type III	**DBS**	Dark Bronze Gloss Smooth
SR	Universe Medium with Luminous Solid Rings			**460**	700mA Microcore Equivalent	**5K7**	5000K, 70 CRI	**4W**	Type IV Wide	**DBT**	Dark Bronze Matte Textured
VSL	Universe Medium with Luminous Vertical Slots			**615**	615mA, 9000 Lumens			**5Q**	Type V Square	**GTT**	Graphite Matte Textured
LUM	Universe Medium with Luminous Rings							**5W**	Type V Wide	**LGS**	Light Grey Gloss Smooth
Optional Intenal Lens										**LGT**	Light Grey Matte Textured
BLU	Blue									**PSS**	Platinum Silver Gloss Smooth
RD	Red									**VGT**	Verde Green Matte Textured
GRN	Green									**WHS**	White Gloss Smooth
Hood Syle										**WHT**	White Matte Textured
ANG	Angled Hood									**Color Option**	
BEL	Bell Hood									**CC**[3]	Custom Color
FLR	Flared Hood										
SKB	Skirted Bell Hood										
STR	Straight Hood										
Hood Finish											
STS	Stainless Steel										
COP	Copper										

Mounting		Optional Lens		Options		Mounting Options		Voltage	
Pole Mount		**CL**	Clear Lens	**HS**	House Side Shield[4]	**WIR**	wiSCAPE connectivity	**UNV**	120-277V
SLA2-D	SLA18	**DL**	Diffused Lens[2]	**SLC**	Solid Lens Cover	**WIRSC**	wiSCAPE connectivity with Sensor	**347**	347V
SLA3	SLA20			**SF**	Single Fuse (120, 277, 347)	**SCP-8F**	Sensor Control to 8' Mounting Height	**480**	480V
SLA4	SLA20A			**DF**	Double Fuse (208, 240, 480)	**SCP-20F**	Sensor Control to 9' to 20' Mounting Height		
SLA7	SLA22D					**PCA-C**	Photocontrol Adaptor Contemporary		
SLA8D	SLA24					**EPA-C**	Egress Adaptor Contemporary		
SLA9	TRA7								
SLA10	TRA8								
SLA16	TRA9								
SLA17									
Wall Mount									
WMA5	WMA17								
WMA9D	WMA20								
WMA11	WMA24								
WMA12	WMA39								
WMA16									

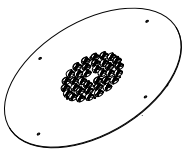
Notes:

1 Wild life friendly

2 Diffused Lens is available only with T3 and T5W distribution

3 Consult factory for custom color, marine and corrosive finish options

4 House side Shield is available only with T1, T2, T3 and T4W distributions



DIMENSIONS

See page 6 for dimensions

HUBBELL Lighting

architectural arealighting

UCM2

ARCHITECTURAL AREA/SITE

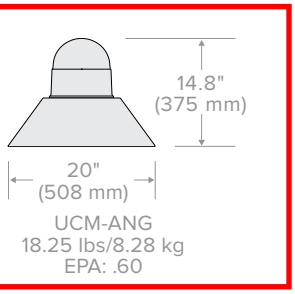
DATE: LOCATION:

TYPE: PROJECT:

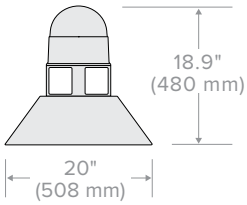
CATALOG #:

DIMENSIONS

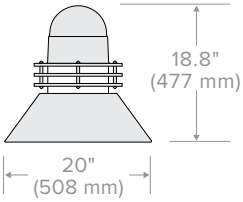
ANGLED HOOD CONFIGURATION



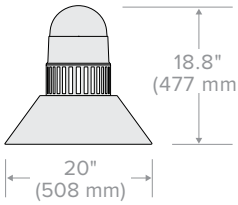
UCM-ANG
18.25 lbs/8.28 kg
EPA: .60



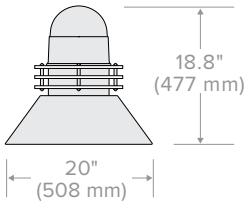
UCM-WND-ANG
21.75 lbs/9.86 kg
EPA: .72



UCM-SR-ANG
25 lbs/11.3 kg
EPA: .74

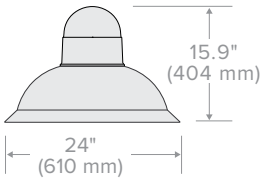


UCM-VSL-ANG
22.25 lbs/10.1 kg
EPA: .72

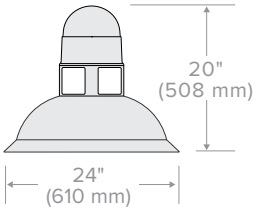


UCM-LUM-ANG
24.25 lbs/11 kg
EPA: .74

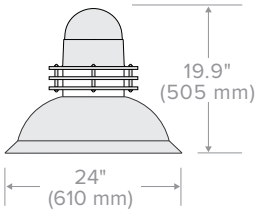
BELL HOOD CONFIGURATION



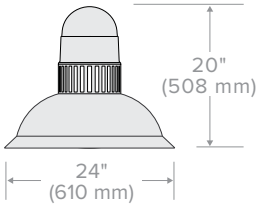
UCM-BEL
20.25 lbs/9.2 kg
EPA: .73



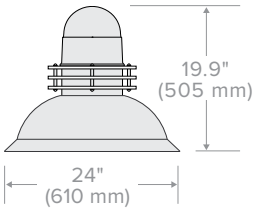
UCM-WND-BEL
23.5 lbs/10.6 kg
EPA: .85



UCM-SR-BEL
27 lbs/12.25 kg
EPA: .87

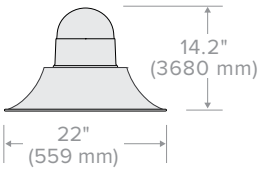


UCM-VSL-BEL
24.25 lbs/11 kg
EPA: .85



UCM-LUM-BEL
26 lbs/11.8 kg
EPA: .85

FLARE HOOD CONFIGURATION



UCM-FLR
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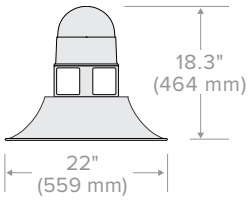
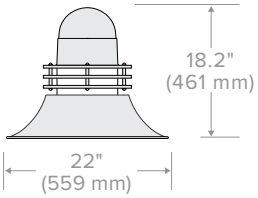
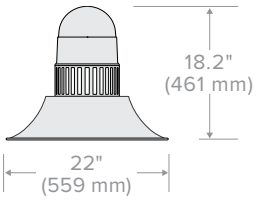
EPA: .53



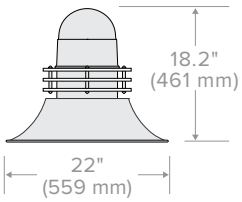
UCM-WND-FLR
21.75 lbs/9.87 kg
EPA: .65



UCM-SR-FLR
25.25 lbs/10.15 kg
EPA: .67

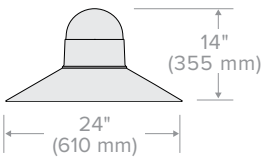


UCM-VSL-FLR
21.75 lbs/9.86 kg
EPA: .65

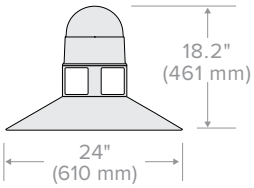


UCM-LUM-FLR
24.25 lbs/11 kg
EPA: .67

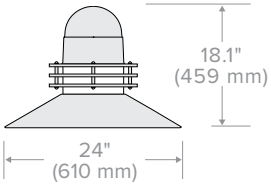
STRAIGHT HOOD CONFIGURATION



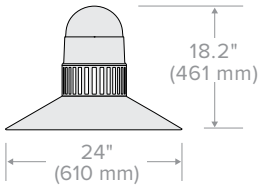
UCM-STR
20 lbs/9.07 kg
EPA: .59



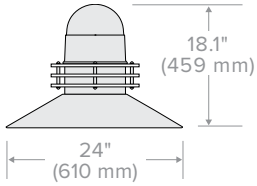
UCM-WND-STR
23.25 lbs/10.55 kg
EPA: .71



UCM-SR-STR
26.75 lbs/12.13 kg
EPA: .73

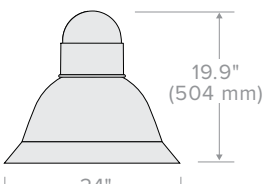


UCM-VSL-STR
23.75 lbs/10.77 kg
EPA: .71

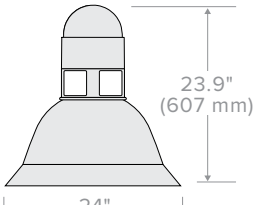


UCM-LUM-STR
25.75 lbs/11.68 kg
EPA: .73

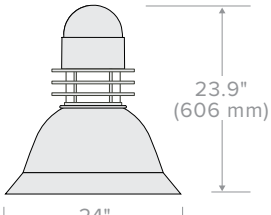
SKIRTED BELL HOOD CONFIGURATION



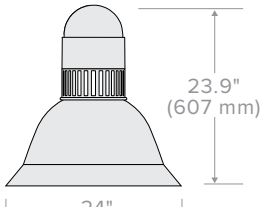
UCM-SKB
20.5 lbs/9.3 kg
EPA: .90



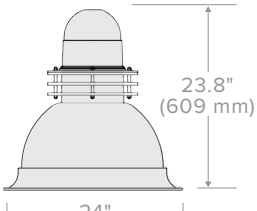
UCM-WND-SKB
23.75 lbs/10.77 kg
EPA: 1.03



UCM-SR-SKB
27 lbs/12.25 kg
EPA: 1.05



UCM-VSL-SKB
24.25 lbs/11 kg
EPA: .1.03



UCM-LUM-SKB
26.25 lbs/11.9 kg
EPA: 1.05

HUBBELL Lighting

PHOTOMETRY

UCM2-ANG-36L-615-4K7-1

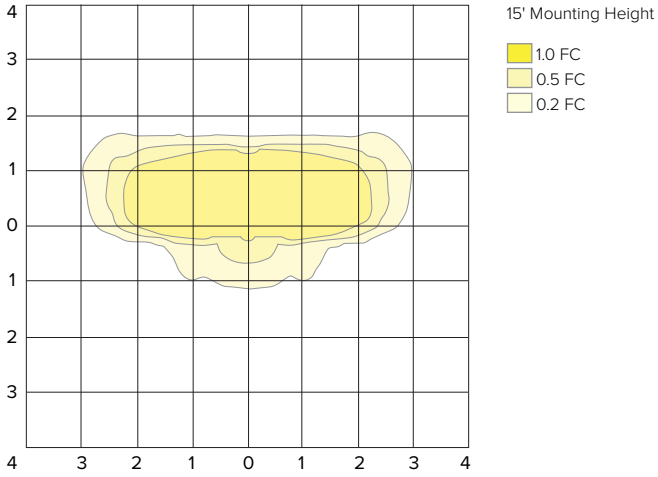
LUMINAIRE DATA

Description	**4000 Kelvin, 70CRI**
Delivered Lumens	**8954**
Watts	**71.59**
Efficacy	**125.1**
IES Type	**I**
BUG Rating	**B1-U0-G1**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	8046	90%
Downward House Side	908	10%
Downward Total	8954	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	8954	100%

ISOFOOT CANDLE PLOT



UCM2-ANG-36L-615-4K7-2

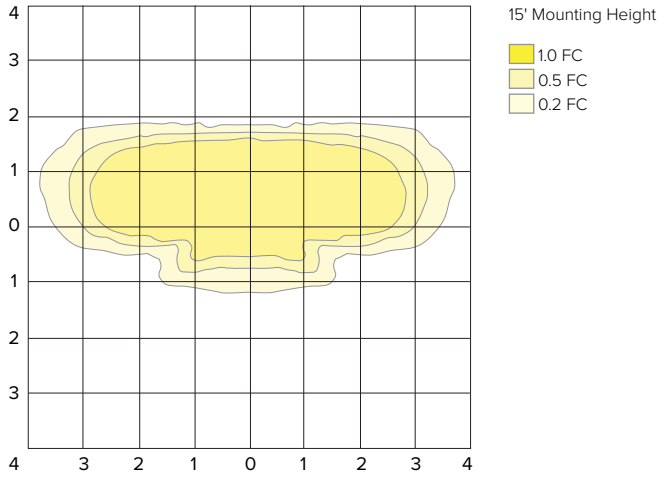
LUMINAIRE DATA

Description	**4000 Kelvin, 70CRI**
Delivered Lumens	**8274**
Watts	**71.59**
Efficacy	**115.6**
IES Type	**II**
BUG Rating	**B1-U0-G2**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	6942	84%
Downward House Side	1332	16%
Downward Total	8274	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	8274	100%

ISOFOOT CANDLE PLOT



UCM2-ANG-36L-615-4K7-3

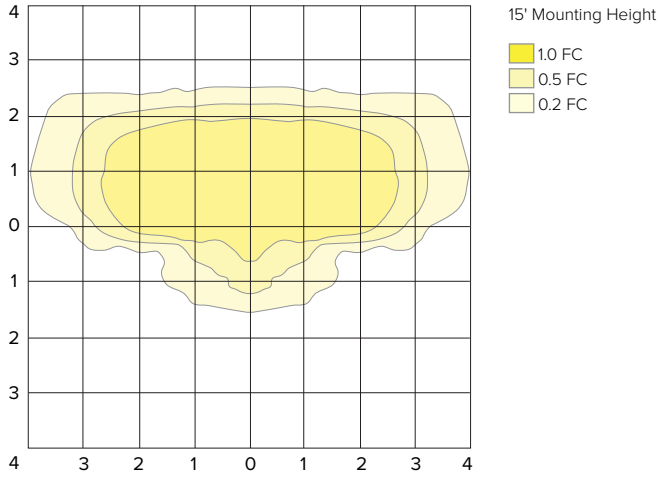
LUMINAIRE DATA

Description	**4000 Kelvin, 70CRI**
Delivered Lumens	**8099**
Watts	**71.59**
Efficacy	**113.1**
IES Type	**III**
BUG Rating	**B1-U0-G2**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	6800	84%
Downward House Side	1299	16%
Downward Total	8099	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	8099	100%

ISOFOOT CANDLE PLOT



UCM2

ARCHITECTURAL AREA/SITE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

PHOTOMETRY

UCM2-ANG-36L-615-4K7-4W

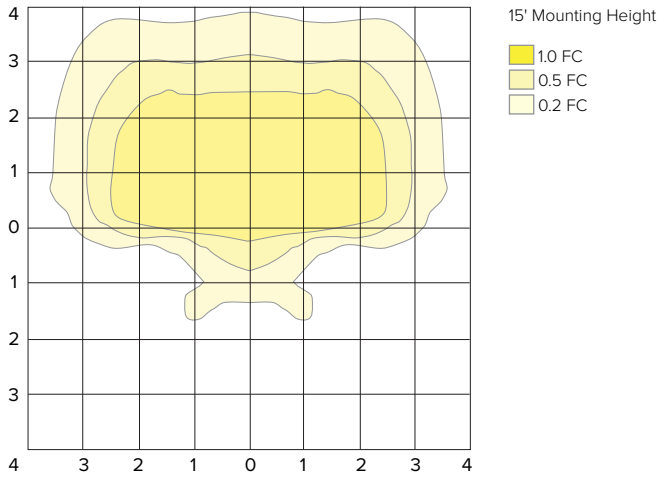
LUMINAIRE DATA

Description	**4000 Kelvin, 70CRI**
Delivered Lumens	**8189**
Watts	**71.6**
Efficacy	**114.4**
IES Type	**IV Wide**
BUG Rating	**B1-U0-G3**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	7339	90%
Downward House Side	850	10%
Downward Total	8189	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	8189	100%

ISOFOOT CANDLE PLOT



UCM2-ANG-36L-615-4K7-5Q

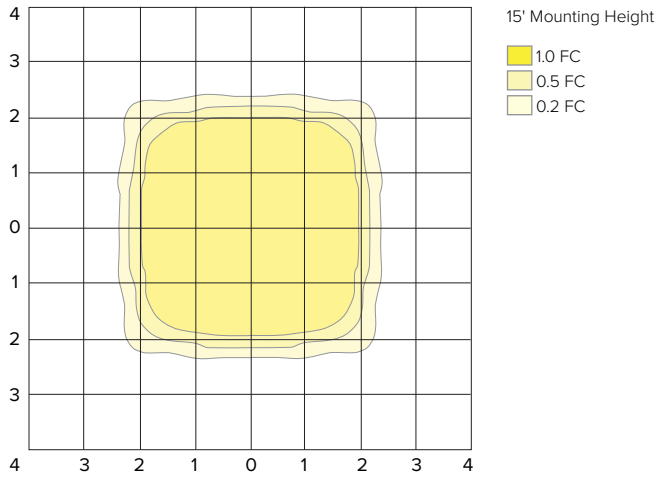
LUMINAIRE DATA

Description	**4000 Kelvin, 70CRI**
Delivered Lumens	**8596**
Watts	**71.6**
Efficacy	**120.1**
IES Type	**VS**
BUG Rating	**B3-U0-G1**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	4298	50%
Downward House Side	4298	50%
Downward Total	8596	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	8596	100%

ISOFOOT CANDLE PLOT



UCM2-ANG-36L-615-4K7-5W

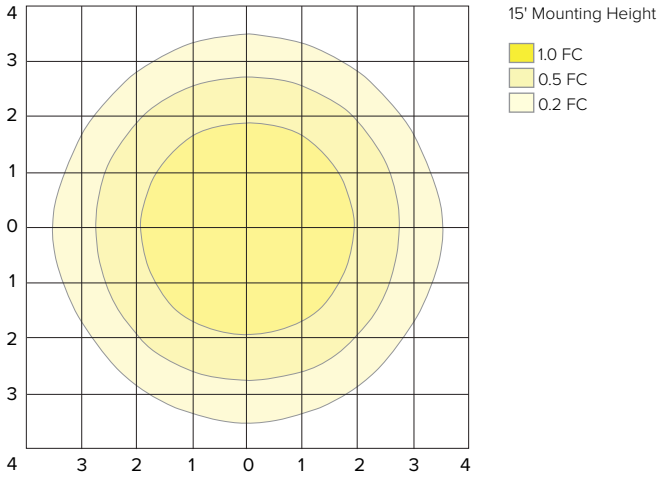
LUMINAIRE DATA

Description	**4000 Kelvin, 70CRI**
Delivered Lumens	**8348**
Watts	**71.6**
Efficacy	**116.6**
IES Type	**VS**
BUG Rating	**B3-U0-G2**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	4174	50%
Downward House Side	4174	50%
Downward Total	8348	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	8348	100%

ISOFOOT CANDLE PLOT



HUBBELL Lighting

architectural arealighting

UCM2

ARCHITECTURAL AREA/SITE

DATE: LOCATION:

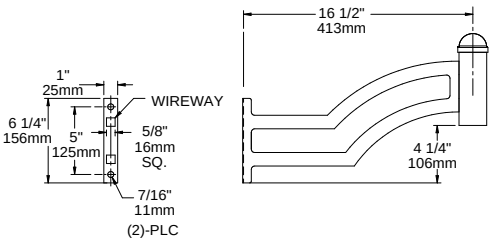
TYPE: PROJECT:

CATALOG #:

ADDITIONAL INFORMATION CONTINUED

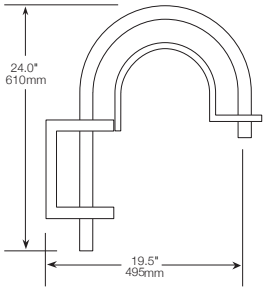
MOUNTING POLE OPTIONS

SLA2-D Wt: 6 lbs EPA: .30



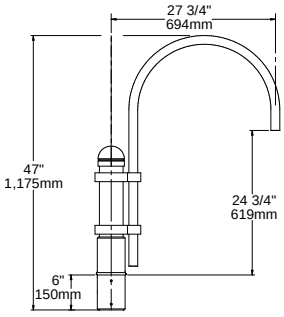
4" POLE

SLA3 WT: 8 LBS EPA: .77



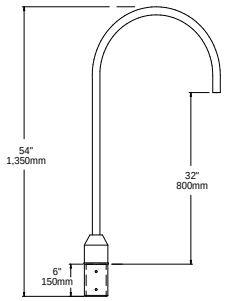
4" POLE

SLA4 WT: 14 LBS EPA: 1.39



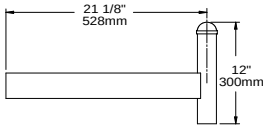
4" POLE

SLA7 WT: 9 LBS EPA: 1.34



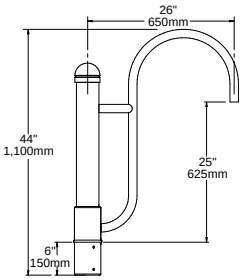
4" POLE

SLA8D WT: 5 LBS EPA: .40



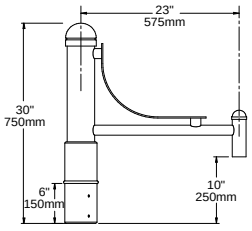
4" OR 5" POLE

SLA9 WT: 18 LBS EPA: 1.90



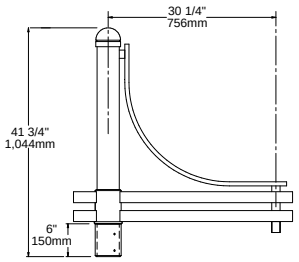
4" POLE

SLA10 WT: 9 LBS EPA: 1.09



4" POLE

SLA16 WT: 18 LBS EPA: 2.88



4" POLE

HUBBELL Lighting

KIM LIGHTING

VRB1 LED Round Bollard

Single Function, Vandal-Resistant, Aluminum Shaft

revision 8/7/14 • kl_vrb1led_spec.pdf

Type:
Job:
Catalog number:

Approvals:

VRB1	/	/	/
Fixture	Electrical Module	Luminaire Finish (includes top cap and shaft)	Option

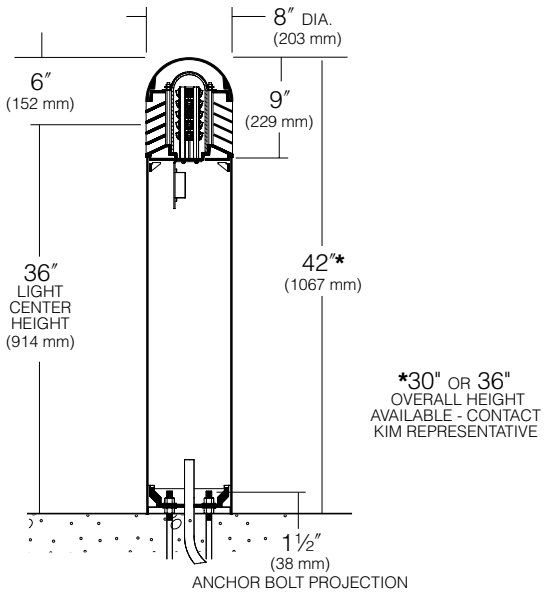
See page 2

Date:

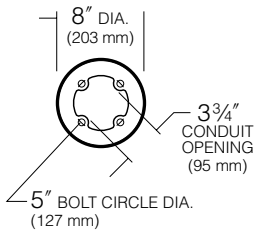
Specifications

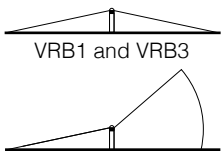
VRB-LED Models
10 - 20 Diodes

VRB1- Single Function Luminaire (Aluminum Shaft)
Maximum weight: 30 lb



BASE PLAN VRB
ALUMINUM SHAFT





HUBBELL® Lighting

Domed Top Cap: One-piece die-cast aluminum secured to louvers by concealed allen screws in keyhole slots. For relamping access, allen screws shall not require complete removal.

Louvers: Aluminum die-cast with vertical support ribs at 90° intervals. Horizontal louver blades shall have a 1¾″ depth, a 65° upward pitch and provide light source cutoff above horizontal. Louver assembly shall be secured to shaft by four internal tie rods.

Lamp Enclosure: One-piece tempered molded glass with internal flutes and full gasketing at bottom edge.

Fixture Head: Allows flow-through ventilation around and above the lamp enclosure.

Shaft: One-piece extruded aluminum, .125″ wall thickness with a heavy cast aluminum twist-lock anchor base concealed within the shaft. Concealed set screws shall lock shaft onto the cast anchor base.

Electronic Module: All electrical components are either UL or ETL recognized, mounted on a single plate and factory prewired with quick disconnect plugs. Driver is rated for -40°F starting and has a 0-10V dimming interface for multi-level illumination options.

Optical Module: Each LED equipped with a directional optic for maximum beam angle projecting through louver stack spacings. LED boards to be mounted to an anodized inter-locking heat sink extrusion. (Type I) two 5-LED boards for a total of 10-LED. (Type III) three 5-LED boards for a total of 15-LED. (Type V) four 5-LED boards for a total of 20-LED. Available in 580nm Amber, 3000K, 4200K and 5100K color temperatures.

Anchor Bolts: Four ⅜″ x 10″ + 2″ zinc plated L-hooks, each with two nuts, washers and a rigid pressed board template.

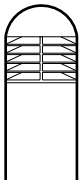
Finish: Each luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) polyester powdercoat finish. Standard colors include (BL) Black, (DB) Dark Bronze, (WH) White, (PS) Platinum Silver, (SG) Stealth Gray, (LG) Light Gray, and (CC) Custom Color (Include RAL#).

Listed to: UL 1598 Standard for Luminaires - UL 8750 Standard for Safety for Light Emitting Diode (LED) Equipment for use in Lighting Products and CSA C22.2#250.0 Luminaires. RoHS compliant. Meets Buy American provisions within ARRA.

Warranty: Kim Lighting warrants Bollard LED products sold by Kim Lighting to be free from defects in material and workmanship for (i) a period of five (5) years for metal parts, (ii) a period of five (5) years for exterior housing paint finish(s), (iii) a period of five (5) years for LED Light Engines and, (iv) a period of five (5) years for LED power components (driver, surge protector and LifeShield® device), from the date of sale of such goods to the buyer as specified in Kim Lighting shipment documents for each product.

CAUTION: Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

KIM LIGHTING RESERVES THE RIGHT TO CHANGE SPECIFICATIONS WITHOUT NOTICE



Standard and Optional Features

Fixture

Cat. No. **VRB1** Single Function, Aluminum Shaft, Domed Top

Electrical Module
LED = Light Emitting Diode

Cat. Nos. for LED Electrical Modules available:

xL

Source:

- ☐ **10L**= 10 LED (IES Type I)
- ☐ **15L**= 15 LED (IES Type III)
- ☐ **20L**= 20 LED (IES Type V)

xK

Color Temperature:

- ☐ 2K = 580nm - Amber
- ☐ 3K = 3000K
- ☐ 4K = 4200K
- ☐ 5K = 5100K

UV

Voltage:

- ☐ **UV** Universal Voltage shall range from 120V-277V

Finish
TGIC thermoset polyester powder coat paint applied over a titanated zirconium conversion coating on fixture and shaft.

Color:	Black	Dark Bronze	Light Gray	Stealth Gray	Platinum Silver	White	Custom Color[1]
Cat. No.:	☐ **BL**	☐ **DB**	☐ **LG**	☐ **SG**	☐ **PS**	☐ **WH**	☐ **CC**

NOTE: Black and Dark Bronze colors will produce slightly less louver brightness than Light Gray or White.

[1] Custom colors subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description:_____

Battery Back-up
Cat. No. ☐ **EM** ☐ **No Option**

Internal battery pack provides 90 minutes of supplemental light at 50% of initial lamp lumens.

battery back-up

Optional Duplex Receptacle
Cat. No. ☐ **DR** ☐ **DR-GFI** ☐ **No Option**

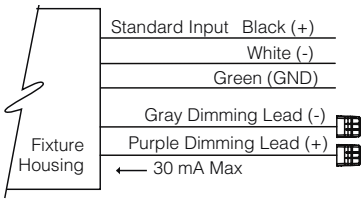
Mounted 18″ from bottom of shaft, in a cast aluminum box that is internally welded and sealed with a gasketed While-In-Use cover with locking tab. Painted to match bollard.

DR weather proof duplex receptacle rated 20A, 125V.

DR-GFI weather proof duplex receptacle with ground fault circuit interrupter rated 20A, 125V.

0-10V Dimming Interface

Driver has a 0-10V dimming interface with a dimming range of 10-100%. Is compatible with most control systems including Hubbell Building Automation wiHUBB™. Approved dimmers include Lutron Diva AVTV, Lutron Nova NFTV and NTFTV. Note: Not compatible with current sourcing dimmers. Controls compatible via Gray and Purple dimming lead.



PROPOSED PROFESSIONAL OFFICE BUILDING
(WEST CUMBERLAND MIXED USE DEVELOPMENT)

2 FARADAY DRIVE (195 GRAY RD.), CUMBERLAND, MAINE

PLAN LIST

OWNER & APPLICANT:
GREEN SIP CONSTRUCTION
110 Marginal Way, Suite 193
Portland, Maine 04101

ARCHITECT:
GRANT HAYS ASSOCIATES INC.
28 Oak Ridge Way
Falmouth, Maine 04105

SITE PLANNER & LANDSCAPE ARCHITECT:
LAND DESIGN SOLUTIONS
1 Faraday Drive, Suite 7
Cumberland, Maine 04021
(207) 939-1717

CIVIL ENGINEERING:
SITE DESIGN ASSOCIATES
23 Whitney Way
Topsham, ME 04086

GORRILL PALMER (ORIGINAL CIVIL ENGINEER)
707 Sable Oaks Drive, Suite 30
South Portland, ME 04106

SURVEYORS:
ST. CLAIR ASSOCIATES
34 Forest Lane
Cumberland, ME 04021

BOUNDARY POINTS (ORIGINAL SURVEY)
P.O. Box 175
Cumberland, ME 04021

SOIL SCIENTIST & SEPTIC SYSTEM DESIGNER:
MARK CENCI GEOLOGIC INC..
93 Mill Road
North Yarmouth, ME 04097

SEPTIC SYSTEM DESIGN ENGINEER:
TERRADYN CONSULTANTS, LLC
41 Campus Drive, Suite 101
New Gloucester, ME 04260

MOUNDING & SITE TRANSMISSION ANALYSIS:
MARCOTTE ENVIRONMENTAL
Lewiston, ME 04240

Issued To The Town Of Cumberland For Site Plan Review
March 29, 2021

REV.	DATE	STATUS	BY	CHKD.	APPD.	REV.	DATE	STATUS	BY	CHKD.	APPD.

LAND DESIGN SOLUTIONS
LAND PLANNING, SITE PLANNING & LANDSCAPE ARCHITECTURE
1 Faraday Drive, Suite 7, Cumberland, ME 04021 tel:(207) 939-1717

OWNER & APPLICANT:
GREEN SIP CONSTRUCTION
110 MARGINAL WAY, SUITE 193, PORTLAND, MAINE 04101

DESIGN: PBB
DRAWN: DEPT
CHKD: PBB
DATE: MARCH 2021
SCALE:

PROPOSED PROFESSIONAL OFFICE BUILDING
FARADAY DRIVE, CUMBERLAND, MAINE

COVER SHEET

PROJ. NO. 17-131
DWG. NO.
REV.

PROPOSED PROJECT - PROFESSIONAL OFFICE BUILDING

POND
WATER LEVEL 10-17-2015
276.00 FEET

WELL 148' FROM PROPERTY LINE

WELL 117' FROM PROPERTY LINE

UNDER-GROUND ELECTRIC TRANSFORMER

FOUND 5/8" IRON ROD 0" ABOVE GRADE

RIM 295.41

RIM 295.38

S10°50'26"E 816.35'

N79°10'34"E 50.00'

18'

50' R.O.W.

TAMM□ LANE □RIVATE WA□

17' RECLAIMED SURFACE

S69°57'04"W 50.69'

N10°50'26"W 47.55'

N10°50'26"W 250.00'

CONDOMINIUM UNIT 4 0.94 ac.

FRONT SETBACK 25'

PUMP HOUSE

S32°28'26"E 111.56'

CONDOMINIUM UNIT 2 4.19 ac.

COMMON AREA 0.63 ac.

TP-1

N52°45'45"E 118.25'

4-UNIT MULTIPLEX B

4-UNIT MULTIPLEX C

4-UNIT MULTIPLEX D

WOODED

STORMWATER DRAINAGE SYSTEM TO BE UNDER COMMON OWNERSHIP BY CONDOMINIUM

STORM DRAIN (TYP.)

FOUND 5/8" IRON ROD 6" ABOVE GRADE

PROPOSED CAPPED IRON REBAR (TYP.)

S10°50'26"E 55.36'

LIMIT OF CLEARING (TYP.)

SIDE BACK

N79°47'01"E 127.30'

4-UNIT MULTIPLEX A

APPROXIMATE LOCATION OF SUBSURFACE WASTEWATER DISPOSAL AREA FOR MULTI-PLEX B

APPROXIMATE LOCATION OF SUBSURFACE WASTEWATER DISPOSAL AREA FOR MULTI-PLEX D

APPROXIMATE LOCATION OF SUBSURFACE WASTEWATER DISPOSAL AREA FOR MULTI-PLEX C

OPEN SPACE 0.78 ACRES

APPROXIMATE LOCATION OF SUBSURFACE WASTEWATER DISPOSAL AREA FOR MULTI-PLEX E

4-UNIT MULTIPLEX E

WOODS

FIELD

25' SIDE SETBACK

S78°17'08"W 191.24'

PROPANE TANK

N79°47'01"E 48.97'

57.69'

N10°02'20"W

397.09'

N10°02'20"W

N09°17'12"W 49.85'

S10°12'59"E 185.05'

CONDOMINIUM UNIT 3 1.38 ac.

S79°53'05"W 23.43'

STORMWATER DRAINAGE SYSTEM FOR UNIT 1 AND 2

S78°23'57"W 47.68'

APPROXIMATE LOCATION OF SUBSURFACE WASTEWATER DISPOSAL AREA FOR MULTI-PLEX A

FIELD

N10°10'58"W 173.15'

DISPOSAL FIELD FOR MANUFACTURING

POTENTIAL INTERCONNECTING DRIVEWAY TO ABUTTER

GRAVEL SURFACE

15' SIDE SETBACK

HINCKLEY A SOIL

COMMON AREA 0.46 ac.

CONDOMINIUM UNIT 1 1.98 ac.

72'

APPROVED OFFICE 'A' 12,960 SF

180'

UTILITY AND WATERLINE ACROSS UNIT 3 FOR UNIT 2

FUTURE DEVELOPMENT

305.07' S79°53'05"W

348.80' N79°49'02"E

24'

WATERMAIN (TYP.)

N79°47'01"E 324.61'

S79°50'21"W 299.24'

SKILLIN'S GREENHOUSE

FENCE

PAVED PARKING LOT

MAP U20, LOT 70B
NOW OR FORMERLY
RONALD W. COPP SR.
RONALD W. COPP JR.
BOOK 12829, PAGE 265

COPP MOTORS

MAP U20, LOT 77
NOW OR FORMERLY
RONALD W. COPP SR.
RONALD W. COPP JR.
BOOK 14125, PAGE 330

PAVED PARKING LOT

UTILITY AND WATERLINE FOR UNIT 1

45' FRONT SETBACK

45'

25' VEGETATED BUFFER

N10°33'26"W 300.00'

N10°10'58"W 167.57'

FOUND 5/8" IRON ROD 10" ABOVE GRADE

25' BUFFER EASEMENT TO BE CONVEYED TO THE TOWN OF CUMBERLAND

N10°33'26"W 300.00'

STATE ROUTE 100

25'

100+00 101+00 102+00

14'ADS CULVERT

CONCRETE FENCE ABUTMENT

PAVED

GRAVEL

HOUSE

SKILLIN ROAD

1 inch = 40 ft.

SITE DATA

ZONE: VCC MULTIPLEX OVERLAY		
SITE AREA 9.6 ACRES		
PARKING	REQUIRED	PROVIDED
MULTIPLEX (20 UNITS) (1.5 SP/UNIT)	30	37

SPACE AND BULK STANDARDS

ZONE: VCC MULTIPLEX OVERLAY	REQUIRED	PROVIDED
MIN. LOT SIZE	5 ACRES	9.6 ACRES
MIN. LOT AREA PER DWELLING UNIT	8,000 SF	10,800 SF
BUILDING SETBACKS		
FRONT	45'	>45'
SIDE	15'	>15'
REAR	50'	>50'
MULTIPLEX BUILDING SETBACKS		
FRONT	25'	>25'
SIDE	25'	>25'
REAR	50'	N/A
VEGETATED BUFFERS		
FRONT	25'	>25'
REAR	25'	>25'
OPEN SPACE	10%	>10%

NOTES:

APPROVAL OF THIS SUBDIVISION PLAN SHALL BECOME NULL AND VOID IF NOT FILED FOR RECORDING WITHIN 90 DAYS OF FINAL PLAN APPROVAL.

APPROVAL OF THE PLANNING BOARD OF CUMBERLAND, MAINE

CHAIR _____ DATE: _____

_____ DATE: _____

_____ DATE: _____

_____ DATE: _____

_____ DATE: _____

_____ DATE: _____

_____ DATE: _____

_____ DATE: _____

STATE OF MAINE, CUMBERLAND, ss
REGISTRY OF DEEDS

RECEIVED _____, _____

at _____h _____m _____M and recorded in

Plan Book _____, Page _____

Attest: _____
REGISTER

NOTE: THIS PLAN SET IS ISSUED FOR PERMITTING PURPOSES AND SHALL NOT BE USED FOR CONSTRUCTION.

STATE OF MAINE
ALTON M. PALMER III
No. 0231
LICENSED
PROFESSIONAL ENGINEER
4/24/17

Rev.	Date	Revision
2	10/25/16	RESPONSE TO COMMENTS
1	9/27/16	TOWN RESUBMISSION

Issued For	Date	By
FINAL SITE PLAN AND SUBDIVISION REVIEW	4/24/17	AMP
MDEP STORMWATER AMENDMENT	2/28/17	AMP
SITE PLAN AND SUBDIVISION REVIEW	5/31/16	DER

Design: CEH | Draft: CG | Date: APRIL 2017
Checked: AMP | Scale: 1"=40' | Job No.: 3071
File Name: 3071-Master-condo-PH2.dwg

GORRILL PALMER
Relationships. Responsiveness. Results.
www.gorrillpalmer.com
207.772.2515

Drawing Name: Updated Master/Subdivision Plan

Project: West Cumberland Multiplex Units
197 Gray Road, Cumberland, Maine 04021

Client: Grun Development, LLC/Green SIP Construction, Inc.
110 Marginal Way, Suite 110, Portland, Maine 04101

Drawing No. C100

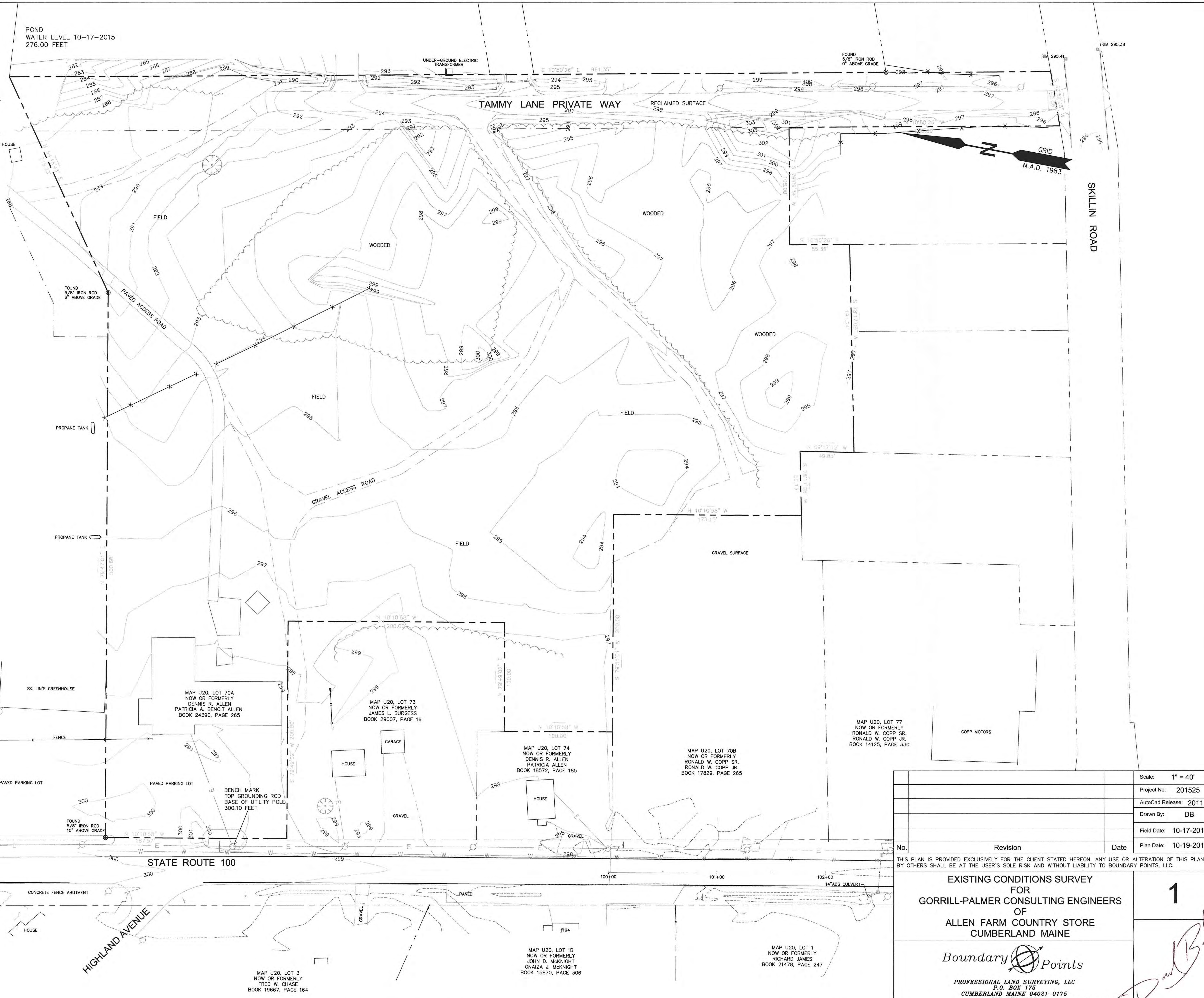
U:\3071 Allen Farms Redevelopment Rt 100 Cumberland\Z - CAD\DWG\PHASE 2\3071-Master-condo-PH2.dwg 4/24/2017 2:37 PM

SURVEYOR'S NOTES

1. THIS SURVEY PLAN IS COPYRIGHT PROTECTED. THIS PLAN IS THE PROPERTY OF BOUNDARY POINTS, AND SHALL NOT BE USED FOR ANY PURPOSE WITHOUT THE WRITTEN CONSENT OF AN AUTHORIZED AGENT OF BOUNDARY POINTS. ALL RIGHTS RESERVED.
2. THIS SURVEY PLAN IS ONLY VALID IF AUTHENTIC EMBOSSED SEAL AND SIGNATURE OF CERTIFYING PROFESSIONAL APPEAR ON THE FACE OF THIS SURVEY PLAN.
3. REFERENCE IS MADE TO THE CONTRACTUAL AGREEMENT BETWEEN THE PROFESSIONAL LAND SURVEYOR AND THE CLIENT.
4. THIS SURVEY PLAN IS SUBJECT TO POSSIBLE REVISION UPON RECEIPT OF A CERTIFIED TITLE OPINION.
5. ON THE BASIS OF MY KNOWLEDGE, INFORMATION AND BELIEF I CERTIFY EXCLUSIVELY TO THE CLIENT THAT THIS SURVEY PLAN, MADE TO THE NORMAL STANDARD OF CARE, SUBSTANTIALLY CONFORMS TO THE MAINE BOARD OF LICENSURE FOR LAND SURVEYOR STANDARDS.
6. NO CERTIFICATION IS MADE TO THE EXISTENCE OR NONEXISTENCE OF HAZARDOUS SUBSTANCES, ENVIRONMENTALLY SENSITIVE AREAS, UNDERGROUND UTILITIES, UNDERGROUND STRUCTURES, ZONING REGULATIONS OR REAL ESTATE TITLE.
7. DIG SAFE MUST BE CONTACTED AND CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND DIMENSIONS OF ALL UTILITIES PRIOR TO EXCAVATION.
8. THE SOURCE OF BEARINGS FOR THIS LAND SURVEY WAS MAINE STATE GRID PLANE NORTH AMERICAN DATUM 1983 LOCATED IN THE WEST ZONE.
9. ELEVATIONS AND CONTOURS DEPICTED HEREON BASED ON THE N.G.V.D. 1929 BEING MEAN SEA LEVEL.
10. THE PROPERTY IS DEPICTED ON THE TOWN ASSESSOR'S MAP U20.
11. PROPERTY LINES DEPICTED HEREON WERE BASED ON WAYNE T. WOOD PLAN OF ALLEN'S PROPERTY.

LEGEND

EXISTING	DESCRIPTION
— — —	PROPERTY LINE
— — —	ADJOINER LINE
—— ——	BUILDING SETBACK
— · — · —	EASEMENT
—— — ——	CENTER LINE
◘	MONUMENT
◎	IRON PIPE
◉	IRON ROD
	5/8" IRON REBAR
●	DRILL HOLE
——┘	BUILDING
	WET LANDS
- - - - -	EDGE WETLAND
	SIGN
	STREAM
	ROCK OUTCROP
——	EDGE PAVEMENT
— — —	GRAVEL ROAD
═══	CURB LINE
	EDGE WATER
	TREE LINE
TP-7	TEST PIT
MW-8	MONITORING WELL
-------124-------	CONTOURS
G	GAS
——W——	WATER
——S——	SEWER
——SD——	STORM DRAIN
——E——	ELECTRIC LINES
⋈	GATE VALVE
	LIGHT POLE
	UTILITY POLE
	HYDRANT
	CATCH BASIN
S MH	MAN HOLE
W	POTABLE WELL
	CULVERT
——x——	FENCE
——▫——	WOODEN FENCE



GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

No.	Revision	Date

Scale:	1" = 40'
Project No:	201525
AutoCad Release:	2011
Drawn By:	DB
Field Date:	10-17-2015
Plan Date:	10-19-2015

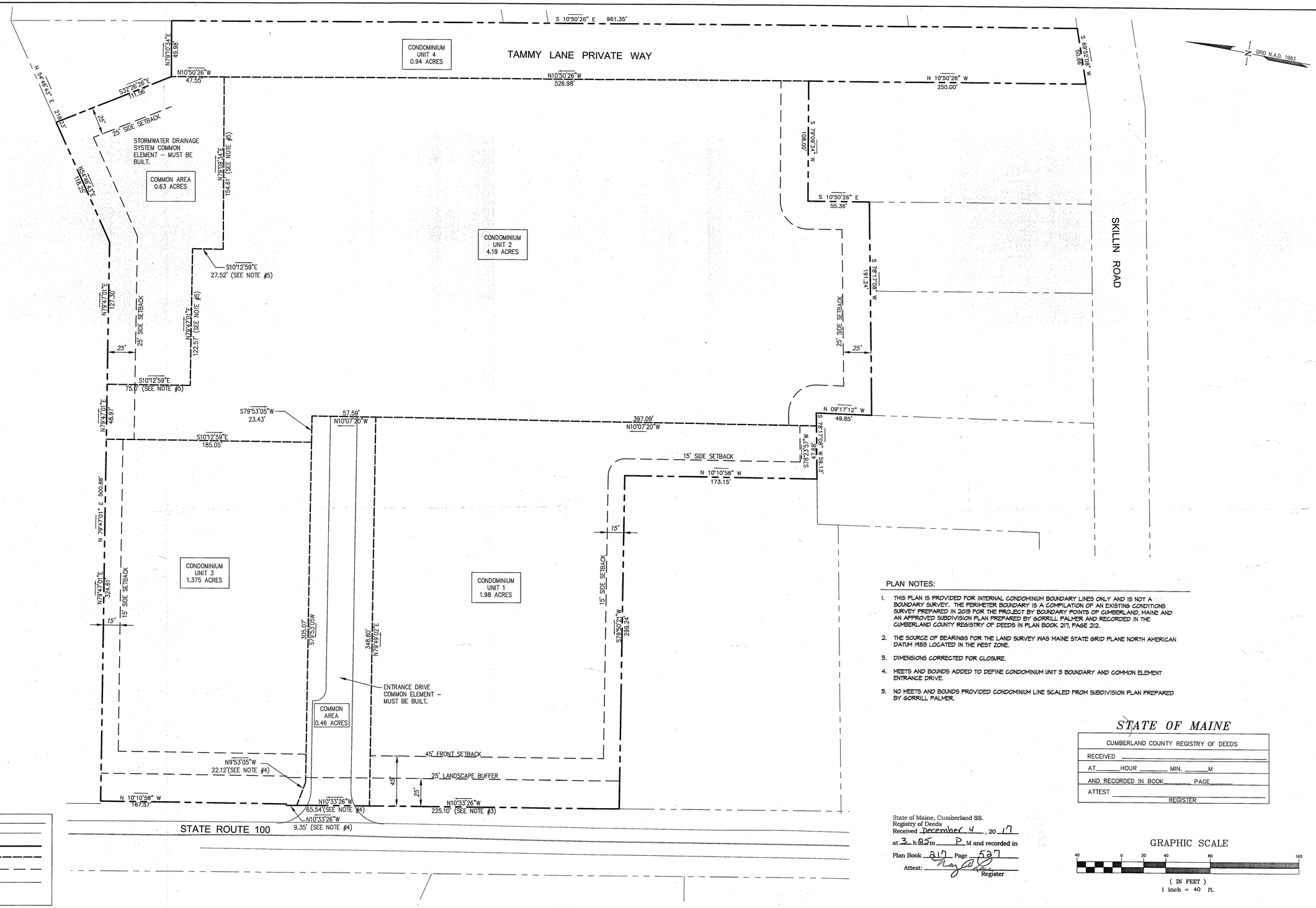
THIS PLAN IS PROVIDED EXCLUSIVELY FOR THE CLIENT STATED HEREON. ANY USE OR ALTERATION OF THIS PLAN BY OTHERS SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO BOUNDARY POINTS, LLC.

EXISTING CONDITIONS SURVEY FOR GORRILL-PALMER CONSULTING ENGINEERS OF ALLEN FARM COUNTRY STORE CUMBERLAND MAINE

1

Boundary Points
PROFESSIONAL LAND SURVEYING, LLC
P.O. BOX 175
CUMBERLAND MAINE 04021-0175
207-854-1015

[illegible]



LEGEND:

ABUTTER PROPERTY LINE	
PROPERTY LINE	
PROPOSED CONDOMINIUM LINE	
SETBACK / BUFFER LINE	
EDGE OF PAVEMENT	
BEARING & DISTANCE	N79°09'34"E 154.61'

PLAN NOTES:

1. THIS PLAN IS PROVIDED FOR INTERNAL CONDOMINIUM BOUNDARY LINES ONLY AND IS NOT A BOUNDARY SURVEY. THE PERIMETER BOUNDARY IS A COMPILATION OF AN EXISTING CONDITIONS SURVEY PREPARED IN 2015 FOR THE PROJECT BY BOUNDARY POINTS OF CUMBERLAND, MAINE AND AN APPROVED SUBDIVISION PLAN PREPARED BY GORRILL PALMER AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 217, PAGE 212.
2. THE SOURCE OF BEARINGS FOR THE LAND SURVEY WAS MAINE STATE GRID PLANE NORTH AMERICAN DATUM 1983 LOCATED IN THE WEST ZONE.
3. DIMENSIONS CORRECTED FOR CLOSURE.
4. METES AND BOUNDS ADDED TO DEFINE CONDOMINIUM UNIT 3 BOUNDARY AND COMMON ELEMENT ENTRANCE DRIVE.
5. NO METES AND BOUNDS PROVIDED CONDOMINIUM LINE SCALED FROM SUBDIVISION PLAN PREPARED BY GORRILL PALMER.

STATE OF MAINE

CUMBERLAND COUNTY REGISTRY OF DEEDS

RECEIVED _____

AT _____HOUR _____ MIN. _____M

AND RECORDED IN BOOK_____ PAGE_____

ATTEST _____ REGISTER

State of Maine, Cumberland SS.
Registry of Deeds
Received December 4, 20 17
at 3 h 25 m P M and recorded in
Plan Book 217 Page 127
Attest: _____ Register

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

REV.	DATE	STATUS	BY	CHKD.	APPD.
A	11/29/17	ISSUED TO OWNER	DEPT.	PBB	PBT

REV.	DATE	STATUS	BY	CHKD.	APPD.

STATE OF MAINE
PETER B. TUBBS NO. 2678
REGISTERED PROFESSIONAL ENGINEER
11/30/17

LAND DESIGN SOLUTIONS
LAND PLANNING, SITE PLANNING & LANDSCAPE ARCHITECTURE
P.O. Box 316, 160 Longwoods Road, Cumberland, ME 04021 tel:(207) 934-1717

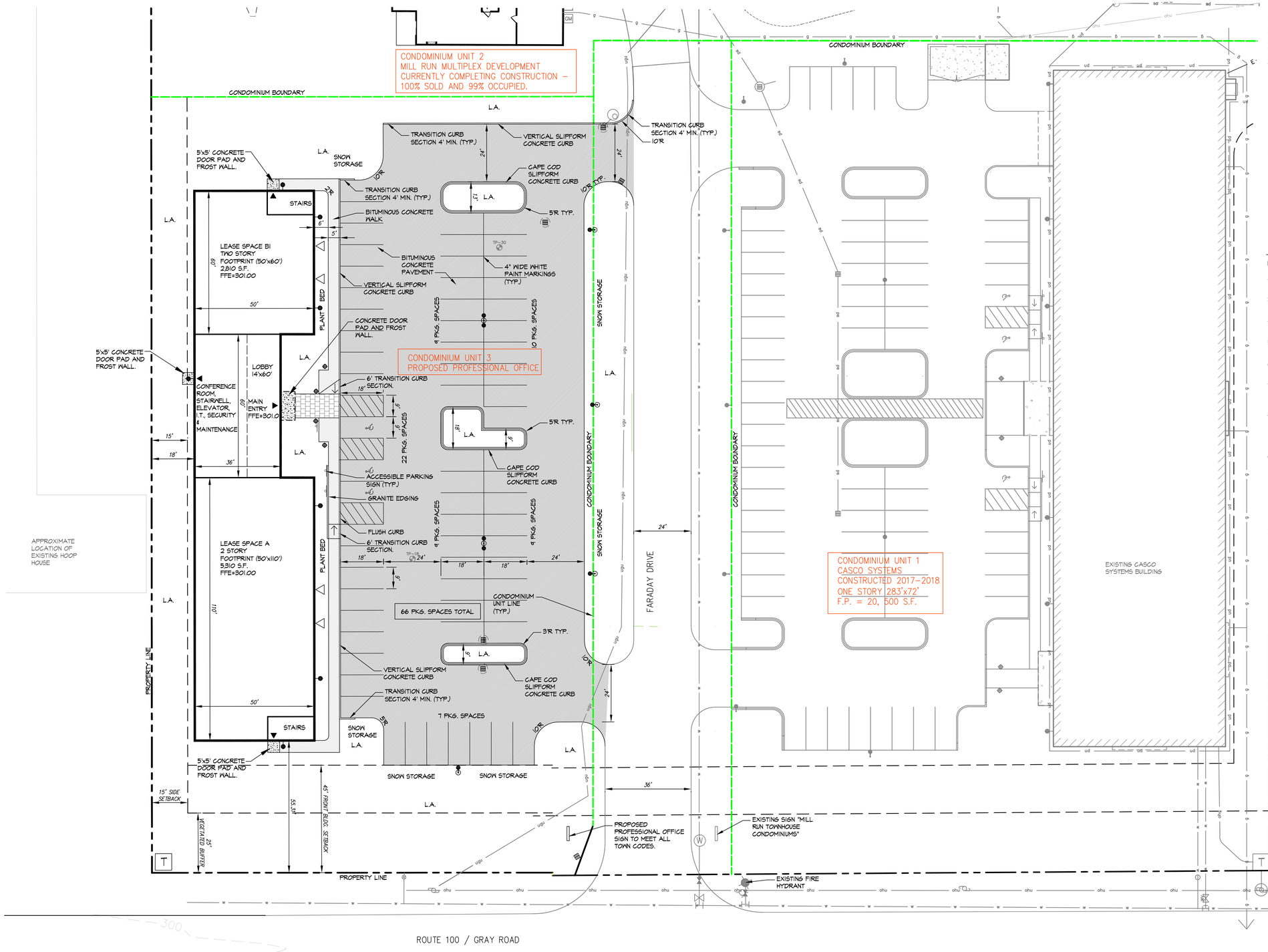
OWNER:
GREEN SIP CONSTRUCTION, INC.
110 MARGINAL WAY, SUITE 193, PORTLAND, MAINE 04101

DESIGN: PBB
DRAWN: DEPT
CHKD: PBB
DATE: NOVEMBER 2017
SCALE: 1"=40'

MILL RUN CONDOMINIUM
197 GRAY ROAD, CUMBERLAND, MAINE

AMENDED CONDOMINIUM PLAT

PROJ. NO. 17-131
DWG. NO. –
REV. A



ZONING SUMMARY:

TAX MAP U20 LOTS 70A, 70E, 73 & 74
PARCEL: CONDOMINIUM UNIT 3 (1.375 ACRES)
ZONE: VCC (VILLAGE CENTER COMMERCIAL)
USE: PROFESSIONAL OFFICE – PERMITTED

		REQUIRED	PROPOSED
1.	DIMENSIONAL REQUIREMENTS		
	MINIMUM LOT SIZE	20,000 S.F.	9.8 ACRES (TOTAL PARCEL)
	MAXIMUM BUILDING HEIGHT	45 FT.	38.5 FT.
	MINIMUM FRONT YARD	45 FT.	55.3 FT. MIN.
	MINIMUM SIDE YARD	15 FT.	18 FT. MIN.
	MINIMUM REAR YARD	50 FT.	N/A (CONDOMINIUM BOUNDARY)
	MINIMUM LOT FRONTAGE	75 FT.	176.92 FT.
	MINIMUM ROUTE 100 LANDSCAPE BUFFER	25 FT.	45 FT.
2.	PARKING REQUIREMENTS		
	OFFICE: 1 SPACE PER 250 SF OF G.L.A. AREA (16,620 / 250)	65	66
	HANDICAP ACCESSIBLE SPACES	3	3
	SPACE DIMENSIONS:		
	90 DEGREE ANGLE	9'x18'	9'x18'
	90 DEGREE ANGLE AISLE WIDTH	24 FT.	24 FT.

SITE PLAN NOTES:

1. ALL DIMENSIONS ARE PERPENDICULAR UNLESS OTHERWISE NOTED.
2. DO NOT SCALE DRAWINGS. ANY OMISSIONS IN DIMENSIONING SHALL BE REPORTED IMMEDIATELY TO THE OWNER'S REPRESENTATIVE.
3. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION / DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED AT NO COST TO THE OWNER.
4. SIDEWALKS AND CURBING SHALL BE DESIGNED AND BUILT WITH TIP DOWN RAMPS AT LOCATIONS SHOWN ON THE PLAN IN CONFORMANCE WITH ADA GUIDELINES.
5. TOWN CUMBERLAND STANDARD DETAILS SHALL BE USED FOR ALL WORK PERFORMED IN THE TOWN RIGHT OF WAY.
6. ALL SIGNAGE AND PAVEMENT MARKINGS TO BE IN ACCORDANCE WITH THE MUTCD STANDARDS AND THE TOWN CUMBERLAND ORDINANCES.
7. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AND SHALL LOCATE PROPERTY CORNER PINS, AND STAKE BUILDING AND PARKING THE LAYOUT FOR APPROVAL BY THE OWNER PRIOR TO CONSTRUCTION.
8. THE CONTRACTORS LICENSED SURVEYOR SHALL ISSUE INTERIM CERTIFICATIONS TO THE OWNER'S REPRESENTATIVE THAT THE SITE IMPROVEMENTS ARE LAYED OUT ACCORDING TO THE PLANS. THE CERTIFICATION SCHEDULE SHALL BE AS FOLLOWS:
   A. INITIAL BUILDING LAYOUT.
   B. FOUNDATION INSTALLATION COMPLETE.
9. A DIGITAL AUTOCAD FILE WILL BE SUPPLIED TO THE CONTRACTOR FOR LAYOUT PURPOSES UPON REQUEST.

LEGEND:

- PROPERTY BOUNDARY
- CONDOMINIUM UNIT DIVISION LINE
- PROPERTY LINE SETBACK
- EDGE OF PAVEMENT
- VERTICAL GRANITE CURB
- SLOPED GRANITE CURB
- STORMWATER PIPE (SD)
- WATER SERVICE (W)
- UNDERGROUND UTILITIES (UGU)
- SEWER SERVICE LINE (SS)
- NATURAL GAS LINE (G)
- BITUMINOUS CONCRETE PARKING
- BITUMINOUS CONCRETE WALK
- CONCRETE PAVEMENT
- BRICK PAVEMENT
- STONE DRIP EDGE
- CATCH BASIN
- SIGN
- POLE MOUNTED DOUBLE LIGHT FIXTURE
- POLE MOUNTED SINGLE LIGHT FIXTURE
- BUILDING MOUNTED LIGHT FIXTURE
- BOLLARD LIGHT
- BUILDING ACCENT LIGHT
- HANDICAP ACCESSIBLE CURB RAMP

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

REV.	DATE	STATUS	BY	CHKD.	APPD.
B	3/29/21	ISSUED TO THE TOWN CUMBERLAND FOR SITE PLAN REVIEW	DEPT.	PBB	PBB
A	3/12/21	ISSUED TO THE MAINE DEP FOR SITE LOCATION OF DEVELOPMENT ACT REVIEW	DEPT.	PBB	PBB

LICENSED LANDSCAPE ARCHITECT
PETER B. BIEGEL
No. 2824
STATE OF MAINE
3/29/21

LAND DESIGN SOLUTIONS
LAND PLANNING, SITE PLANNING & LANDSCAPE ARCHITECTURE
1 Faraday Drive, Suite 7, Cumberland, ME 04021 tel:(207) 939-1717

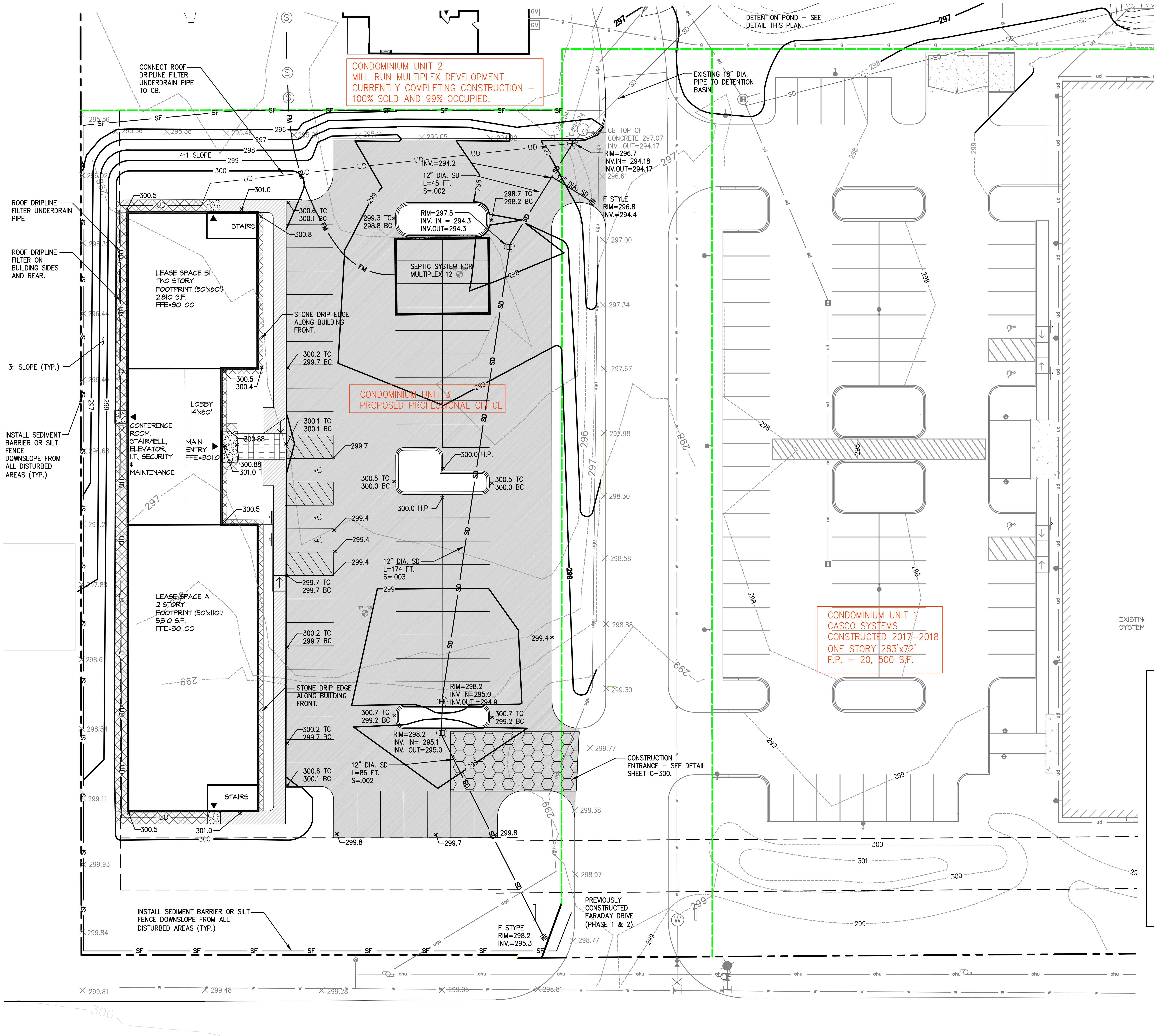
OWNER & APPLICANT
GREEN SIP CONSTRUCTION
110 MARGINAL WAY, SUITE 193, PORTLAND, MAINE 04101

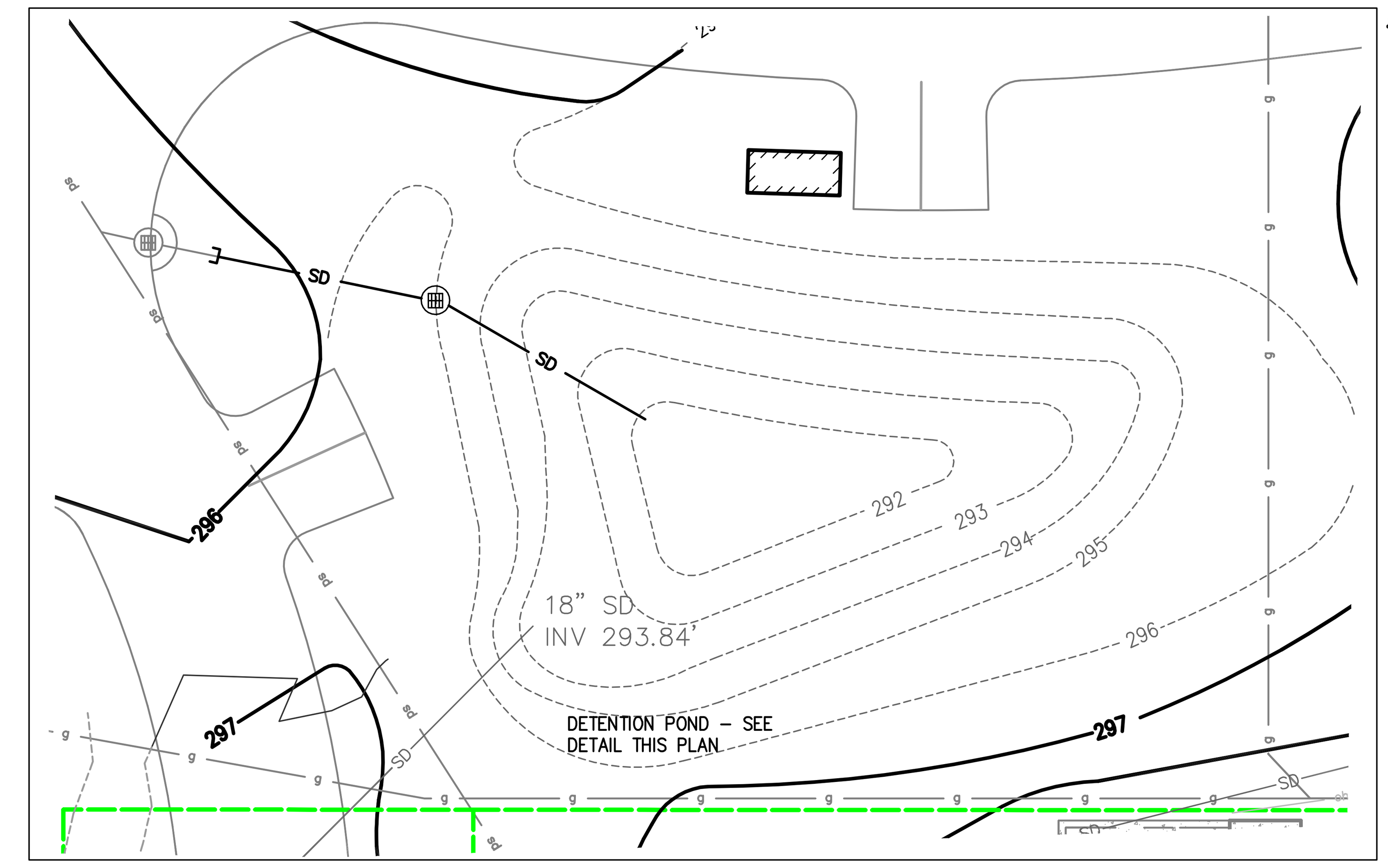
DESIGN: DEPT.
DRAWN: DEPT
CHKD: PBB
DATE: MARCH 2021
SCALE: 1"=20'

PROPOSED PROFESSIONAL OFFICE / CONDOMINIUM UNIT #3
FARADAY DRIVE, CUMBERLAND, MAINE

SITE LAYOUT & MATERIALS PLAN

PROJ. NO. 17–131
DWG. NO. C–101
REV. B





UNIT 3 STORMWATER DETENTION POND DETAIL

GRADING, DRAINAGE & EROSION CONTROL NOTES:

1. PRIOR TO THE START OF ANY EXCAVATION FOR THE PROJECT BOTH ON AND OFF THE SITE, THE CONTRACTOR SHALL NOTIFY DIGSAFE AND BE PROVIDED WITH A DIGSAFE NUMBER INDICATING THAT ALL EXISTING UTILITIES HAVE BEEN LOCATED AND MARKED.
2. CONTRACTOR SHALL VERIFY EXISTING GRADES AND NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES.
3. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES AND PLANTING BEDS.
4. CONTRACTOR TO ADJUST EXISTING AND PROPOSED UTILITY ELEMENT MEANT TO BE FLUSH WITH GRADE (CLEAN-OUTS, UTILITY MANHOLES, CATCH BASINS, INLETS, ETC) THAT ARE AFFECTED BY SITE WORK OR GRADE CHANGES, WHETHER SPECIFICALLY NOTED ON PLANS OR NOT.
5. WHERE PROPOSED GRADES MEET EXISTING GRADES, CONTRACTOR SHALL BLEND GRADES TO PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING AND NEW WORK. PONDING AT TRANSITION AREAS WILL NOT BE ALLOWED.
6. CONTRACTOR SHALL PROVIDE A FINISHED PAVEMENT SURFACE FREE OF LOW SPOTS AND PONDING AREAS.
7. ALL WALKS SHALL HAVE A 2% CROSS SLOPE.
8. WHERE SLOPES IN DISTURBED AREAS EXCEED 3:1 THE CONTRACTOR SHALL INSTALL CURLEX II EROSION CONTROL BLANKET FROM AMERICAN EXCELSIOR. NO SLOPE SHALL EXCEED 2:1. COMPANY (800) 777-SOIL OR APPROVED EQUAL.
9. OWNER'S REPRESENTATIVE SHALL APPROVE LAYOUT OF ALL DRAINAGE STRUCTURES PRIOR TO INSTALLATION.
10. ALL CATCH BASINS SHALL BE PROVIDED WITH FLEXIBLE BOOT CONNECTIONS FOR PIPES.
11. ALL DRAINAGE PIPE NOT CALLED OUT ON THE DRAWINGS SHALL BE 12" DIA. SMOOTH INTERIOR, CORRUGATED EXTERIOR, HDPE, N-12 AS MANUFACTURED BY ADS.
12. THE CONTRACTOR SHALL INSTALL CATCH BASIN INLET PROTECTION AT ALL CATCH BASIN INLETS WITHIN THE DISTURBED AREA AND BE RESPONSIBLE FOR TAKING ALL NECESSARY EROSION CONTROL MEASURES.
13. ALL UNSUITABLE AND UNUSED MATERIALS WHICH CAN NOT BE DISPOSED OF ON SITE SHALL BE REMOVED AND DISPOSED OF OFF SITE BY THE CONTRACTOR IN ACCORDANCE WITH ALL STATE AND LOCAL LAWS.

LEGEND:

PROPERTY BOUNDARY		BITUMINOUS CONCRETE PARKING	
CONDOMINIUM UNIT DIVISION LINE		BITUMINOUS CONCRETE WALK	▨
PROPERTY LINE SETBACK		CONCRETE PAVEMENT	
EDGE OF PAVEMENT		BRICK PAVEMENT	
VERTICAL GRANITE CURB		STONE DRIP EDGE & ROOF DRIPLINE FILTER	
SLOPED GRANITE CURB		CATCH BASIN	
STORMWATER PIPE	SD SD	SIGN	
WATER SERVICE	W W	POLE MOUNTED DOUBLE LIGHT FIXTURE	
UNDERGROUND UTILITIES	UGU	POLE MOUNTED SINGLE LIGHT FIXTURE	
SEWER SERVICE LINE	SS SS	BUILDING MOUNTED LIGHT FIXTURE	
NATURAL GAS LINE	G G	BOLLARD LIGHT	
CONTOUR LINE (EXISTING)	299	BUILDING ACCENT LIGHT	
CONTOUR LINE (PROPOSED)	299	HANDICAP ACCESSIBLE CURB RAMP	
SILT FENCE / SEDIMENT BARRIER	SF SF		
SPOT GRADE (PROPOSED)	× 299.7		
SPOT GRADE (EXISTING)	× 299.11		
TOP OF CURB BOTTOM OF CURB	299.7 TC 299.7 BC		

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

REV.	DATE	STATUS	BY	CHKD.	APPD.	REV.	DATE	STATUS	BY	CHKD.	APPD.
B	3/29/21	ISSUED TO THE TOWN CUMBERLAND FOR SITE PLAN REVIEW	DEPT.	TWS	TWS						
A	3/12/21	ISSUED TO THE MAINE DEP FOR SITE LOCATION OF DEVELOPMENT ACT REVIEW	DEPT.	PBB	PBB						

STATE OF MAINE
THOMAS W. SAUCIER
NO. 6095
LICENSED
PROFESSIONAL ENGINEER
3-29-21

LAND DESIGN SOLUTIONS
LAND PLANNING, SITE PLANNING & LANDSCAPE ARCHITECTURE
1 Faraday Drive, Suite 7, Cumberland, ME 04021 tel:(207) 939-1717

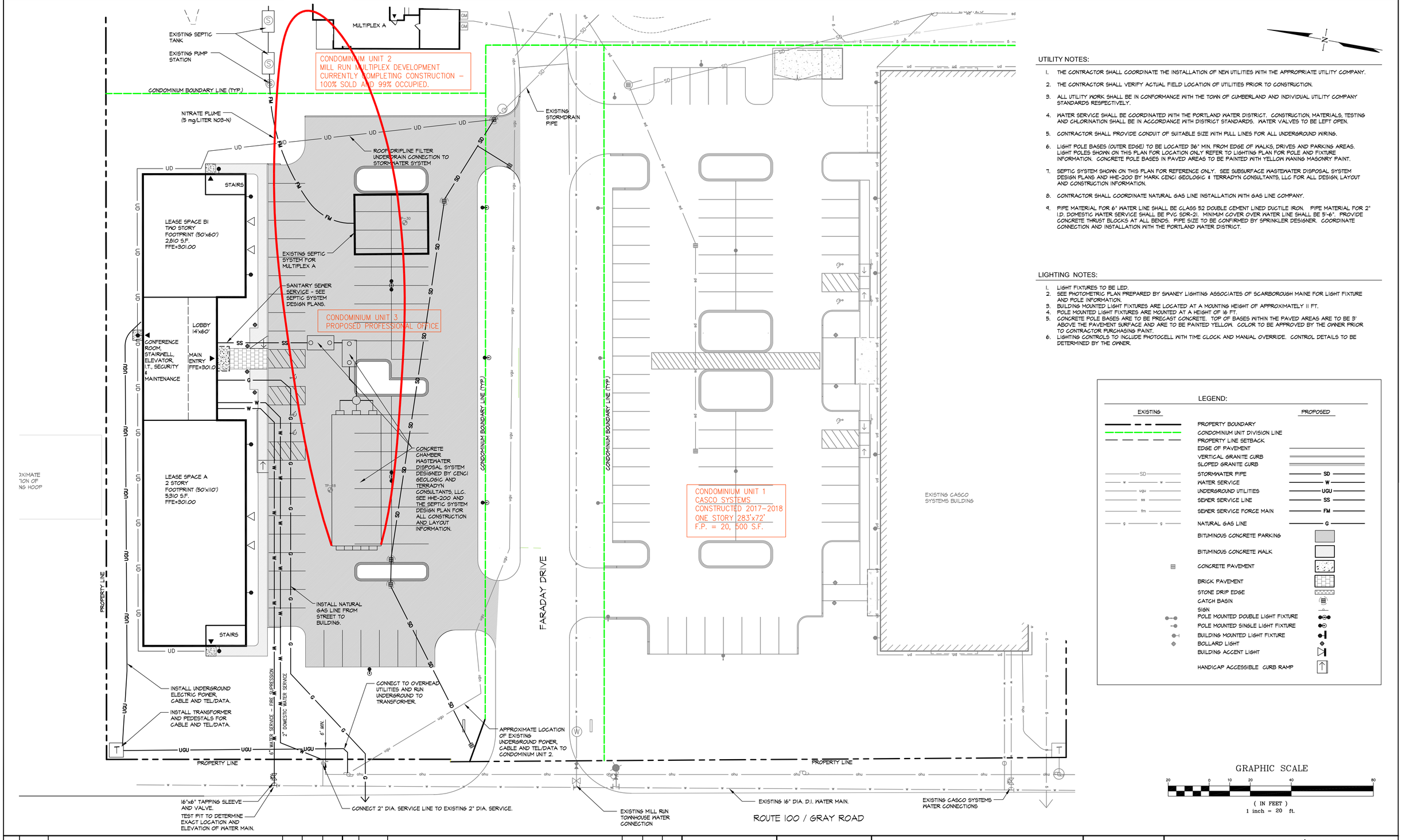
OWNER & APPLICANT
GREEN SIP CONSTRUCTION
110 MARGINAL WAY, SUITE 193, PORTLAND, MAINE 04101

DESIGN: DEPT.
DRAWN: DEPT
CHKD: TWS
DATE: MARCH 2021
SCALE: 1"=20'

PROPOSED PROFESSIONAL OFFICE / CONDOMINIUM UNIT #3
FARADAY DRIVE, CUMBERLAND, MAINE

GRADING, DRAINAGE AND EROSION CONTROL PLAN

PROJ. NO. 17–131
DWG. NO. C–102
REV. B



UTILITY NOTES:

1. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF NEW UTILITIES WITH THE APPROPRIATE UTILITY COMPANY.
2. THE CONTRACTOR SHALL VERIFY ACTUAL FIELD LOCATION OF UTILITIES PRIOR TO CONSTRUCTION.
3. ALL UTILITY WORK SHALL BE IN CONFORMANCE WITH THE TOWN OF CUMBERLAND AND INDIVIDUAL UTILITY COMPANY STANDARDS RESPECTIVELY.
4. WATER SERVICE SHALL BE COORDINATED WITH THE PORTLAND WATER DISTRICT. CONSTRUCTION, MATERIALS, TESTING AND CHLORINATION SHALL BE IN ACCORDANCE WITH DISTRICT STANDARDS. WATER VALVES TO BE LEFT OPEN.
5. CONTRACTOR SHALL PROVIDE CONDUIT OF SUITABLE SIZE WITH PULL LINES FOR ALL UNDERGROUND WIRING.
6. LIGHT POLE BASES (OUTER EDGE) TO BE LOCATED 36" MIN. FROM EDGE OF WALKS, DRIVES AND PARKING AREAS. LIGHT POLES SHOWN ON THIS PLAN FOR LOCATION ONLY REFER TO LIGHTING PLAN FOR POLE AND FIXTURE INFORMATION. CONCRETE POLE BASES IN PAVED AREAS TO BE PAINTED WITH YELLOW MANNS MASONRY PAINT.
7. SEPTIC SYSTEM SHOWN ON THIS PLAN FOR REFERENCE ONLY. SEE SUBSURFACE WASTEWATER DISPOSAL SYSTEM DESIGN PLANS AND HHE-200 BY MARK CENCI GEOLOGIC & TERRADYN CONSULTANTS, LLC FOR ALL DESIGN, LAYOUT AND CONSTRUCTION INFORMATION.
8. CONTRACTOR SHALL COORDINATE NATURAL GAS LINE INSTALLATION WITH GAS LINE COMPANY.
9. PIPE MATERIAL FOR 6" WATER LINE SHALL BE CLASS 52 DOUBLE CEMENT LINED DUCTILE IRON. PIPE MATERIAL FOR 2" I.D. DOMESTIC WATER SERVICE SHALL BE PVC SDR-21. MINIMUM COVER OVER WATER LINE SHALL BE 5'-6". PROVIDE CONCRETE THRUST BLOCKS AT ALL BENDS. PIPE SIZE TO BE CONFIRMED BY SPRINKLER DESIGNER. COORDINATE CONNECTION AND INSTALLATION WITH THE PORTLAND WATER DISTRICT.

LIGHTING NOTES:

1. LIGHT FIXTURES TO BE LED.
2. SEE PHOTOMETRIC PLAN PREPARED BY SWANEY LIGHTING ASSOCIATES OF SCARBOROUGH MAINE FOR LIGHT FIXTURE AND POLE INFORMATION.
3. BUILDING MOUNTED LIGHT FIXTURES ARE LOCATED AT A MOUNTING HEIGHT OF APPROXIMATELY 11 FT.
4. POLE MOUNTED LIGHT FIXTURES ARE MOUNTED AT A HEIGHT OF 16 FT.
5. CONCRETE POLE BASES ARE TO BE PRECAST CONCRETE. TOP OF BASES WITHIN THE PAVED AREAS ARE TO BE 3" ABOVE THE PAVEMENT SURFACE AND ARE TO BE PAINTED YELLOW. COLOR TO BE APPROVED BY THE OWNER PRIOR TO CONTRACTOR PURCHASING PAINT.
6. LIGHTING CONTROLS TO INCLUDE PHOTOCELL WITH TIME CLOCK AND MANUAL OVERRIDE. CONTROL DETAILS TO BE DETERMINED BY THE OWNER.

LEGEND:

EXISTING		PROPOSED
	PROPERTY BOUNDARY	
	CONDOMINIUM UNIT DIVISION LINE	
	PROPERTY LINE SETBACK	
	EDGE OF PAVEMENT	
	VERTICAL GRANITE CURB	
	SLOPED GRANITE CURB	
SD	STORMWATER PIPE	SD
w w	WATER SERVICE	W
ugu	UNDERGROUND UTILITIES	UGU
ss	SEWER SERVICE LINE	SS
fm	SEWER SERVICE FORCE MAIN	FM
g g	NATURAL GAS LINE	G
	BITUMINOUS CONCRETE PARKING	
	BITUMINOUS CONCRETE WALK	
	CONCRETE PAVEMENT	
	BRICK PAVEMENT	
	STONE DRIP EDGE	
	CATCH BASIN	
	SIGN	
	POLE MOUNTED DOUBLE LIGHT FIXTURE	
	POLE MOUNTED SINGLE LIGHT FIXTURE	
	BUILDING MOUNTED LIGHT FIXTURE	
	BOLLARD LIGHT	
	BUILDING ACCENT LIGHT	
	HANDICAP ACCESSIBLE CURB RAMP	

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

REV.	DATE	STATUS	BY	CHKD.	APPD.
B	3/29/21	ISSUED TO THE TOWN CUMBERLAND FOR SITE PLAN REVIEW	DEPT.	TWS	TWS
A	3/12/21	ISSUED TO THE MAINE DEP FOR SITE LOCATION OF DEVELOPMENT ACT REVIEW	DEPT.	PBB	PBB

STATE OF MAINE — THOMAS W. SWALDI — 10106 — LICENSED PROFESSIONAL ENGINEER
3-29-21

LAND DESIGN SOLUTIONS
LAND PLANNING, SITE PLANNING & LANDSCAPE ARCHITECTURE
1 Faraday Drive, Suite 7, Cumberland, ME 04021 tel:(207) 894-1717

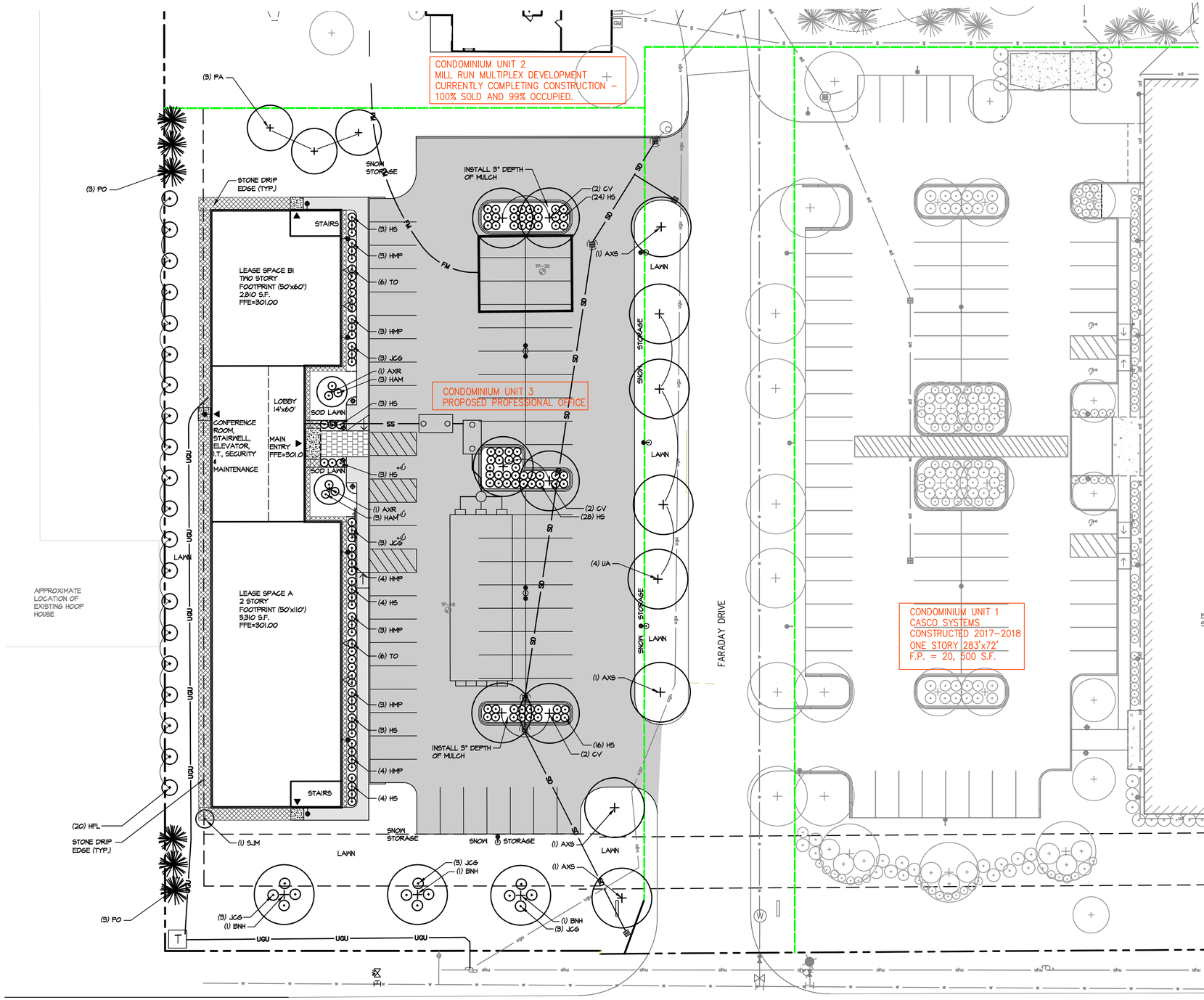
OWNER & APPLICANT
GREEN SIP CONSTRUCTION
110 MARGINAL WAY, SUITE 193, PORTLAND, MAINE 04101

DESIGN: DEPT.
DRAWN: DEPT
CHKD: PBB
DATE: MARCH 2021
SCALE: 1"=20'

PROPOSED PROFESSIONAL OFFICE / CONDOMINIUM UNIT #3
FARADAY DRIVE, CUMBERLAND, MAINE

SITE UTILITIES PLAN

PROJ. NO. 17-131
DWG. NO. C-103
REV. B



PLANT LIST:

SYMBOL	BOTANICAL NAME	COMMON NAME	QTY	SIZE	COMMENTS
DECIDUOUS & EVERGREEN TREES					
AXR	AMELANCHIER X G. 'ROBIN HILL'	ROBIN HILL SERVICEBERRY	2	1.5" CAL.	SINGLE LEADER, B&B
AXS	ACER X FREEMANII 'SIENNA'	SIENNA GLEN FREEMAN MAPLE	4	2 CAL.	SINGLE LEADER, B&B
BNH	BETULA NIGRA 'HERITAGE'	HERITAGE RIVER BIRCH	3	12'-14' HT.	CLUMP, B&B
CV	CRATAEGUS VIRIDIS 'WINTER KING'	WINTER KING HAWTHORN	6	1.5" CAL.	SINGLE LEADER, B&B, SPECIMEN
PA	PRUNUS ACCOLADE	ACCOLADE CHERRY	3	1.5" CAL.	SINGLE LEADER, B&B
UA	ULMUS AMERICANA 'VALLEY FORGE'	VALLEY FORGE ELM	4	2.5" CAL.	SINGLE LEADER, B&B
PO	PICEA OMERIKA	SERBIAN SPRUCE	6	6' HT.	FULL & BUSHY, B&B
SHRUBS, GROUNDCOVERS & HERBACEOUS MATERIALS					
HAM	HOSTA AUGUST MOON	AUGUST MOON HOSTA	6	1 GAL.	FULL & BUSHY
HFL	HYDRANGEA P. 'FIRE LIGHT'	FIRE LIGHT HYDRANGEA	20	20" HT.	FULL & BUSHY
HMP	HYDRANGEA M. 'MINI PENNY''	MINI PENNY HYDRANGEA	20	5 GAL.	FULL & BUSHY
HS	HEMEROCALLIS STELLA D'ORO	STELLA D'ORO DAYLILY	88	1 GAL.	FULL & BUSHY
JCG	JUNIPEROUS CHINESIS 'CASINO GOLD'	CASINO GOLD CHINESE JUNIPER	15	24" HT.	FULL & BUSHY
SXJ	SYRINGA X J. 'JAMES MACFARLANE	JAMES MACFARLANE LILAC	1	5' HT.	FULL & BUSHY
TO	THUJA O. 'MR. BOWLING BALL'	MR. BOWLING BALL ARBORVITAE	12	6 GAL.	FULL & BUSHY

LANDSCAPE NOTES:

1. PRIOR TO THE START OF ANY EXCAVATION FOR THE PROJECT BOTH ON AND OFF THE SITE, THE CONTRACTOR SHALL NOTIFY DIGSAFE AND BE PROVIDED WITH A DIGSAFE NUMBER INDICATING THAT ALL EXISTING UTILITIES HAVE BEEN LOCATED AND MARKED.
2. LANDSCAPE CONTRACTOR IS ENCOURAGED TO PROVIDE THE LANDSCAPE ARCHITECT WITH CONCERNS AND/OR SUGGESTIONS WITH REGARDS TO PROPOSED PLANT MATERIAL SELECTION PRIOR TO PLACING A PURCHASE ORDER.
3. THE LANDSCAPE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE ALL PLANTINGS SHOWN GRAPHICALLY ON THIS DRAWING. CLARIFY ANY DISCREPANCIES WITH THE LANDSCAPE ARCHITECT PRIOR TO PRICING ANY PLANT MATERIAL.
4. ALL PLANT MATERIALS SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE LATEST EDITION OF THE AMERICAN ASSOCIATION OF NURSERYMEN'S "AMERICAN STANDARD OF NURSERY STOCK".
5. ALL PLANT MATERIALS ARE SUBJECT TO THE APPROVAL OF THE OWNER'S REPRESENTATIVE AT THE SITE. PLANTS WHICH ARE REJECTED SHALL BE REMOVED FROM THE SITE IMMEDIATELY AND REPLACED AT NO ADDITIONAL COST TO THE OWNER.
6. MULCH FOR PLANTED AREAS TO BE AGED SPRUCE AND FIR BARK, PARTIALLY DECOMPOSED, DARK BROWN IN COLOR AND FREE OF WOOD CHIPS THICKER THAN 1/4 INCH.
7. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM ALL BUILDING FOUNDATIONS, STRUCTURES AND PLANTING BEDS.
8. NO PLANTS SHALL BE PLANTED BEFORE ACCEPTANCE OF ROUGH GRADING AND BEFORE CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
9. ALL SHRUB GROUPINGS SHALL BE INCORPORATED INTO BEDS. WHERE MULCHED PLANT BED ABUTS LAWN, CONTRACTOR SHALL PROVIDE A TURF CUT EDGE.
10. ALL TREES ALONG WALK AND PARKING AREAS SHALL BEGIN BRANCHING AT 6' HT. MIN.
11. ALL PLANT MATERIAL OR REPRESENTATIVE SAMPLES SHALL BE LEGIBLY TAGGED WITH PROPER COMMON AND BOTANICAL NAMES. TAGS SHALL REMAIN ON THE PLANTS UNTIL FINAL ACCEPTANCE.
12. CONTRACTOR SHALL LOAMED DISTURBED AREAS AS FOLLOWS:
    - LAWN AREAS 6" DEPTH OF TOPSOIL
    - SHRUB PLANTING BEDS 18" DEPTH OF TOPSOIL.
    - PARKING LOT ISLANDS 24" DEPTH OF TOPSOIL
13. LAWN AREAS: "SEED LAWN' AREAS SHALL BE SEEDED WITH 'PARK MIX' AS MIXED AND DISTRIBUTED BY ALLEN, STERLING & LOTHRUP OF FALMOUTH MAINE. SEEDING RATE TO BE 5 LBS PER 1000 SQ.FT. "SOD LAWN" AREAS SHALL BE SODDED WITH A KENTUCKY BLUEGRASS SOD.
14. CONTRACTOR SHALL BEGIN MAINTENANCE IMMEDIATELY AFTER PLANTING AND WILL CONTINUE UNTIL FINAL ACCEPTANCE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEANS AND METHODS OF WATERING AND MAINTENANCE.
15. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR ONE (1) FULL YEAR FROM DATE OF FINAL ACCEPTANCE.
16. SCREENED IMAGES SHOW EXISTING CONDITIONS. WHERE EXISTING CONDITIONS LIE UNDER OR ARE IMPINGED UPON BY PROPOSED BUILDINGS AND OR SITE ELEMENTS, THE EXISTING CONDITION WILL BE REMOVED, ABANDONED AND OR CAPPED OR DEMOLISHED AS REQUIRED.
17. THE CONTRACTOR SHALL INSTALL WATERING BAGS SUCH AS THE TREEGATOR ON ALL TREES AT THE TIME OF INSTALLATION AND THEY SHALL REMAIN ON THE TREES UNTIL FREEZING TEMPERATURES.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

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LICENSED LANDSCAPE ARCHITECT
PETER B. BIEGEL
No. 2824
STATE OF MAINE
3/29/21

LAND DESIGN SOLUTIONS
LAND PLANNING, SITE PLANNING & LANDSCAPE ARCHITECTURE
1 Faraday Drive, Suite 7, Cumberland, ME 04021 tel:(207) 939-1717

OWNER & APPLICANT
GREEN SIP CONSTRUCTION
110 MARGINAL WAY, SUITE 193, PORTLAND, MAINE 04101

DESIGN: PBB
DRAWN: DEPT
CHKD: PBB
DATE: JANUARY 2021
SCALE: 1"=20'

PROPOSED PROFESSIONAL OFFICE / CONDOMINIUM UNIT #3
FARADAY DRIVE, CUMBERLAND, MAINE

LANDSCAPE PLAN

PROJ. NO. 17-131
DWG. NO. C-104
REV. B

EROSION AND SEDIMENTATION CONTROL NOTES:

INTRODUCTION

THE FOLLOWING PLAN FOR CONTROLLING SEDIMENTATION AND EROSION IN THIS PROJECT IS BASED ON CONSERVATION PRACTICES FOUND IN THE MAINE EROSION & SEDIMENT CONTROL BMPS MANUAL, OCTOBER 2016, AND MAINE EROSION AND SEDIMENT CONTROL PRACTICE FIELD GUIDE FOR CONTRACTORS, REVISED 2014, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION. THE CONTRACTOR WHO IMPLEMENTS THIS PLAN SHALL BE FAMILIAR WITH THESE PUBLICATIONS AND ADHERE TO THEM AND THE PRACTICES PRESENTED HEREIN

REFERENCE IS MADE TO THE GRADING AND DRAINAGE PLANS (C-301 AND C-302) WITHIN THE PLAN SET, SHOWING THE LOCATIONS AND TYPES OF PROPOSED MEASURES TO BE IMPLEMENTED.

GENERAL EROSION AND SEDIMENTATION CONTROL PRACTICES

THE FOLLOWING IS A LIST OF GENERAL EROSION CONTROL PRACTICES THAT WILL BE USED TO PREVENT EROSION AND SEDIMENTATION BEFORE, DURING AND AFTER THE CONSTRUCTION OF THIS PROJECT. IN ADDITION, SPECIAL CARE SHALL BE USED AT ALL TIMES TO:
LIMIT DISTURBANCE AND, HENCE, EROSION

1) CORRECT ANY EROSION PROBLEMS IMMEDIATELY
2) REGULARLY MONITOR THE IMPLEMENTED PRACTICES, ESPECIALLY AFTER EVERY RAINFALL
3) REVEGETATE DISTURBED AREAS AS SOON AS POSSIBLE AFTER CONSTRUCTION
4) CONFORM TO ALL REQUIREMENTS/STANDARDS OF THE SITE'S MAINE DEP EROSION & SEDIMENT CONTROL BMP MANUAL.

SILT FENCE AND/OR EROSION CONTROL MIX SEDIMENT BARRIERS

SILT FENCE AND/OR EROSION CONTROL MIX SEDIMENT BARRIERS WILL BE INSTALLED ALONG THE DOWN GRADIENT SIDE OF THE PROPOSED GROUND DISTURBANCE AREAS PRIOR TO ANY CONSTRUCTION ACTIVITIES WHERE SLOPES EXCEED 8% OR THERE IS FLOWING WATER BOTH SILT FENCE AND EROSION CONTROL MATTING BERMS SHALL BE USED.

CATCH BASIN PROTECTION

CATCH BASIN PROTECTION WILL BE INSTALLED AT THE FIRST DOWNGRADIENT CATCH BASIN IN STREET ADJACENT TO ANY CONSTRUCTION ACTIVITIES AND IN ALL ONSITE CATCH BASINS UNTIL SITE HAS BEEN COMPLETELY STABILIZED.

CONSTRUCTION PHASE

THE FOLLOWING GENERAL PRACTICES WILL BE IMPLEMENTED TO PREVENT EROSION DURING CONSTRUCTION ON THIS PROJECT:

1. EROSION AND SEDIMENTATION CONTROL BMPS SHALL BE INTALLED PRIOR TO THE COMMENCEMENT OF EARTHWORK ACTIVITIES.
2. ONLY THOSE AREAS UNDER ACTIVE CONSTRUCTION WILL BE CLEARED AND LEFT IN AN UNTREATED OR UNVEGETATED CONDITION. AN AREA NO LARGER THAN WHAT CAN BE MULCHED IN ONE DAY MAY BE OPEN AT ONCE. ONCE CONSTRUCTION OF AN AREA IS COMPLETE, FINAL GRADING, LOAMING AND SEEDING SHALL OCCUR IMMEDIATELY (REFER TO 'POST CONSTRUCTION REVEGETATION" SECTION). IF DURING FINAL GRADING, LOAMING AND SEEDING CAN NOT OCCUR IMMEDIATELY, IT SHALL BE DONE PRIOR TO ANY STORM EVENT AND WITHIN 15 DAYS OF COMPLETING CONSTRUCTION IN THE AREA. IF FINAL GRADING, LOAMING AND SEEDING CANNOT OCCUR WITHIN 7 DAYS, OR IF THE AREA IS NOT UNDER ACTIVE CONSTRUCTION FOR A PERIOD LONGER THAN 7 DAYS, SEE ITEM NO. 4 BELOW.
3. PRIOR TO THE START OF CONSTRUCTION IN A SPECIFIC AREA, SILT FENCING SHALL BE INSTALLED ON DOWNGRADIENT PORTIONS OF THE SITE AS LOCATED ON THE PLANS TO PROTECT AGAINST ANY CONSTRUCTION RELATED EROSION.
4. TOPSOIL WILL BE STOCKPILED WHEN NECESSARY IN AREAS WHICH HAVE MINIMUM POTENTIAL FOR EROSION AND WILL BE KEPT AS FAR AS POSSIBLE FROM EXISTING DRAINAGE AREAS AND WETLANDS. ALL STOCKPILES EXPECTED TO REMAIN LONGER THAN 7 DAYS SHALL BE:
   A. TREATED WITH ANCHORED MULCH (WITHIN 5 DAYS OF THE LAST DEPOSIT OF STOCKPILED SOIL).
   B. SEEDED WITH CONSERVATION MIX AND MULCHED IMMEDIATELY.
   C. STOCKPILES SHALL BE EITHER PLACED UPHILL OF AN EXISTING SEDIMENT BARRIER ON THE SITE OR ENCIRCLED BY A HAY BALE OR SILT FENCE BARRIER THE FIRST DAY THAT STOCKPILING COMMENCES.
5. ALL DISTURBED AREAS EXPECTED TO REMAIN LONGER THAN 7 DAYS SHALL BE:
   A. TREATED WITH STRAW AT A RATE OF 70-90 LBS. PER 1000 SQUARE FEET FROM 4/16 TO 10/1, OR AT A RATE OF 150-200 LBS. PER 1000 SQUARE FEET FROM 10/1 TO 4/15.
   B. SEEDED WITH CONSERVATION MIX OF PERENNIAL RYE GRASS (1.0 LBS/1000 SQ.FT.) AND MULCHED IMMEDIATELY. FROM 10/1 TO 4/15, FOLLOW THE SEEDING RATES AS OUTLINED BELOW IN SUB-SECTION 4.D. OF THE 'POST CONSTRUCTION REVEGETATION" SECTION.
   C. MONITORED EVERY TWO WEEKS UNTIL SEEDING CAN OCCUR AND REMULCHED AS NEEDED TO PROTECT SLOPES.
6. ALL GRADING WILL BE HELD TO A MAXIMUM 3:1 SLOPE WHERE PRACTICAL. GREATER SLOPES MAY BE USED WHERE THE BANKS ARE PROTECTED WITH SOFT ARMOUR MATTING, EROSION CONTROL MATTING, OR RIPRAP. ALL SLOPES WILL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY AFTER FINAL GRADING IS COMPLETE. (IT IS UNDERSTOOD THAT IMMEDIATELY MEANS WITHIN 5 DAYS OF THE COMPLETION OF WORK. SEE POST-CONSTRUCTION REVEGETATION FOR SEEDING SPECIFICATION).
7. APPLICATION RATE MUST BE 2 BALES (70-90 LBS.) PER 1,000 SQUARE FEET OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75 TO 90% OF THE GROUND SURFACE. DRIVE OVER WITH TRACKED CONSTRUCTION EQUIPMENT ON GRADES OF 5% AND LESS.
8. CONSTRUCTION TRAFFIC WILL BE DIRECTED OVER THE EXISTING SITE ENTRANCE. THE ROAD SHALL BE SWEPT AND VACUUMED DAILY SHOULD SEDIMENT BE TRACKED ONTO IT.
9. ALL AREAS DRAINING TO A STORMWATER FILTER OR BMP SHALL BE STABILIZED PRIOR TO CONSTRUCTION OF FILTER MEDIA TO PREVENT SEDIMENT FROM CLOGGING MEDIA.
10. THE UNDERDRAINED SOIL FILTERS WILL BE CONSTRUCTED SIMULTANEOUSLY WITH YOUNG'S LANE. THE FILTERS WILL BE USED AS TEMPORARY SEDIMENT TRAPS UNTIL THEIR DRAINAGE AREA IS PERMANENTLY STABILIZED.
11. THE AREAS ASSOCIATED WITH THE BUILDINGS AND THEIR DRIVEWAYS CAN BE DISTURBED BY GRUBBING NO EARLIER THAN TWO WEEKS BEFORE THE STARTING DATE OF THEIR CONSTRUCTION.
12. IN AREAS SLOPED 8% OR MORE, TEMPORARY ROCK CHECK DAMS AND WATER BARS WILL BE USED IN THE ROADSIDE SWALES AND THE ROAD, RESPECTIVELY, UNTIL THE SWALES AND THE ROAD ARE STABILIZED.

DEWATERING

1. ALL DEWATERING DISCHARGE LOCATIONS SHALL BE LOCATED ON RELATIVELY FLAT GROUND AT LEAST 75' FROM STREAMS AND 25' FROM WETLANDS. THE CONTRACTOR SHALL UTILIZE DIRTBAGS, EROSION CONTROL MIX BERMS, OR SIMILAR METHODS FOR FILTRATION OF DEWATERING AND SHALL CONFORM TO THE MAINE EROSION AND SEDIMENT CONTROL BMPS G-1, G-2, AND G-3.

POST CONSTRUCTION REVEGETATION

THE FOLLOWING GENERAL PRACTICES WILL BE IMPLEMENTED TO PREVENT EROSION AS SOON AS AN AREA IS READY TO UNDERGO FINAL GRADING:

1. A MINIMUM OF 6" OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND GRADED TO A UNIFORM DEPTH AND NATURAL APPEARANCE.
2. LAWN AREAS: 'PARK MIX" GRASS SEED BY ALLEN, STERLING & LOTHROP (FALMOUTH, MAINE), OR APPROVED EQUAL.
3. MULCH SHALL BE HAY OR STRAW MULCHES THAT ARE DRY AND FREE FROM UNDESIRABLE SEEDS AND COURSE MATERIALS.
   A. APPLICATION RATE MUST BE 2 BALES (70-90 LBS.) PER 1,000 SQUARE FEET OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75 TO 90% OF THE GROUND SURFACE.
   B. DRIVE OVER WITH TRACKED CONSTRUCTION EQUIPMENT ON GRADES OF 5% AND LESS.
   C. BLANKET WITH TACKED PHOTODEGRADABLE/BIODEGRADABLE NETTING ON GRADES GREATER THAN 5%.
4. HYDRO-MULCH SHALL CONSIST OF A MIXTURE OF ASPHALT, WOOD FIBRE OR PAPER FIBRE AND WATER, WHICH IS SPRAYED OVER A SEEDED AREA. HYDRO-MULCH SHALL NOT BE USED BETWEEN 10/1 AND 4/15.
5. CONSTRUCTION SHALL BE PLANNED TO ELIMINATE THE NEED FOR SEEDING BETWEEN OCTOBER 1ST AND APRIL 15TH. SHOULD SEEDING BE NECESSARY BETWEEN THESE DATES, THE FOLLOWING PROCEDURE SHALL BE FOLLOWED:
   A. ONLY UNFROZEN LOAM SHALL BE USED.
   B. LOAMING, SEEDING AND MULCHING WILL NOT BE DONE OVER SNOW OR ICE COVER. IF SNOW EXISTS, IT MUST BE REMOVED PRIOR TO PLACEMENT OF SEED.
   C. WHERE PERMANENT SEEDING IS NECESSARY, ANNUAL WINTER RYE (1.2 LBS/1000 S.F.) SHALL BE SOWN INSTEAD OF THE PREVIOUSLY NOTED SEEDING RATE.
   D. WHERE TEMPORARY SEEDING IS REQUIRED, ANNUAL WINTER RYE (2.5 LBS/1000 S.F.) SHALL BE SOWN INSTEAD OF THE PREVIOUSLY NOTED SEEDING RATE.
   E. FERTILIZING, SEEDING AND MULCHING SHALL BE DONE ON LOAM THE DAY THE LOAM IS SPREAD.
   F. HAY MULCH SHALL BE SECURED WITH PHOTODEGRADABLE/BIODEGRADABLE NETTING. TRACKING BY MACHINERY ALONE WILL NOT SUFFICE. WINTER MULCHING RATES, SHALL BE DOUBLE AS SPECIFIED ABOVE IN SUBSECTION 3.A OF THE 'POST CONSTRUCTION REVEGETATION" SECTION, SHOULD BE APPLIED DURING THIS PERIOD.
6. FOLLOWING FINAL SEEDING, THE SITE WILL BE INSPECTED EVERY 30 DAYS UNTIL 90% COVER HAS BEEN ESTABLISHED. RESEEDING WILL BE CARRIED OUT BY THE CONTRACTOR WITHIN 10 DAYS OF NOTIFICATION BY THE DESIGN PROFESSIONAL THAT THE EXISTING CATCH IS INADEQUATE.

MONITORING SCHEDULE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING, MONITORING, MAINTAINING, REPAIRING, REPLACING AND REMOVING ALL OF THE EROSION AND SEDIMENTATION CONTROLS OR APPOINTING A QUALIFIED SUBCONTRACTOR TO DO SO.
MAINTENANCE MEASURES WILL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION CYCLE. IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL, AND AT LEAST ONCE A WEEK, A VISUAL INSPECTION WILL BE MADE OF ALL EROSION AND SEDIMENTATION CONTROLS AS FOLLOWS:

1. SILT FENCE SHALL BE INSPECTED AND REPAIRED. SEDIMENT TRAPPED BEHIND THESE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 6" AND REDISTRIBUTED TO AREAS UNDERGOING FINAL GRADING.
2. CONSTRUCTION ENTRANCE SHALL BE VISUALLY INSPECTED AND REPAIRED AS NEEDED. ANY AREAS SUBJECT TO RUTTING SHALL BE STABILIZED IMMEDIATELY. IF THE VOIDS OF THE CONSTRUCTION ENTRANCE BECOME FILLED WITH MUD, MORE CRUSHED STONE SHALL BE ADDED AS NEEDED. THE PUBLIC ROADWAY SHALL BE SWEPT AND VACUUMED SHOULD MUD BE DEPOSITED/TRACKED ONTO THEM.

STANDARDS FOR STABILIZING SITES FOR THE WINTER

THE FOLLOWING STANDARDS AND METHODOLOGIES SHALL BE USED FOR STABILIZING THE SITE DURING THE WINTER CONSTRUCTION PERIOD:

1. STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SLOPES (ANY AREA HAVING A GRADE GREATER THAN 25%) - THE CONTRACTOR WILL SEED AND MULCH ALL SLOPES TO BE VEGETATED BY SEPTEMBER 15TH. IF THE CONTRACTOR FAILS TO STABILIZE ANY SLOPE TO BE VEGETATED BY SEPTEMBER 15TH, THEN THE CONTRACTOR WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER.
   A. STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS: BY OCTOBER 1ST THE CONTRACTOR WILL SEED THE DISTURBED SLOPE WITH WINTER RYE AT A RATE OF 3 POUNDS PER 1000 SQUARE FEET AND THEN INSTALL EROSION CONTROL MATS OR ANCHORED HAY MULCH OVER THE SEEDING AT TWICE THE RATE AS SPECIFIED ABOVE IN SUBSECTION 3.A OF THE "POST CONSTRUCTION REVEGETATION" SECTION. THE CONTRACTOR WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS.
   B. STABILIZE THE SLOPE WITH WOOD-WASTE COMPOST: THE CONTRACTOR WILL PLACE A SIX-INCH LAYER OF WOOD-WASTE COMPOST ON THE SLOPE BY NOVEMBER 15TH. THE CONTRACTOR WILL NOT USE WOOD-WASTE COMPOST TO STABILIZE SLOPES HAVING GRADES GREATER THAN 50% (2H:IV) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
   C. STABILIZE THE SLOPE WITH STONE RIPRAP: THE CONTRACTOR WILL PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15TH. THE DEVELOPMENT'S OWNER WILL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY ON THE SLOPE AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.

STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SOILS - BY SEPTEMBER 15TH THE CONTRACTOR WILL SEED AND MULCH ALL DISTURBED SOILS ON THE SITE. IF THE CONTRACTOR FAILS TO STABILIZE THESE SOILS BY THIS DATE, THEN THE CONTRACTOR WILL TAKE ON OF THE FOLLOWING ACTIONS TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.

   A. STABILIZE THE SOIL WITH TEMPORARY VEGETATION: BY OCTOBER 1ST THE CONTRACTOR WILL SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET, LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1000 SQUARE FEET, AND ANCHOR THE MULCH WITH PLASTIC NETTING. THE CONTRACTOR WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER, 1, THEN THE CONTRACTOR WILL MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED IN ITEM III OF THIS STANDARD.
   B. STABILIZE THE SOIL WITH SOD: THE CONTRACTOR WILL STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1ST. PROPER INSTALLATION INCLUDES THE CONTRACTOR PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.
   C. STABILIZE THE SOIL WITH MULCH: BY NOVEMBER 15TH THE CONTRACTOR WILL MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 POUNDS PER 1000 SQUARE FEET ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. IMMEDIATELY AFTER APPLYING THE MULCH, THE CONTRACTOR WILL ANCHOR THE MULCH WITH NETTING OR OTHER METHOD TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

EROSION CONTROL REMOVAL

AN AREA IS CONSIDERED STABLE IF IT IS PAVED OR IF 90% GROWTH OF PLANTED SEEDS IS ESTABLISHED. ONCE AN AREA IS CONSIDERED STABLE, THE EROSION CONTROL MEASURES CAN BE REMOVED AS FOLLOWS:

1. SILT FENCE: SILT FENCE SHALL BE DISPOSED OF LEGALLY AND PROPERLY OFF-SITE. ALL SEDIMENT TRAPPED BEHIND THESE CONTROLS SHALL BE DISTRIBUTED TO AN AREA UNDERGOING FINAL GRADING OR REMOVED AND RELOCATED OFF-SITE.
2. STABILIZED CONSTRUCTION ENTRANCE: THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE REMOVED ONCE THE COMPACTED ROADWAY BASE IN IN PLACE. STONE AND SEDIMENT FROM THE CONSTRUCTION ENTRANCE SHALL BE REDISTRIBUTED TO AN AREA UNDERGOING GRADING OR REMOVED AND RELOCATED OFFSITE.
3. MISCELLANEOUS: ONCE ALL THE TRAPPED SEDIMENTS HAVE BEEN REMOVED FROM THE TEMPORARY SEDIMENTATION DEVICES THE DISTURBED AREAS MUST BE REGRADED IN AN AESTHETIC MANNER TO CONFORM TO THE SURROUNDING TOPOGRAPHY. ONCE GRADED THESE DISTURBED AREAS MUST BE LOAMED (IF NECESSARY), FERTILIZED, SEEDED AND MULCHED IN ACCORDANCE WITH THE RATES PREVIOUSLY STATED.

THE ABOVE EROSION CONTROLS MUST BE REMOVED WITHIN 30 DAYS OF FINAL STABILIZATION OF THE SITE.
CONFORMANCE WITH THIS PLAN AND FOLLOWING THESE PRACTICES WILL RESULT IN A PROJECT THAT COMPLIES WITH THE STATE REGULATIONS AND THE STANDARDS OF THE NATURAL RESOURCES PROTECTION ACT, AND WILL PROTECT WATER QUALITY IN AREAS DOWNSTREAM FROM THE PROJECT.

MAINE CONSTRUCTION GENERAL PERMIT REQUIRED

SUBMISSION OF A MAINE CONSTRUCTION GENERAL PERMIT (MCGP) IS REQUIRED PRIOR TO COMMENCEMENT OF ANY EXCAVATION ACTIVITIES.

INSPECTION AND MAINTENANCE (APPENDIX B)

1. INSPECTION AND MAINTENANCE REQUIREMENTS: INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION AND STORMWATER CONTROL MEASURES, AREAS USED FOR STORAGE THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. INSPECT THESE AREAS AT LEAST ONCE A WEEK AS WELL AS BEFORE AND AFTER A SIGNIFICANT STORM EVENT (0.5 INCHES OF RAINFALL IN A 24-HOUR PERIOD) AND PRIOR TO COMPLETION OF PERMANENT STABILIZATION MEASURES. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS IN THE MCGP AND ANY DEPARTMENTAL COMPANION DOCUMENT TO THE MCGP, MUST CONDUCT THE INSPECTION. THIS PERSON MUST BE IDENTIFIED IN THE INSPECTION LOG. IF BEST MANAGEMENT PRACTICES (BMPS) NEED TO BE MODIFIED OR IF ADDITIONAL BMPS ARE NECESSARY, IMPLEMENTATION MUST BE STARTED BY THE END OF THE NEXT WORKIN DAY AND COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT (RAINFALL). ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS AREA PERMANENTLY STABILIZED. DOCUMENTATION OF CORRECTION ACTIONS SHALL BE MAINTAINED WITH THE INSPECTION FORMS.
2. INSPECTION LOG (REPORT): A LOG (REPORT) MUST BE KEPT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF THE PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, AND MAJOR OBSERVATIONS RELATING TO OPERATION OF EROSION AND SEDIMENTATION CONTROLS AND POLLUTION PREVENTION MEASURES. MAJOR OBSERVATIONS MUST INCLUDE BMPS THAT NEED MAINTENANCE, BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION, AND LOCATIONS(S) WHERE ADDITIONAL BMPS ARE NEEDED. FOR EACH BMP REQUIRING MAINTENANCE, BMP NEEDING REPLACEMENT, AND LOCATION NEEDING ADDITIONAL BMPS, NOTE IN THE INSPECTION LOG THE CORRECT ACTION TAKEN AND WHEN IT WAS TAKEN. THE LOG MUST BE MADE ACCESSIBLE TO THE DEPARTMENT STAFF AND A COPY MUST BE PROVIDED UPON REQUEST. THE PERMITTEE SHALL RETAIN A COPY OF THE LOG FOR A PERIOD OF AT LEAST THREE YEARS FROM THE COMPLETION OF THE PERMANENT STABILIZATION.

HOUSEKEEPING (APPENDIX C)

1. SPILL PREVENTION: CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON SITE TO ENTER STORMWATER, WHICH INCLUDES STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER. THE SITE CONTRACTOR OR OPERATOR MUST DEVELOP, AND IMPLEMENT AS NECESSARY, APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING MEASURES.

NOTE: ANY SPILL OR RELEASE OF TOXIC OR HAZARDOUS SUBSTANCES MUST BE REPORTED TO THE DEPARTMENT. FOR OIL SPILLS, CALL 1-800-482-0777 WHICH IS AVAILABLE 24 HOURS A DAY. FOR SPILLS OF TOXIC OR HAZARDOUS MATERIAL, CALL 1-800-452-4664 WHICH IS AVAILABLE 24 HOURS A DAY. FOR MORE INFORMATION, VISIT THE DEPARTMENT'S WEBSITE AT:
HTTP://WWW.MAINE.GOV/DEP/SPILLS/EMERGSPILLRESP/

2. GROUNDWATER PROTECTION: DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS. ANY PROJECT PROPOSING INFILTRATION OF STORMWATER MUST PROVIDE ADEQUATE PRE-TREATMENT OF STORMWATER PRIOR TO DISCHARGE OF STORMWATER TO THE INFILTRATION AREA, OR PROVIDE FOR TREATMENT WITHIN THE INFILTRATION AREA, IN ORDER TO PREVENT THE ACCUMULATION OF FINES, REDUCTION IN INFILTRATION RATE, AND CONSEQUENT FLOODING AND DESTABILIZATION.

NOTE: LACK OF APPROPRIATE POLLUTANT REMOVAL BEST MANAGEMENT PRACTICES (BMPS) MAY RESULT IN VIOLATIONS OF THE GROUNDWATER QUALITY STANDARD ESTABLISHED BY 38 M.R.S.A. §465-C(1).

3. FUGITIVE SEDIMENT AND DUST: ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL, BUT OTHER WATER ADDITIVES MAY BE CONSIDERED AS NEEDED. A STABILIZED CONSTRUCTION ENTRANCE (SCE) SHOULD BE INCLUDED TO MINIMIZE TRACKING OF MUD AND SEDIMENT. IF OFF-SITE TRACKING OCCURS, PUBLIC ROADS SHOULD BE SWEPT IMMEDIATELY AND NO LESS THAN ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS. OPERATIONS DURING DRY MONTHS, THAT EXPERIENCE FUGITIVE DUST PROBLEMS, SHOULD WET DOWN UNPAVED ACCESS ROADS ONCE A WEEK OR MORE FREQUENTLY AS NEEDED WITH A WATER ADDITIVE TO SUPPRESS FUGITIVE SEDIMENT AND DUST.

NOTE: DEWATERING A STREAM WITHOUT A PERMIT FROM THE DEPARTMENT MAY VIOLATE STATE WATER QUALITY STANDARDS AND THE NATURAL RESOURCES PROTECTION ACT.

4. DEBRIS AND OTHER MATERIALS: MINIMIZE THE EXPOSURE OF CONSTRUCTION DEBRIS, BUILDING AND LANDSCAPING MATERIALS, TRASH, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS TO PRECIPITATION AND STORMWATER RUNOFF. THESE MATERIALS MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

NOTE: TO PREVENT THESE MATERIALS FROM BECOMING A SOURCE OF POLLUTANTS, CONSTRUCTION AND POST-CONSTRUCTION ACTIVITIES RELATED TO A PROJECT MAY BE REQUIRED TO COMPLY WITH APPLICABLE PROVISION OF RULES RELATED TO SOLID, UNIVERSAL, AND HAZARDOUS WASTE, INCLUDING, BUT NOT LIMITED TO, THE MAINE SOLID WASTE AND HAZARDOUS WASTE MANAGEMENT RULES; MAINE HAZARDOUS WASTE MANAGEMENT RULES; MAINE OIL CONVEYANCE AND STORAGE RULES; AND MAINE PESTICIDE REQUIREMENTS.

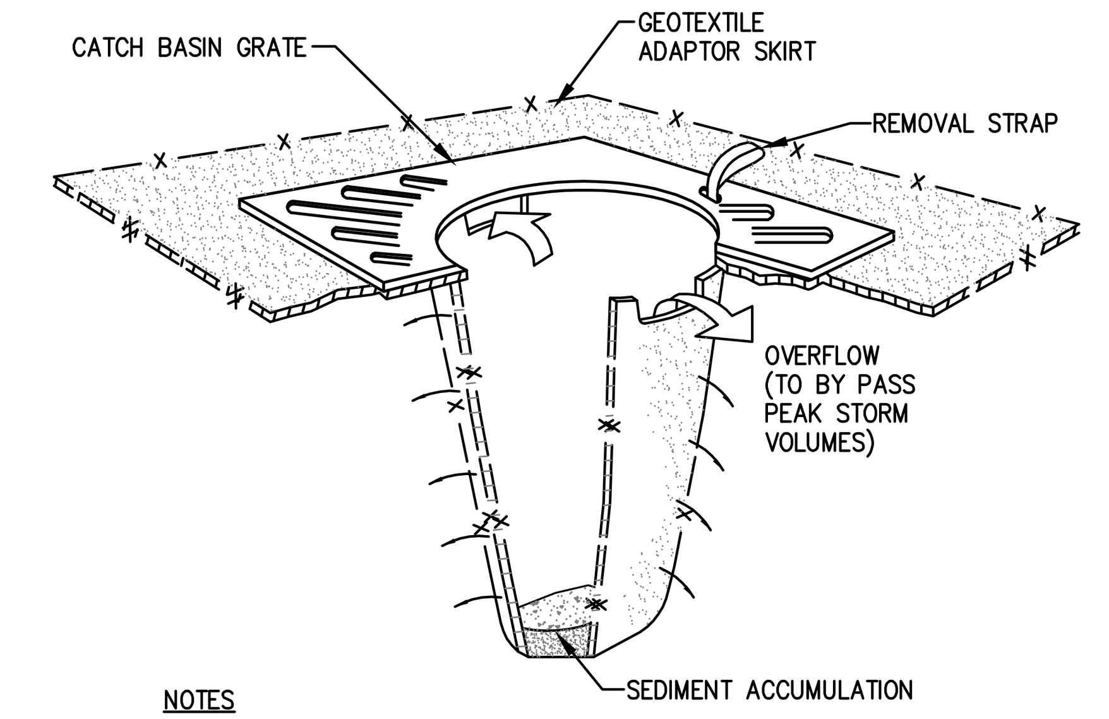
5. EXCAVATION DEWATERING: EXCAVATION DEWATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.

NOTE: DEWATERING CONTROLS ARE DISCUSSED IN THE "MAINE EROSION AND SEDIMENT CONTROL BMPS, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION."

6. AUTHORIZED NON-STORMWATER DISCHARGES: IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES. WHERE ALLOWED NON-STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE:.
   - DISCHARGES FROM FIREFIGHTING ACTIVITY;
   - FIRE HYDRANT FLUSHINGS;
   - VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE, AND TRANSMISSION WASHING IS PROHIBITED);
   - DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS AND APPENDIX (C)(3);
   - ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS;
   - PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED;
   - UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE;
   - UNCONTAMINATED GROUNDWATER OR SPRING WATER;
   - FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED;
   - UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN APPENDIX C(5));
   - POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND
   - LANDSCAPE IRRIGATION
7. UNAUTHORIZED NON-STORMWATER DISCHARGES: THE DEPARTMENT'S APPROVAL UNDER THIS CHAPTER DOES NOT AUTHORIZE A DISCHARGE THAT IS MIXED WITH A SOURCE OF NON-STORMWATER, OTHER THAN THOSE DISCHARGES IN COMPLIANCE WITH APPENDIX C (6). SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:
   - WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;
   - FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;
   - SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND
   - TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.
8. ADDITIONAL REQUIREMENTS: ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE-SPECIFIC BASIS.

CONSTRUCTION SEQUENCE

1. INSTALL EROSION CONTROL MEASURES.
2. CLEAR AND GRUB OPEN AREAS.
3. INSTALL PROPOSED UTILITIES, BRING GRADE TO SUBGRADE.
4. CONSTRUCT BUILDING.
5. CONSTRUCT PAVED AREAS AND WALKS.
6. INSTALL PLANT MATERIAL AND THEN LOAM, SEED AND MULCH DISTURBED AREAS.
7. ONCE DISTURBED AREAS ARE PERMANENTLY STABILIZED REMOVE TEMPORARY EROSION CONTROL MEASURES SUCH AS SILT FENCE OR SEDIMENT BARRIER.

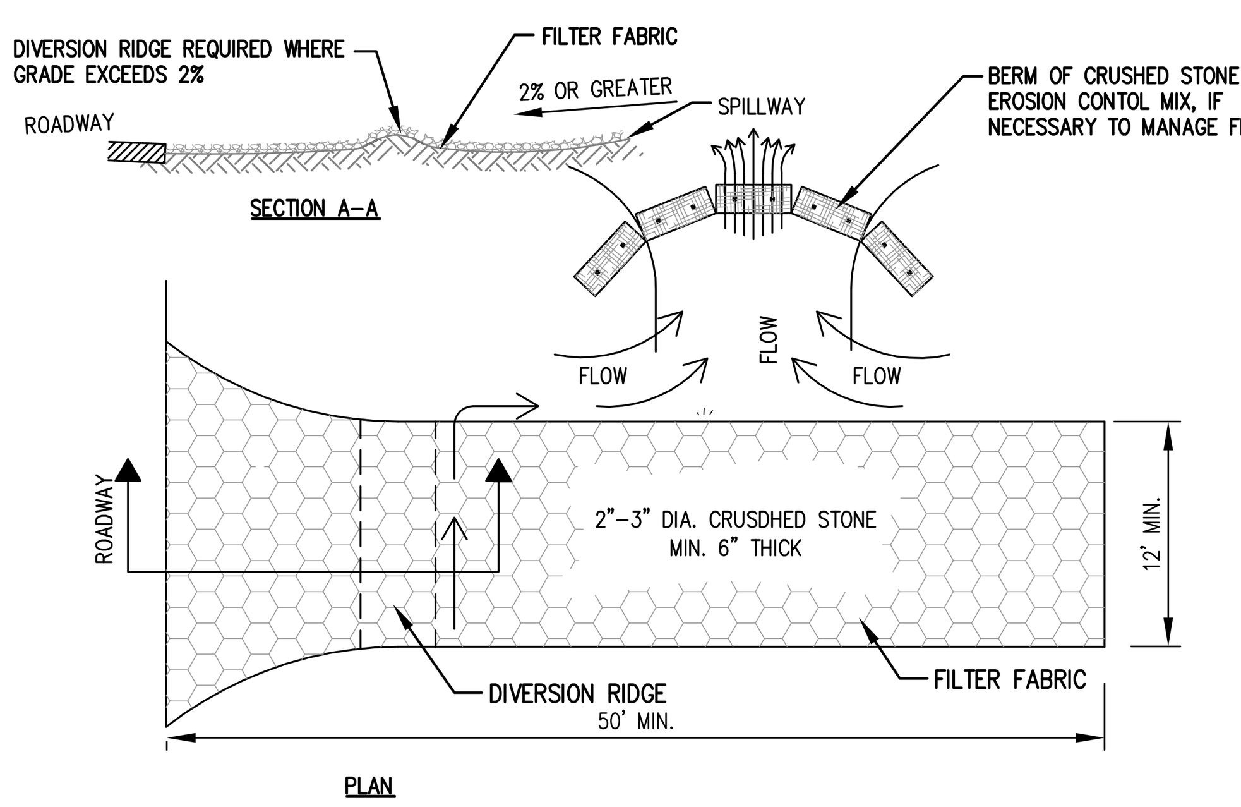


NOTES

1. CATCH BASIN PROTECTION TO BE "SILTSTACK" (BY ACF ENVIRONMENTAL) OR "STREAM GUARD" (BY FOSS ENVIRONMENTAL SERVICES).

   INSERT TO BE EMPTIED IN AN APPROVED MANNER WHEN IT IS 1/2 FULL OF SEDIMENT.
2. INSPECT INSERT AFTER ALL RAINFALL EVENTS, REPAIR AND MAINTAIN AS REQUIRED.

1 TEMPORARY INLET PROTECTION
SCALE: N.T.S.



NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS ONTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC REPAIR AND TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.

2 STABILIZED CONSTRUCTION ENTRANCE
SCALE: N.T.S.

NOTE:
ALL METHODS AND MATERIALS SHALL CONFORM TO MDOT STANDARD SPECIFICATIONS LATEST ADDITION AS APPLICABLE.

REV.	DATE	STATUS	BY	CHKD.	APPD.	REV.	DATE	STATUS	BY	CHKD.	APPD.
B	3/29/21	ISSUED TO THE TOWN CUMBERLAND FOR SITE PLAN REVIEW	DEPT.	TWS	TWS						
A	3/12/21	ISSUED TO THE MAINE DEP FOR SITE LOCATION OF DEVELOPMENT ACT REVIEW	DEPT.	TWS	TWS						

STATE OF MAINE
THOMAS W. SAUCIER
NO. 6096
LICENSED
PROFESSIONAL ENGINEER
3-29-21

LAND DESIGN SOLUTIONS
LAND PLANNING, SITE PLANNING & LANDSCAPE ARCHITECTURE
1 Faraday Drive, Suite 7, Cumberland, ME 04021 tel:(207) 939-1717

OWNER & APPLICANT
GREEN SIP CONSTRUCTION
110 MARGINAL WAY, SUITE 193, PORTLAND, MAINE 04101

DESIGN: DEPT.
DRAWN: DEPT
CHKD: TWS
DATE: MARCH 2021
SCALE: AS NOTED

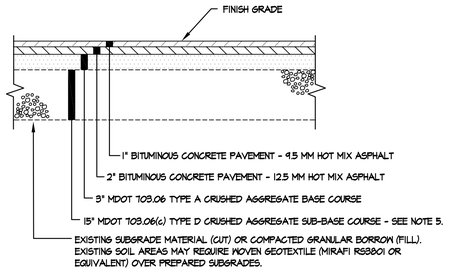
PROPOSED PROFESSIONAL OFFICE / CONDOMINIUM UNIT #3
FARADAY DRIVE, CUMBERLAND, MAINE

EROSION AND SEDIMENTATION CONTROL NOTES AND DETAILS

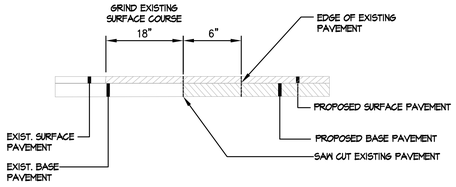
PROJ. NO. 17-131
DWG. NO. C-300
REV. B

NOTES:

1. ADDITIONAL SUBBASE GRAVEL AND/OR GEOTEXTILES MAY BE REQUIRED DURING CONSTRUCTION IF SOIL CONDITIONS WARRANT.
2. DENSIFY PAVEMENT SUBGRADES WITH A VIBRATORY ROLLER.
2. STRUCTURAL FILL, BASE AND SUBBASE MATERIALS SHOULD BE COMPACTED TO AT LEAST 95 PERCENT OF THEIR MAXIMUM DRY DENSITY AS DETERMINED BY ASTM-D-1557.
3. INSTALL A TACK COAT BETWEEN SUCCESSIVE LIFTS OF BITUMINOUS PAVEMENT.
4. AGGREGATE FOR SUBBASE SHALL NOT CONTAIN PARTICLES OF ROCK WHICH WILL NOT PASS THE 4" SQUARE MESH SIEVE.



1 PARKING AREA BUILD-UP

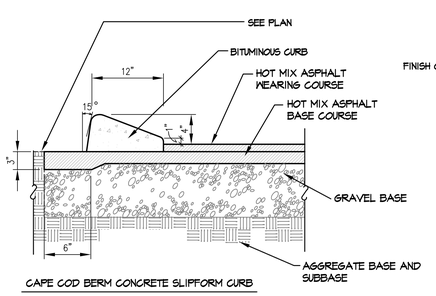


2 HMA PAVEMENT BUTT JOINT

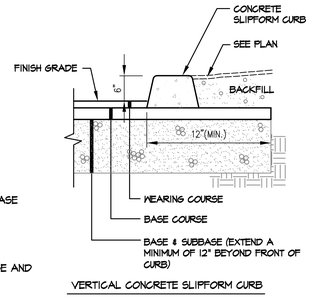
SCALE: N.T.S.

NOTES:

1. SLIPFORM CURB TO BE 4000 LB CONCRETE, FIBER REINFORCED, 4-6% AIR ENTRAINED WITH A 1-2" SLUMP.
2. CONTRACTOR SHALL EPOXY THE CURB TO BINDER COURSE IN AREAS WHERE CURB IS INSTALLED IN PAVED AREAS.
3. CONTRACTOR SHALL PROVIDE THE OWNER'S REPRESENTATIVE WITH SHOP DRAWINGS OF SLIPFORM CURB PRODUCT AND LAYOUT PRIOR TO CONSTRUCTION / INSTALLATION.



CAPE COD BERM CONCRETE SLIPFORM CURB



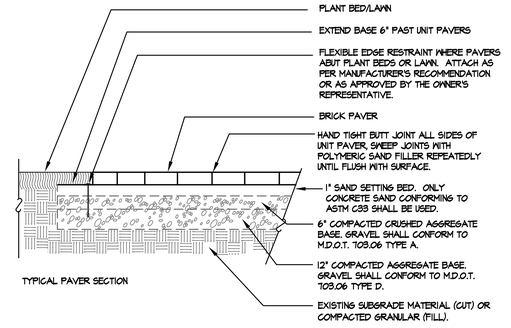
VERTICAL CONCRETE SLIPFORM CURB

3 CONCRETE SLIP FORM CURB

SCALE: N.T.S

NOTES:

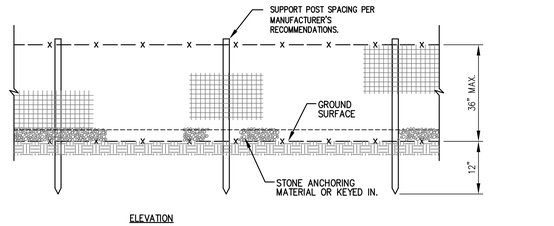
1. ALL PAVERS SHALL BE SAW CUT ONLY. NO FRAGMENT SHALL BE SMALLER THAN 2". FINAL SURFACE SHALL PITCH TO DRAIN PER GRADING PLAN.
2. UNIT PAVERS SHALL BE AS SELECTED BY THE OWNER.
3. POLYMERIC SAND TO BE GATOR XP SAND AS MANUFACTURED BY ALLIANCE DESIGNER PRODUCTS AND DISTRIBUTED BY GENEST CONCRETE PRODUCTS OR APPROVED EQUIVALENT.
4. COMPACT BASE GRAVELS IN LIFTS NO GREATER THAN 4" TO 95% OF MAXIMUM DRY DENSITY ACCORDING TO ASTM D 1557.



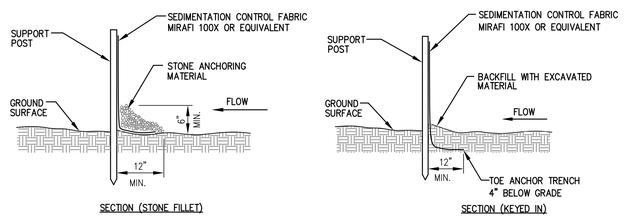
TYPICAL PAVER SECTION

4 UNIT PAVERS

SCALE: NTS



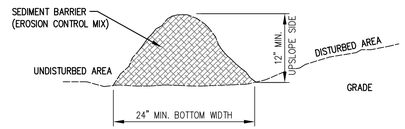
ELEVATION



SECTION (STONE FILLET) SECTION (KEYED IN)

5 SILTATION FENCE

SCALE: N.T.S.

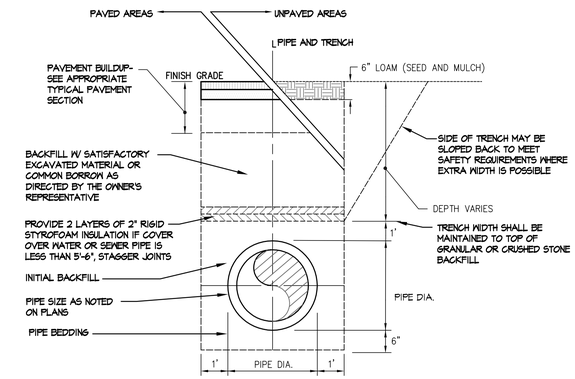


NOTES:

1. THE EROSION CONTROL MIX SHALL CONTAIN A WELL GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH.
2. MATERIAL SHALL MEET THE FOLLOWNG REQUIREMENTS
   A. THE ORGANIC CONTENT SHALL BE BEWTEEN 80 AND 100% DRY WEIGHT BASIS
   B. PARTICLE SIZE BY WIEGHT SHALL BE 100% PASSING A 6" SCREEN AND A MAXIMUM OF 85% PASSING A 0.75" SCREEN
   C. THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED
   D. LARGE PORTIONS OF SILTS, CLAYS, OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX
   E. SOLUBLE SALTS CONTENT SHALL BE <4.0 MMHOS/CM
   F. THE pH SHOULD FALL BETWEEN 5.0 AND 8.0
3. PLACE BARRIER ALONG A RELATIVELY FLAT CONTOUR. CUT TALL GRASSES OR WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES WHERE FINES CAN WASH UNDER THE BARRIER THROUGH GRASS BLADES AND BRANCHES.
4. PLACEMENT OF BARRIER SHOULD BE:
   - AT TOE OF THE SLOPE.
   - FROZEN GROUND, BEDROCK OR ROOTED FORESTED AREAS.
   - THE EDGE OF GRAVEL AND AREAS UNDER CONSTRUCTION.
5. BARRIER SHALL NOT BE USED ADJACENT TO WETLANDS
6. REMOVE SEDIMENT DEPOSITS WHEN THEY REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER.
7. WHEN BARRIER IS DECOMPOSED, CLOGGED WITH SEDIMENT, ERODED OR INEFFECTIVE, IT MUST BE REPLACED OR REPAIRED. THE BARRIER SHOULD BE RESHAPED AS NECESSARY.

6 SEDIMENT BARRIER (EROSION CONTROL MIX)

SCALE: N.T.S.



NOTE: MAINTAIN A MINIMUM COVER OF 5 FT. OVER FORCEMAIN.

TRENCH BACKFILL SCHEDULE

PIPE MATERIAL	BEDDING MATERIAL	INITIAL BACKFILL	BACKFILL MATERIAL
HDPE	3/4" CRUSHED STONE	3/4" CRUSHED STONE	***EXCAVATED MATERIAL OR GRANULAR BORROW
PVC	3/4" CRUSHED STONE	3/4" CRUSHED STONE	***EXCAVATED MATERIAL OR GRANULAR BORROW
DUCTILE IRON	GRANULAR MATERIAL	GRANULAR MATERIAL	***EXCAVATED MATERIAL OR GRANULAR BORROW

*** EXCAVATED MATERIAL MUST BE REVIEWED AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

GRANULAR MATERIAL TO BE SAND OR GRAVEL.

7 TYPICAL TRENCH SECTION

SCALE: N.T.S.

NOTE:
ALL METHODS AND MATERIALS SHALL CONFORM TO MDOT STANDARD SPECIFICATIONS LATEST ADDITION AS APPLICABLE.

REV.	DATE	STATUS	BY	CHKD.	APPD.
B	3/29/21	ISSUED TO THE TOWN CUMBERLAND FOR SITE PLAN REVIEW	DEPT.	TWS	TWS
A	3/12/21	ISSUED TO THE MAINE DEP FOR SITE LOCATION OF DEVELOPMENT ACT REVIEW	DEPT.	TWS	TWS

STATE OF MAINE — THOMAS W. SAUCIER — NO. 6018 — REGISTERED PROFESSIONAL ENGINEER
3-29-21

LAND DESIGN SOLUTIONS
LAND PLANNING, SITE PLANNING & LANDSCAPE ARCHITECTURE
1 Faraday Drive, Suite 7, Cumberland, ME 04021 tel:(207) 939-1717

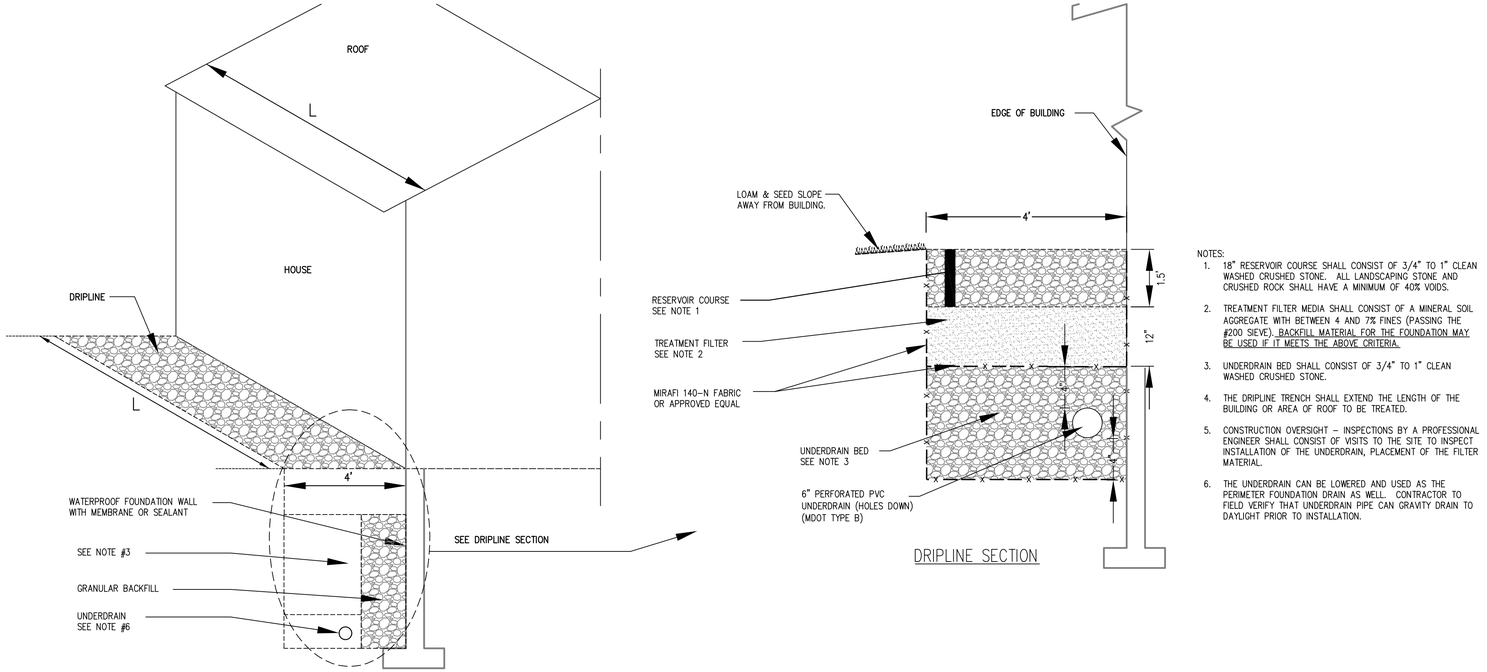
OWNER & APPLICANT
GREEN SIP CONSTRUCTION
110 MARGINAL WAY, SUITE 193, PORTLAND, MAINE 04101

DESIGN: DEPT.
DRAWN: DEPT
CHKD: TWS
DATE: MARCH 2021
SCALE: AS NOTED

PROPOSED PROFESSIONAL OFFICE / CONDOMINIUM UNIT #3
FARADAY DRIVE, CUMBERLAND, MAINE

EROSION CONTROL AND SITE DETAILS

PROJ. NO. 17-131
DWG. NO. C-301
REV. B

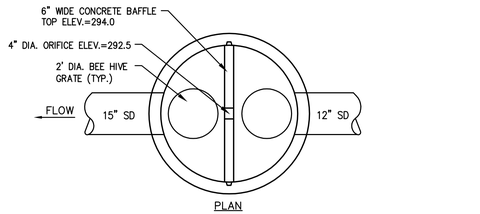


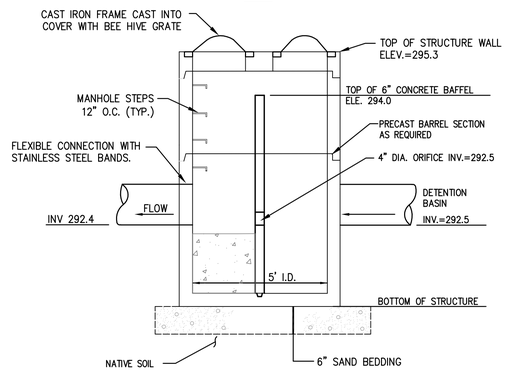
NOTES:

1. 18" RESERVOIR COURSE SHALL CONSIST OF 3/4" TO 1" CLEAN WASHED CRUSHED STONE. ALL LANDSCAPING STONE AND CRUSHED ROCK SHALL HAVE A MINIMUM OF 40% VOIDS.
2. TREATMENT FILTER MEDIA SHALL CONSIST OF A MINERAL SOIL AGGREGATE WITH BETWEEN 4 AND 7% FINES (PASSING THE #200 SIEVE). BACKFILL MATERIAL FOR THE FOUNDATION MAY BE USED IF IT MEETS THE ABOVE CRITERIA.
3. UNDERDRAIN BED SHALL CONSIST OF 3/4" TO 1" CLEAN WASHED CRUSHED STONE.
4. THE DRIPLINE TRENCH SHALL EXTEND THE LENGTH OF THE BUILDING OR AREA OF ROOF TO BE TREATED.
5. CONSTRUCTION OVERSIGHT – INSPECTIONS BY A PROFESSIONAL ENGINEER SHALL CONSIST OF VISITS TO THE SITE TO INSPECT INSTALLATION OF THE UNDERDRAIN, PLACEMENT OF THE FILTER MATERIAL.
6. THE UNDERDRAIN CAN BE LOWERED AND USED AS THE PERIMETER FOUNDATION DRAIN AS WELL. CONTRACTOR TO FIELD VERIFY THAT UNDERDRAIN PIPE CAN GRAVITY DRAIN TO DAYLIGHT PRIOR TO INSTALLATION.

1 ROOF DRIPLINE FILTER

SCALE: N.T.S.





STRUCTURE SPECIFICATIONS:

A. STANDARD PRECAST CONCRETE CATCH BASINS: ASTM C 478 (ASTM C 478M), PRECAST, REINFORCED CONCRETE, OF DEPTH INDICATED, WITH PROVISION FOR SEALANT JOINTS PER THE FOLLOWING, UNLESS INDICATED OTHERWISE ON THE DRAWINGS.

1. BASE SECTION: 6-INCH (150-MM) MINIMUM THICKNESS FOR FLOOR SLAB AND 4-INCH (102-MM) MINIMUM THICKNESS FOR WALLS AND BASE RISER SECTION, AND HAVING SEPARATE BASE SLAB OR BASE SECTION WITH INTEGRAL FLOOR.
2. RISER SECTIONS: 4-INCH (102-MM) MINIMUM THICKNESS, AND LENGTHS TO PROVIDE DEPTH INDICATED.
3. JOINT SEALANT: ASTM C 990 (ASTM C 990M), BITUMEN OR BUTYL RUBBER. APPROVED LUBRICANT SHALL BE APPLIED OVER THE INSIDE TONGUE AND OVER THE RUBBER GASKET IMMEDIATELY PRIOR TO SETTING ONE SECTION ON TOP OF ANOTHER IF "O"-RING JOINTS ARE USED.
4. ADJUSTING RINGS: INTERLOCKING RINGS WITH LEVEL OR SLOPED EDGE IN THICKNESS AND SHAPE MATCHING CATCH BASIN FRAME AND GRATE. INCLUDE SEALANT RECOMMENDED BY RING MANUFACTURER.
5. STEPS: INDIVIDUAL FRP STEPS OR FRP LADDER, WIDE ENOUGH TO ALLOW WORKER TO PLACE BOTH FEET ON 1 STEP AND DESIGNED TO PREVENT LATERAL SLIPPAGE OFF OF STEP. CAST OR ANCHOR STEPS INTO SIDEWALLS AT 12- TO 16-INCH (300- TO 400-MM) INTERVALS. OMIT STEPS IF TOTAL DEPTH FROM FLOOR OF CATCH BASIN TO FINISHED GRADE IS LESS THAN 60 INCHES (1500 MM).

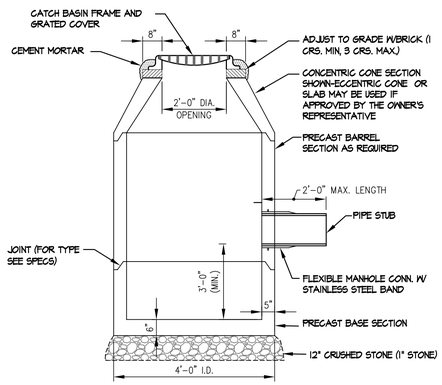
**FINAL ELEVATIONS SUBJECT TO TEST PIT.

2 OUTLET CONTROL STRUCTURE

SCALE: N.T.S.

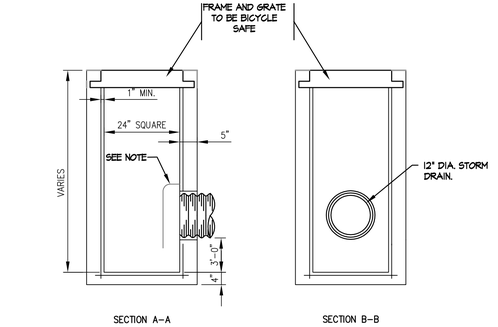
GRATED COVERS:

1. CATCH BASIN FRAME AND GRATE TO BE BICYCLE SAFE



3 CATCH BASIN

SCALE: N.T.S.



NOTE:
ENTIRE CATCH BASIN INCLUDING FRAME AND GRATE TO BE PRECAST AS A SINGLE PORTLAND CEMENT CONCRETE UNIT

* DIA. OF HOLE TO BE 3" LARGER THAN THE INSIDE DIA. OF FLEXIBLE PIPE OR THE OUTSIDE DIAMETER OF RIGID PIPE.

NOTE: SNOUT HOODED OUTLET COVERS (OR APPROVED EQUIVALENT) SHALL BE ATTACHED TO THE WALL OF ALL CATCH BASINS OVER THE OUTLET PIPE IN SUCH A MANNER AS TO PREVENT THE EXIT OF FLOATING DEBRIS AND OIL. SNOUTS ARE MANUFACTURED BY BEST MANAGEMENT PRACTICES INC. OF LYME, CT (TEL. 800-504-8008).

4 TYPE F CATCH BASIN (FIELD INLET)

SCALE: N.T.S.

NOTE:
ALL METHODS AND MATERIALS SHALL CONFORM TO MDOT STANDARD SPECIFICATIONS LATEST ADDITION AS APPLICABLE.

REV.	DATE	STATUS	BY	CHKD.	APPD.
B	3/29/21	ISSUED TO THE TOWN CUMBERLAND FOR SITE PLAN REVIEW	DEPT.	TWS	TWS
A	3/12/21	ISSUED TO THE MAINE DEP FOR SITE LOCATION OF DEVELOPMENT ACT REVIEW	DEPT.	TWS	TWS

STATE OF MAINE — THOMAS W. SAUCIER NO. 6018 — REGISTERED PROFESSIONAL ENGINEER
3-29-21

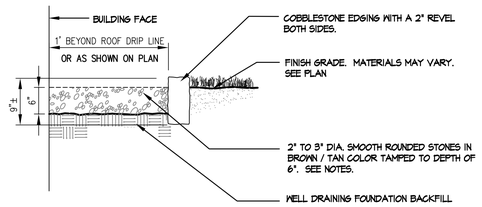
LAND DESIGN SOLUTIONS
LAND PLANNING, SITE PLANNING & LANDSCAPE ARCHITECTURE
1 Faraday Drive, Suite 7, Cumberland, ME 04021 tel:(207) 939-1717

OWNER & APPLICANT
GREEN SIP CONSTRUCTION
110 MARGINAL WAY, SUITE 193, PORTLAND, MAINE 04101

DESIGN: DEPT.	PROPOSED PROFESSIONAL OFFICE / CONDOMINIUM UNIT #3
DRAWN: DEPT	FARADAY DRIVE, CUMBERLAND, MAINE
CHKD: TWS	SITE DETAILS
DATE: MARCH 2021	PROJ. NO. 17-131
SCALE: AS NOTED	DWG. NO. C-302
	REV. B

NOTES:

1. COBBLESTONES TO BE THE STANDARD (9x5x5) GRAY COBBLESTONE AS DISTRIBUTED BY SWENSON GRANITE OR APPROVED EQUIVALENT.
2. CONTRACTOR TO PROVIDE SAMPLE OF SMOOTH ROUNDED 2"-3" STONE FOR DRIP EDGE TO THE LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO PURCHASING.

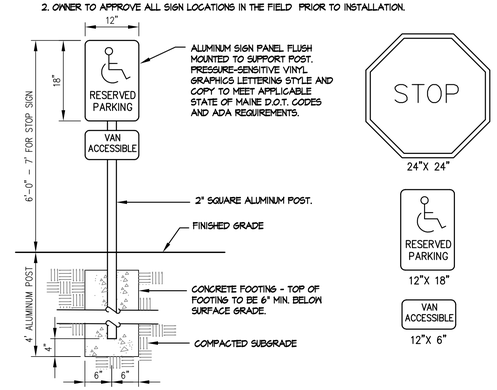


1 STONE DRIP EDGE (FRONT OF BUILDING)

SCALE: N.T.S.

NOTES:

1. PROVIDE SHOP DRAWINGS OF ALL SIGNS TO THE OWNER PRIOR TO PURCHASING.
2. OWNER TO APPROVE ALL SIGN LOCATIONS IN THE FIELD PRIOR TO INSTALLATION.

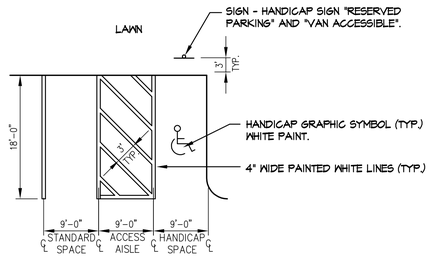


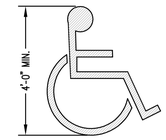
2 SIGNAGE

SCALE: N.T.S.

NOTES:

1. SYMBOLS AND PARKING STALLS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT. ALL PAINT SHALL BE LEAD FREE, FAST DRYING, 100% ACRYLIC WATERBORNE TRAFFIC PAINT WITH SILICA SAND FOR SKID RESISTANCE, MEETING THE REQUIREMENTS OF TT-P-1952E TYPE I & II.
2. PAINT SHALL BE APPLIED AS SPECIFIED BY THE MANUFACTURER.





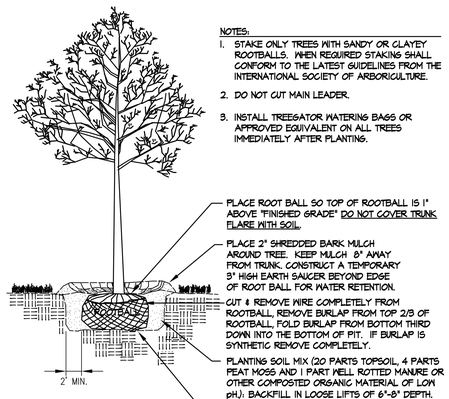
HANDICAP GRAPHIC SYMBOL

3 HANDICAP PARKING SPACE LAYOUT

SCALE: N.T.S.

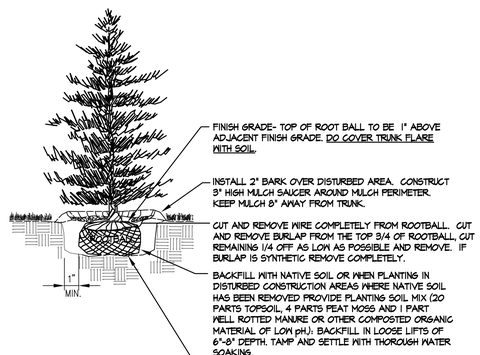
NOTES:

1. STAKE ONLY TREES WITH SANDY OR CLAYEY ROOTBALLS. WHEN REQUIRED STAKING SHALL CONFORM TO THE LATEST GUIDELINES FROM THE INTERNATIONAL SOCIETY OF ARBORICULTURE.
2. DO NOT CUT MAIN LEADER.
3. INSTALL TREEGATOR WATERING BAGS OR APPROVED EQUIVALENT ON ALL TREES IMMEDIATELY AFTER PLANTING.



4 DECIDUOUS TREE PLANTING

SCALE: N.T.S.



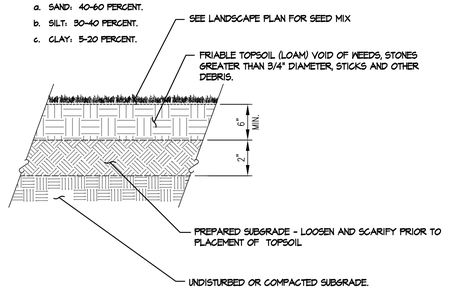
5 EVERGREEN TREE PLANTING

SCALE: N.T.S.

NOTES:

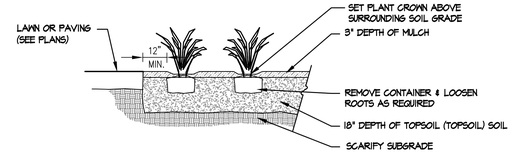
A. SURFACE ELEVATION SHOULD ACCOUNT FOR A SOD THICKNESS OF 1/4" IN SOD AREAS VERSUS AREAS TO BE SEEDED.

B. TOPSOIL (LOAM):
   1. NATURAL, FERTILE LOAM TYPICAL OF CULTIVATED TOPSOIL OF THE LOCALITY, CONTAINING NOT LESS THAN 3.5 PERCENT OR MORE THAN 8 PERCENT BY WEIGHT, OF DECAYED ORGANIC MATTER (HUMUS) AS DETERMINED BY ASTM F1647. TOPSOIL SHALL HAVE A PH OF NOT LESS THAN 6.0 OR GREATER THAN 6.8.
   2. TOPSOIL (LOAM) SHALL CONFORM TO THE FOLLOWING PARTICLE SIZE DISTRIBUTION, AS DETERMINED BY PIPETTE METHOD IN COMPLIANCE WITH ASTM F1632.
      a. SAND: 40-60 PERCENT.
      b. SILT: 30-40 PERCENT.
      c. CLAY: 5-20 PERCENT.



6 LAWN INSTALLATION

SCALE: NTS



7 PERENNIAL PLANTING

SCALE: N.T.S.

NOTE:
ALL METHODS AND MATERIALS SHALL CONFORM TO MDOT STANDARD SPECIFICATIONS LATEST ADDITION AS APPLICABLE.

REV.	DATE	STATUS	BY	CHKD.	APPD.
B	3/29/21	ISSUED TO THE TOWN CUMBERLAND FOR SITE PLAN REVIEW	DEPT.	PBB	PBB
A	3/12/21	ISSUED TO THE MAINE DEP FOR SITE LOCATION OF DEVELOPMENT ACT REVIEW	DEPT.	PBB	PBB

STATE OF MAINE — THOMAS W. SAUCIER NO. 6035 — REGISTERED PROFESSIONAL ENGINEER
3-29-21

LAND DESIGN SOLUTIONS
LAND PLANNING, SITE PLANNING & LANDSCAPE ARCHITECTURE
1 Faraday Drive, Suite 7, Cumberland, ME 04021 tel:(207) 829-1717

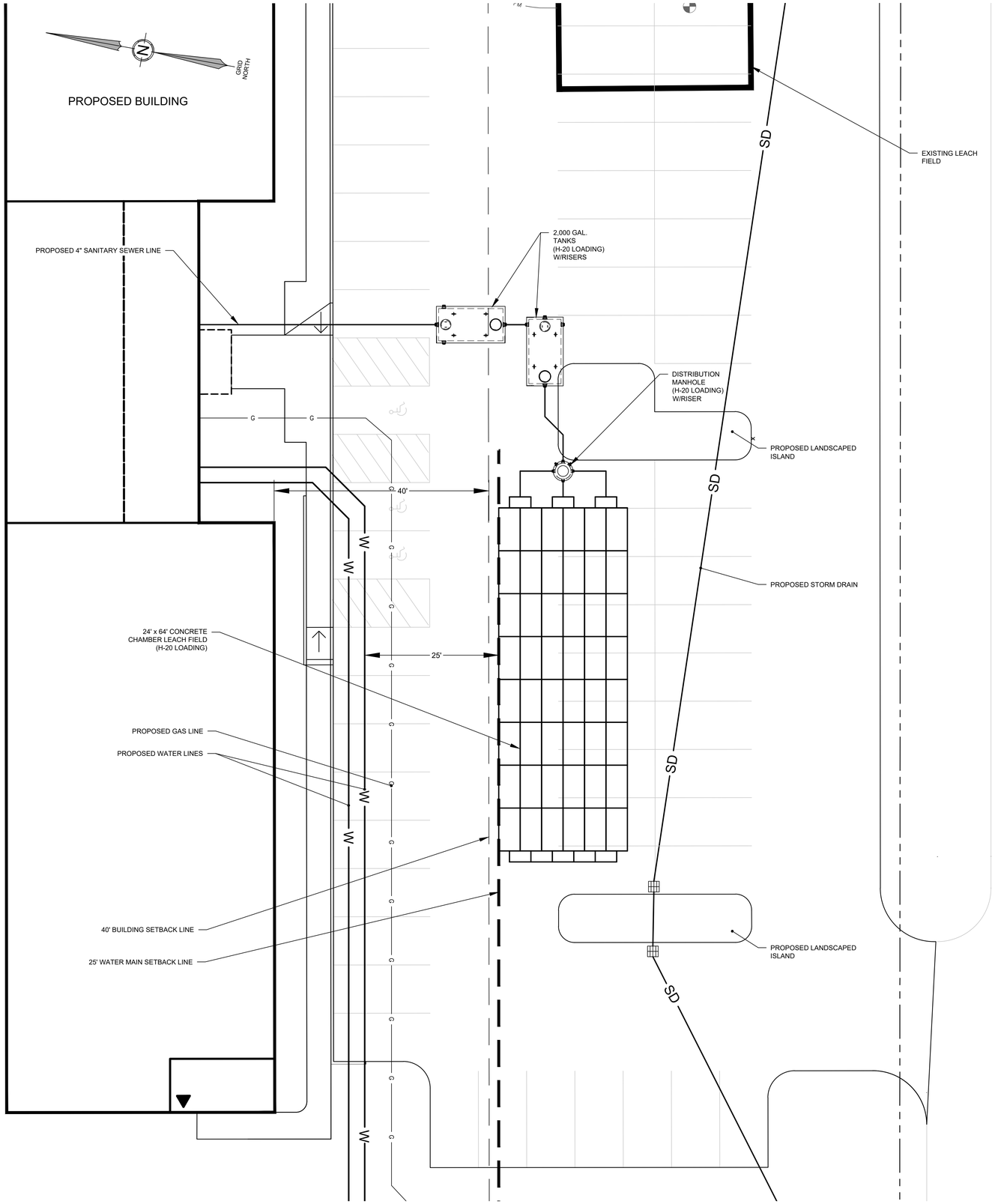
OWNER & APPLICANT
GREEN SIP CONSTRUCTION
110 MARGINAL WAY, SUITE 193, PORTLAND, MAINE 04101

DESIGN: DEPT.
DRAWN: DEPT
CHKD: PBB
DATE: MARCH 2021
SCALE: AS NOTED

PROPOSED PROFESSIONAL OFFICE / CONDOMINIUM UNIT #3
FARADAY DRIVE, CUMBERLAND, MAINE

SITE DETAILS

PROJ. NO. 17-131
DWG. NO. C-303
REV. B



UTILITY CONSTRUCTION NOTES

1. ALL WORK SHALL CONFORM TO THE APPLICABLE CODES AND ORDINANCES.

2. CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIM OR HERSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIM OR HERSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.

3. CONTRACTOR SHALL NOTIFY ENGINEER OF ALL PRODUCTS OR ITEMS NOTED AS "EXISTING" WHICH ARE NOT FOUND IN THE FIELD.

4. INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND OWNER'S REQUIREMENTS UNLESS SPECIFICALLY OTHERWISE INDICATED OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.

5. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE ENGINEER.

6. CONTRACTOR SHALL CLEAN AND REMOVE DEBRIS AND SEDIMENT DEPOSITED ON PUBLIC STREETS, SIDEWALKS, ADJACENT AREAS, OR OTHER PUBLIC WAYS DUE TO CONSTRUCTION.

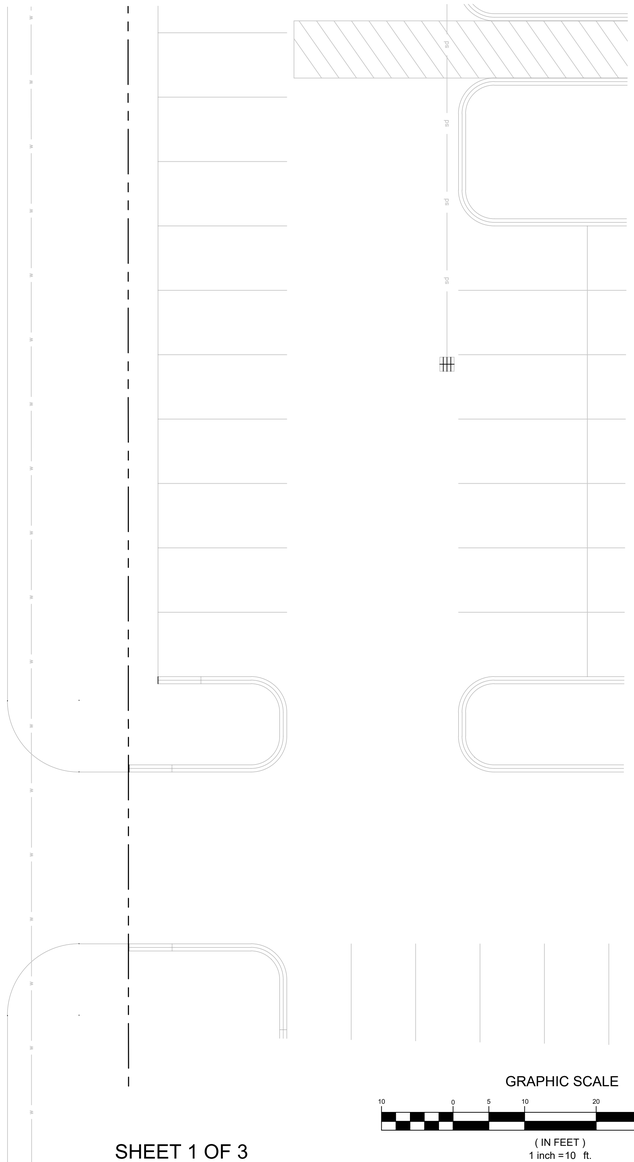
7. CONTRACTOR SHALL INCORPORATE PROVISIONS AS NECESSARY IN CONSTRUCTION TO PROTECT EXISTING STRUCTURES, PHYSICAL FEATURES, AND MAINTAIN SITE STABILITY DURING CONSTRUCTION. CONTRACTOR SHALL RESTORE ALL AREAS TO ORIGINAL CONDITION AND AS DIRECTED BY DESIGN DRAWINGS.

8. SITE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS PRIOR TO CONSTRUCTION.

9. THE CONTRACTOR IS HEREBY CAUTIONED THAT ALL SITE FEATURES SHOWN HEREON ARE BASED ON FIELD OBSERVATIONS BY THE SURVEYOR AND BY INFORMATION PROVIDED BY UTILITY COMPANIES. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT DIG SAFE (1-888-DIGSAFE) AT LEAST THREE (3) BUT NOT MORE THAN THIRTY (30) DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES.

10. CONTRACTOR SHALL BE AWARE THAT DIG SAFE ONLY NOTIFIES ITS "MEMBER" UTILITIES ABOUT THE DIG. WHEN NOTIFIED, DIG SAFE WILL ADVISE CONTRACTOR OF MEMBER UTILITIES IN THE AREA. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND CONTACTING NON-MEMBER UTILITIES DIRECTLY. NON-MEMBER UTILITIES MAY INCLUDE TOWN OR CITY WATER AND SEWER DISTRICTS AND SMALL LOCAL UTILITIES, AS WELL AS USG PUBLIC WORKS SYSTEMS.

11. CONTRACTORS SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE REQUIREMENTS OF 23 MRSA 3360-A. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE APPROPRIATE UTILITIES TO OBTAIN AUTHORIZATION PRIOR TO RELOCATION OF ANY EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS. IF A UTILITY CONFLICT ARISES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER, THE MUNICIPALITY AND APPROPRIATE UTILITY COMPANY PRIOR TO PROCEEDING WITH ANY RELOCATION.



GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

STATE OF MAINE
JEFFREY D. AMOS
21067
LICENSED PROFESSIONAL ENGINEER

DATE: 3/16/2021
P.E.: JEFFREY D. AMOS

NO.	DATE	REVISIONS	APP'D BY
1	3-12-2021	ISSUED FOR MAINE DEP REVIEW	

565 CONGRESS STREET
SUITE 201
PORTLAND, ME 04102

41 CAMPUS DRIVE
SUITE 101
NEW GLOUCESTER, ME 04260

OFFICE: (207) 926-5111 FAX: (207) 221-1317
www.terradynconsultants.com

TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Planning | Stormwater Design | Environmental Permitting

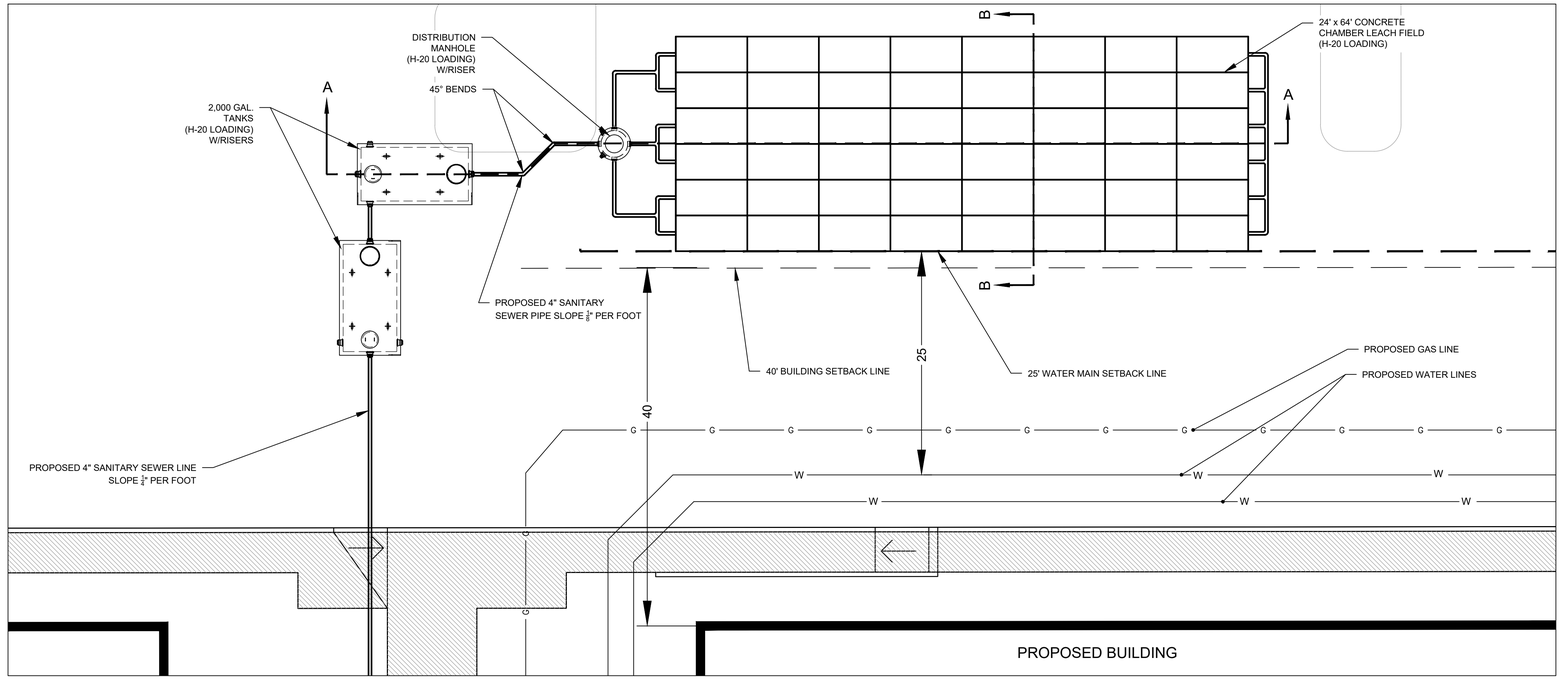
PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT:
PROPOSED PROFESSIONAL OFFICE / CONDOMINIUM UNIT 3
FARADAY DRIVE, CUMBERLAND, MAINE

SHEET TITLE:
SEPTIC SYSTEM LAYOUT

CLIENT:
GREEN SJP CONSTRUCTION INC.
110 MARGINAL WAY, SUITE 193
PORTLAND, MAINE 04101

DATE:	3/16/2021
SCALE:	
DESIGNED:	
JOB NO:	2118
FILE:	
SHEET	



PLAN VIEW

1 1/2"=1'-0"

GENERAL NOTES: DISPOSAL SYSTEM INSTALLATION

1. THE STATE OF MAINE SUBSURFACE DISPOSAL RULES, DEPARTMENT OF HUMAN SERVICES, ARE INCLUDED BY REFERENCE IN THE SPECIFICATIONS FOR INSTALLATION OF THIS SYSTEM.

2. THE INSTALLER IS SOLELY RESPONSIBLE FOR COMPLYING WITH THE RULES AND FOR OBTAINING ANY AND ALL PERMITS.

3. ALL BASE PLAN INFORMATION ON EXISTING CONDITIONS HAS BEEN FURNISHED BY OTHERS AND RELIED UPON IN PREPARATION ON THIS DESIGN.

4. BEFORE BEGINNING CONSTRUCTION, THE INSTALLER SHALL REVIEW THE LOCATIONS AND ELEVATIONS OF ALL COMPONENTS.

5. INSULATE ANY COMPONENTS SUBJECT TO FREEZING.

6. PREPARE DISPOSAL AREA BY CLEARING AND GRUBBING TO THE LIMITS OF ALL CUTS AND FILLS. EXCAVATE OR FILL DISPOSAL AREA TO BED BOTTOM ELEVATION. USE EXCAVATED MATERIAL FOR ANY FILLS UNDER THE SYSTEM. SCARIFY THE PREPARED BED BOTTOM AND AREAS OUTISDE THE BED THAT WILL RECEIVE FILL.

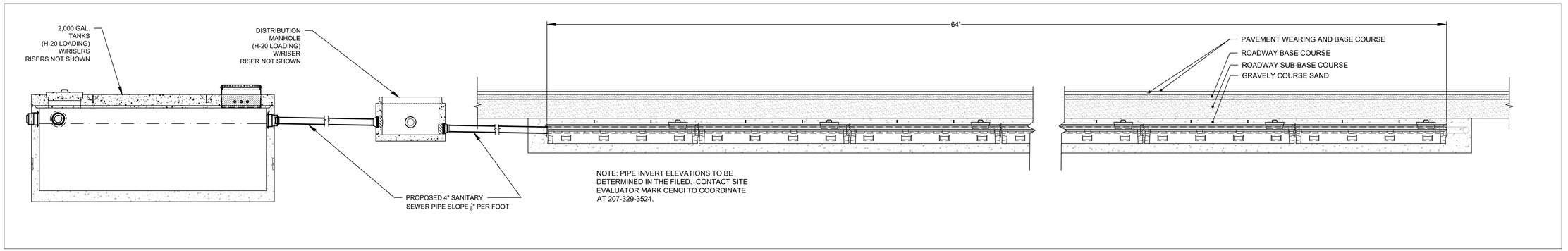
7. DO NOT COMPACT PREPARED SURFACES OR SMEAR THEM. PROTECT PREPARED SURFACES FROM RAIN. DO NOT INSTALL DISPOSAL UNITS OR DISPOSAL AREA FILL IN RAIN.

8. FILL TO SUBGRADE SHALL BE GRAVELLY COURSE SAND CONTAINING A MAXIMUM OF 5% FINES AND SHALL NOT CONTAIN ANY ORGANIC MATERIAL.

9. WORK TO BE PERFORMED IN DRY WEATHER.

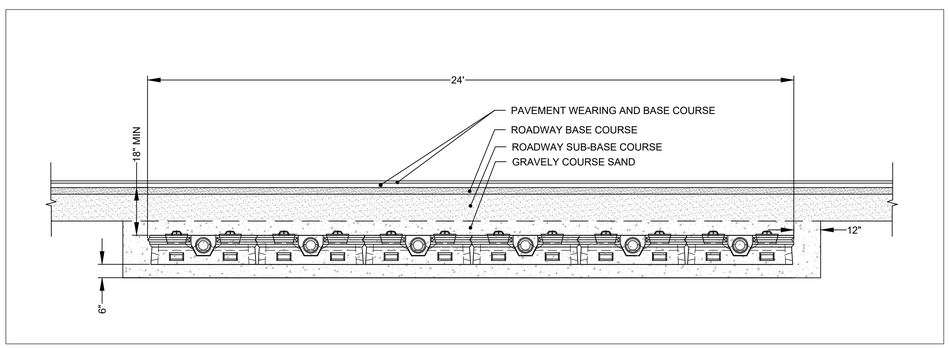
10. DESIGN PREPARED BY: MARK CENCI, SITE EVALUATOR #262 OF MARK CENCI GEOLOGIC, INC., AND JEFFREY D. AMOS, P.E.#10167 OF TERRADYN CONSULTANTS, LLC WHOSE ADDRESS IS PO BOX 339, NEW GLOUCESTER, ME 04260.

11. DETERMINE PIPING INVERT ELEVATIONS IN FIELD.



SECTION A-A

SCALE: 3/8" = 1'-0"



SECTION B-B

SCALE: 3/8" = 1'-0"

STATE OF MAINE
JEFFREY D. AMOS
10167
LICENSED PROFESSIONAL ENGINEER

DATE: 3/16/2021

P.E.: JEFFREY D. AMOS

NO.	DATE	REVISIONS	APPD BY
1	3-12-2021	ISSUED FOR MAINE DEP REVIEW	

TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Planning | Stormwater Design | Environmental Permitting
41 CAMPUS DRIVE SUITE 101 NEW GLOUCESTER, ME 04260
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www.terradynconsultants.com
565 CONGRESS STREET SUITE 301 PORTLAND, ME 04102

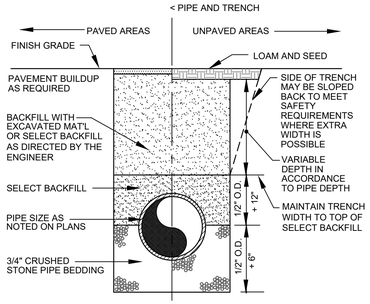
PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT:
PROPOSED PROFESSIONAL OFFICE / CONDOMINIUM UNIT 3
FARADAY DRIVE, CUMBERLAND, MAINE

SHEET TITLE:

CLIENT:
GREEN SIP CONSTRUCTION INC.
110 MARGINAL WAY, SUITE 193
PORTLAND, MAINE 04101

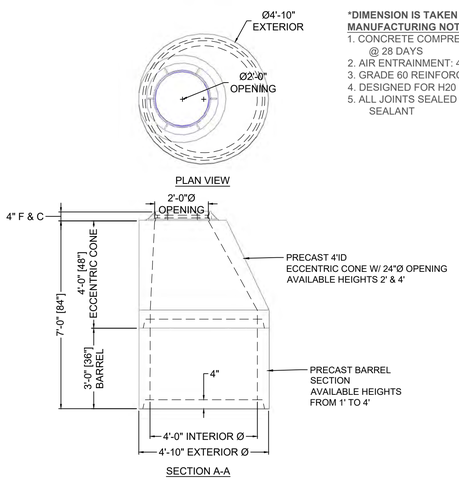
DATE:	3/16/2021
SCALE:	
DESIGNED:	
JOB NO:	2118
FILE:	
SHEET	



TYPICAL TRENCH SECTION

NOT TO SCALE

American Concrete Industries



***DIMENSION IS TAKEN FROM BOTTOM OF TANK**

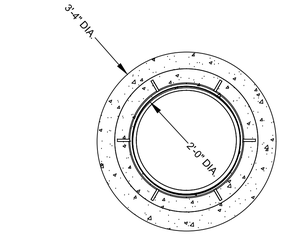
MANUFACTURING NOTES

1. CONCRETE COMPRESSIVE STRENGTH: 5000PSI @ 28 DAYS
2. AIR ENTRAINMENT: 4-6%
3. GRADE 60 REINFORCEMENT
4. DESIGNED FOR H20 LOAD RATING
5. ALL JOINTS SEALED W/ BUTYL RUBBER JOINT SEALANT

MANHOLE RISER W/CI FRAME AND COVER H-20 LOADING

NOT TO SCALE

American Concrete Industries



PLAN VIEW

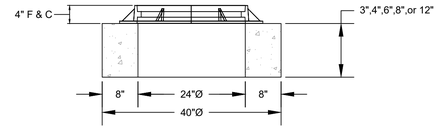
24" ID DONUT RISER/GRADE RING

3" - ITEM # 3881 WT. 209 LBS
4" - ITEM # 3896 WT. 279 LBS
6" - ITEM # 3908 WT. 419 LBS
8" - ITEM # 3913 WT. 559 LBS
12" - ITEM # 3921 WT. 838 LBS

GENERAL NOTES

CONCRETE SPECIFICATIONS:
1. 4000 PSI AFTER 28 DAYS WITH 4%-6% AIR
2. DESIGNED FOR H-20 WHEEL LOADING
3.CONFORMS TO ASTM-C478 SPECIFICATIONS

NOTE: USE DONUT RISERS IN LOCATIONS THAT ARE LESS THAN 2'-4" TO STRUCTURE.

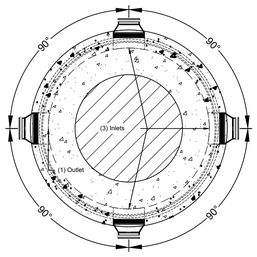


SECTION VIEW

24" DONUT RISER/CI FRAME AND COVER H-20 LOADING

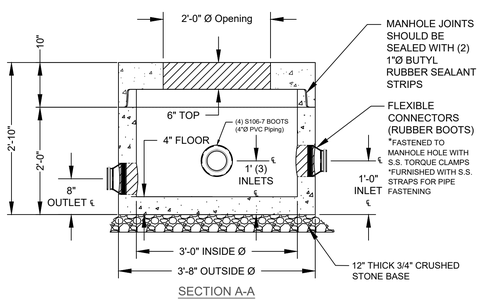
NOT TO SCALE

American Concrete Industries



PLAN VIEW

GENERAL SPECIFICATIONS:
1) CONCRETE 4,000 PSI AFTER 28 DAYS
2) DESIGNED FOR H-20 WHEEL LOADING
3) CONFORMS TO AASHTO M199 / ASTM C478 IN ACCORDANCE WITH MAINE DOT STD SPEC 712.06
4) REINFORCED TO 0.12 IN^2/L.F, STRUCTURAL FIBERS
5) JOINTS SEALED W/ (2) STRIP OF BUTYL RUBBER

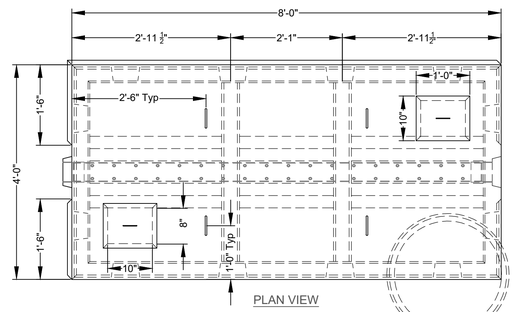


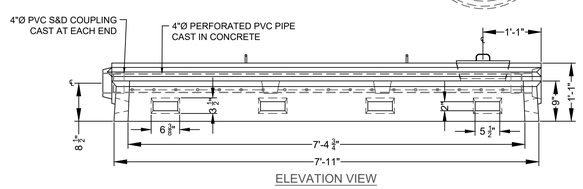
SECTION A-A

DISTRIBUTION MANHOLE - H-20

NOT TO SCALE

American Concrete Industries

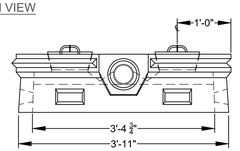




MANUFACTURING NOTES

1. CONCRETE COMPRESSIVE STRENGTH: 5000PSI @ 28 DAYS
2. AIR ENTRAINMENT: 4-6%
3. GRADE 60 REINFORCEMENT
4. DESIGNED FOR TRAFFIC H-20 LOAD RATING

MINIMUM SOIL COVER (H-10 LOADING): 12"
MINIMUM SOIL COVER (H-20 LOADING): 24"
DESIGNED FOR BURIAL DEPTHS >5' - HOWEVER, SOIL BEARING CAPACITIES SHOULD BE REVIEWED

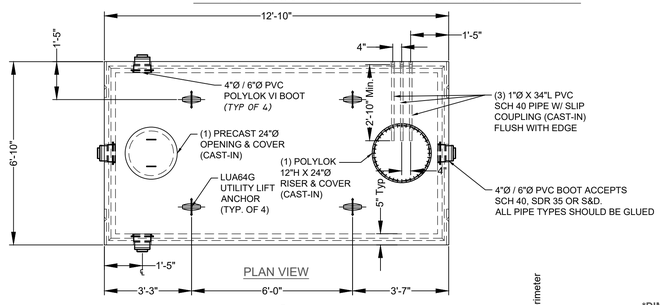


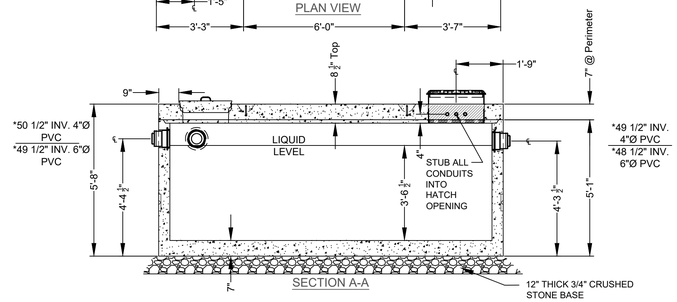
END VIEW

4' x 8' END FEED FLOW DIFFUSER - H-20

NOT TO SCALE

American Concrete Industries





***DIMENSION IS TAKEN FROM BOTTOM OF TANK**

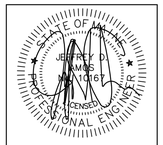
MANUFACTURING NOTES

1. CONCRETE COMPRESSIVE STRENGTH: 5000PSI @ 28 DAYS
2. AIR ENTRAINMENT: 4-6%
3. GRADE 60 REINFORCEMENT
4. TANKS SHOULD BE PUMPED EVERY 3-5 YEARS, DEPENDING ON USE
5. NEVER USE SEPTIC CLEANING AGENTS DESIGNED FOR H20 LOAD RATING
6. REQUIRES GRADE RINGS TO GRADE & H20 FRAMES & COVERS
7. ALL TANK PENETRATIONS ARE INTEGRALLY CAST
8. ALL JOINTS SEALED W/ BUTYL RUBBER JOINT SEALANT

38Y OXYPRO 2000 GAL. H-20 TANK

NOT TO SCALE

SHEET 3 OF 3



DATE: 3/16/2021
P.E.: JEFFREY D. AMOS

NO.	DATE	REVISIONS	APP'D BY
1	3-12-2021	ISSUED FOR MAINE DEP REVIEW	

TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Planning | Stormwater Design | Environmental Permitting
41 CAMPUS DRIVE, SUITE 101, NEW GLOUCESTER, ME 04260
OFFICE: (207) 926-5111 FAX: (207) 221-1317
www.terradynconsultants.com
565 CONGRESS STREET, SUITE 301, PORTLAND, ME 04102

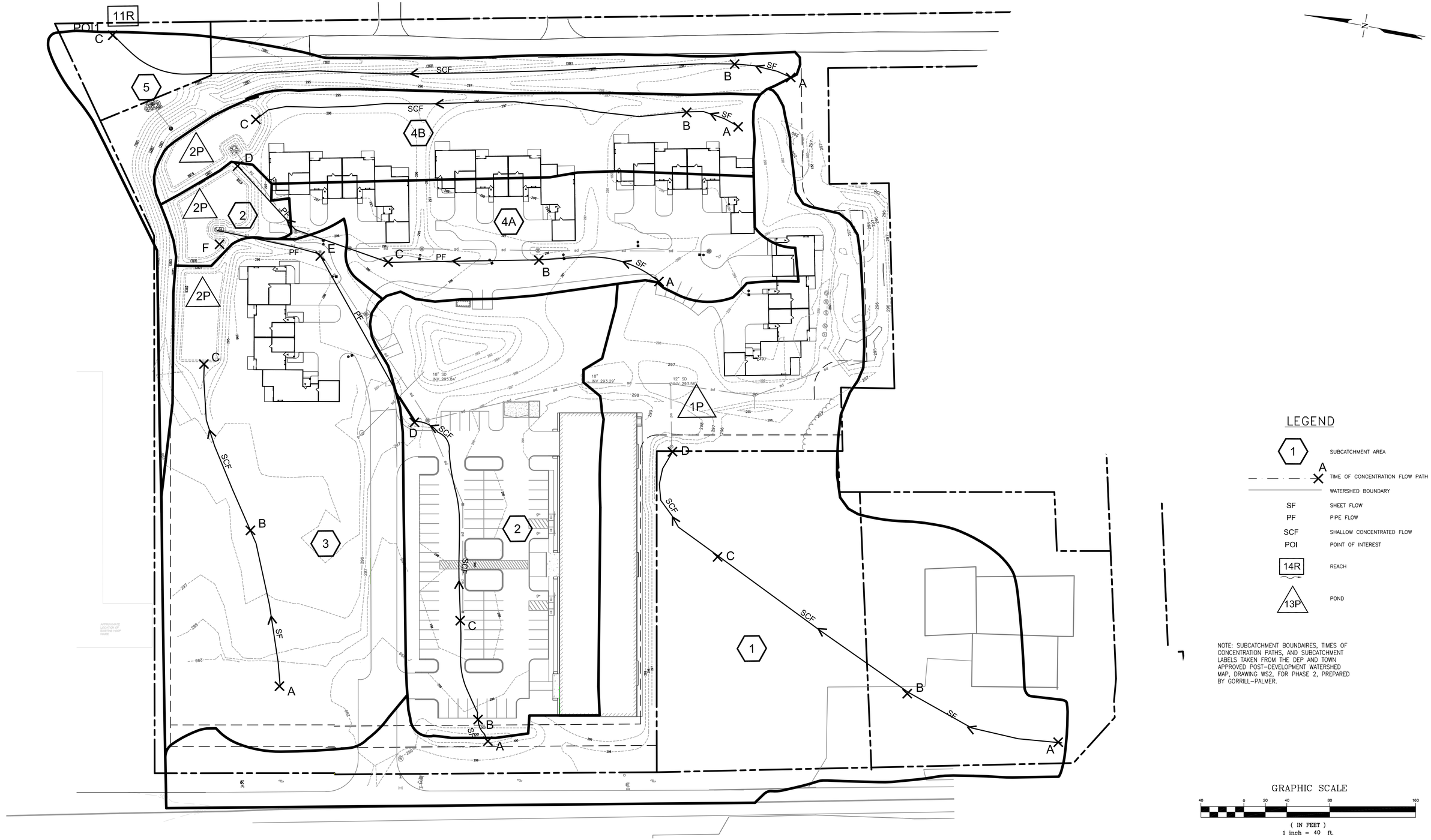
PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: PROPOSED PROFESSIONAL OFFICE / CONDOMINIUM UNIT 3
FARADAY DRIVE, CUMBERLAND, MAINE

SHEET TITLE: SEPTIC SYSTEM DETAILS

CLIENT: GREEN SIP CONSTRUCTION INC.
110 MARGINAL WAY, SUITE 193
PORTLAND, MAINE 04101

DATE:	3/16/2021
SCALE:	
DESIGNED:	
JOB NO:	2118
FILE:	
SHEET	



LEGEND

- 1 — SUBCATCHMENT AREA
- A — TIME OF CONCENTRATION FLOW PATH
- WATERSHED BOUNDARY
- SF — SHEET FLOW
- PF — PIPE FLOW
- SCF — SHALLOW CONCENTRATED FLOW
- POI — POINT OF INTEREST
- 14R — REACH
- 13P — POND

NOTE: SUBCATCHMENT BOUNDAIRES, TIMES OF CONCENTRATION PATHS, AND SUBCATCHMENT LABELS TAKEN FROM THE DEP AND TOWN APPROVED POST-DEVELOPMENT WATERSHED MAP, DRAWING WS2, FOR PHASE 2, PREPARED BY GORRILL-PALMER.

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

REV.	DATE	STATUS	BY	CHKD.	APPD.
A	3/12/21	ISSUED FOR MAINE DEP SITE LOCATION OF DEVELOPMENT ACT REVIEW	DEPT.	TWS	TWS

FOR PERMITTING ONLY

STATE OF MAINE — THOMAS W. SALICIER — NO. 6088 — LICENSED PROFESSIONAL ENGINEER
03-12-21

LAND DESIGN SOLUTIONS
LAND PLANNING, SITE PLANNING & LANDSCAPE ARCHITECTURE
1 Faraday Drive, Suite 7, Cumberland, ME 04021 tel:(207) 494-1717

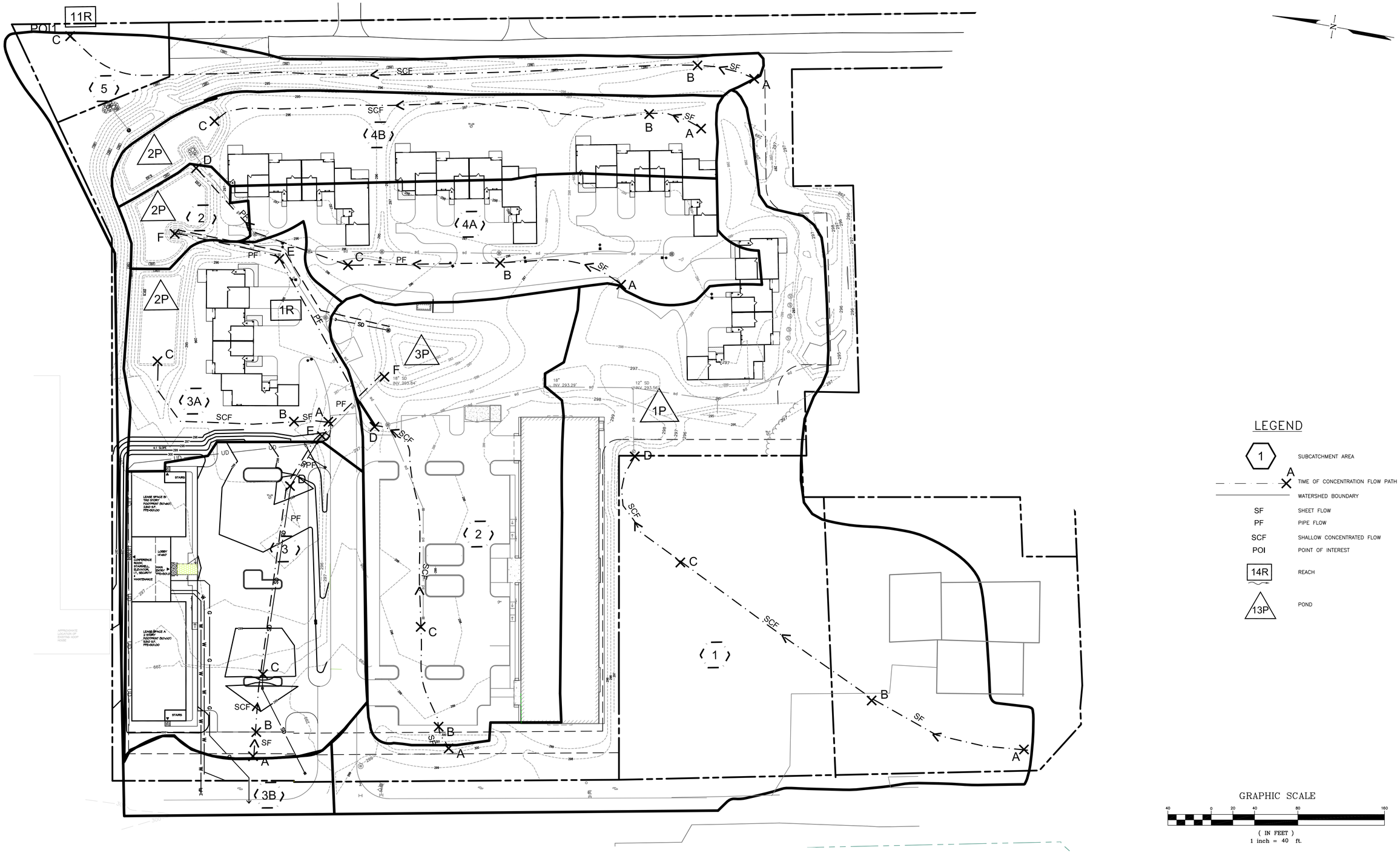
OWNER & APPLICANT
GREEN SIP CONSTRUCTION
110 MARGINAL WAY, SUITE 193, PORTLAND, MAINE 04101

DESIGN: DEPT.
DRAWN: DEPT
CHKD: TWS
DATE: JANUARY 2021
SCALE: 1"=40'

PROPOSED PROFESSIONAL OFFICE / CONDOMINIUM UNIT #3
197 GRAY ROAD, CUMBERLAND, MAINE

PRE-DEVELOPMENT DRAINAGE PLAN

PROJ. NO. 17-131
DWG. NO. D-100
REV. A



REV.	DATE	STATUS	BY	CHKD.	APPD.
A	3/12/21	ISSUED FOR MAINE DEP SITE LOCATION OF DEVELOPMENT ACT REVIEW	DEPT.	TWS	TWS

FOR PERMITTING ONLY

STATE OF MAINE
THOMAS W. SAUCIER
NO. 6096
LICENSED
PROFESSIONAL ENGINEER
03-12-21

LAND DESIGN SOLUTIONS
LAND PLANNING, SITE PLANNING & LANDSCAPE ARCHITECTURE
1 Faraday Drive, Suite 7, Cumberland, ME 04021 tel:(207) 894-1717

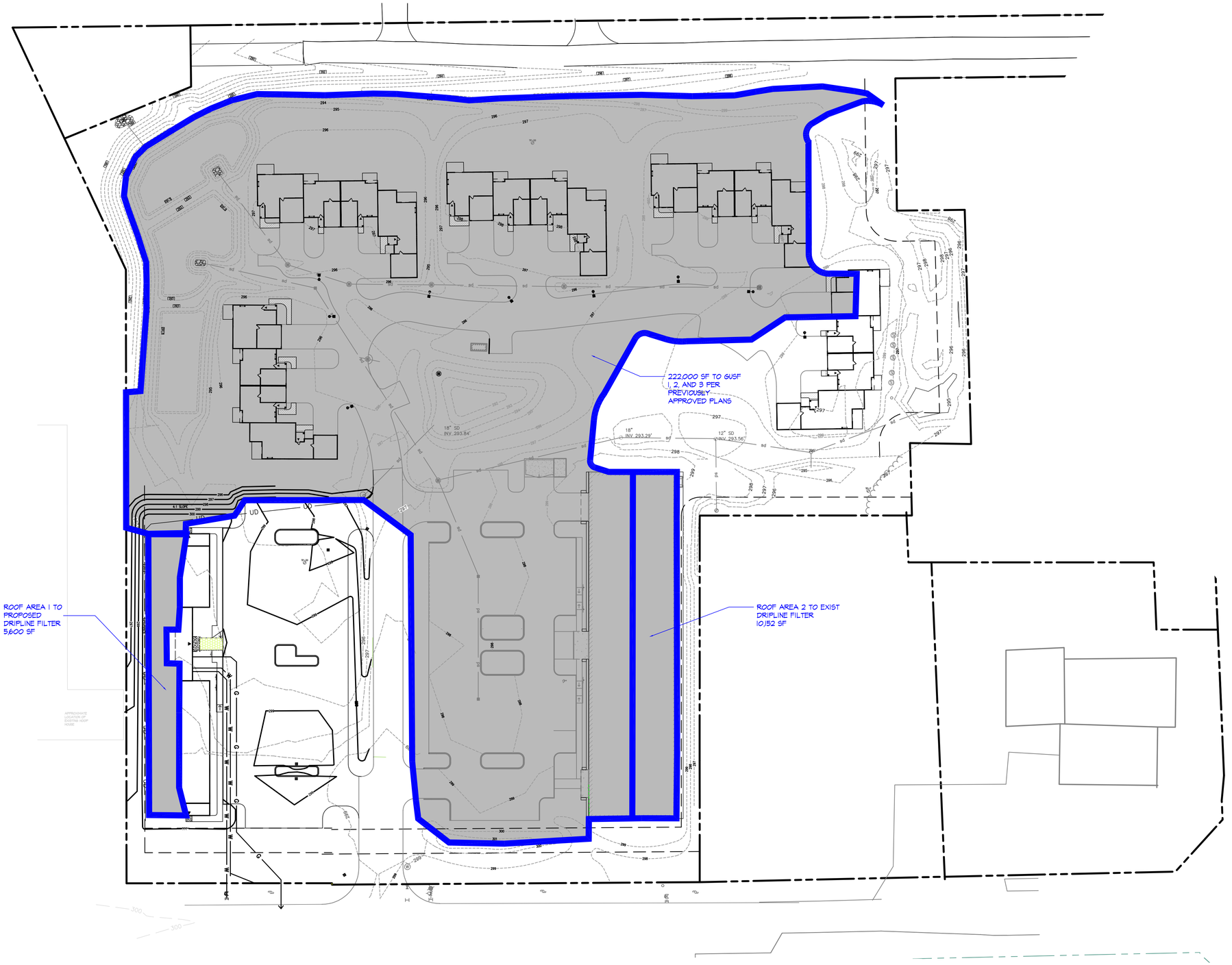
OWNER & APPLICANT
GREEN SIP CONSTRUCTION
110 MARGINAL WAY, SUITE 193, PORTLAND, MAINE 04101

DESIGN: DEPT.
DRAWN: DEPT
CHKD: TWS
DATE: JANUARY 2021
SCALE: 1"= 40'

PROPOSED PROFESSIONAL OFFICE / CONDOMINIUM UNIT #3
197 GRAY ROAD, CUMBERLAND, MAINE

POST-DEVELOPMENT DRAINAGE PLAN

PROJ. NO. 17-131
DWG. NO. D-101
REV. A



NOTE: TREATED AREA SHOWN AS SHADED IS TAKEN FROM THE DEP AND TOWN APPROVED WATER QUALITY MAP, DRAWING WQ, FOR PHASE 2, PREPARED BY GORRILL-PALMER. BOUNDARIES WERE MODIFIED AS NOTED.

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

REV.	DATE	STATUS	BY	CHKD.	APPD.
A	3/12/21	ISSUED FOR MAINE DEP SITE LOCATION OF DEVELOPMENT ACT REVIEW	DEPT.	TWS	TWS

FOR PERMITTING ONLY

STATE OF MAINE
THOMAS W. SKLICIER
NO. 6086
REGISTERED
PROFESSIONAL ENGINEER
03-12-21

LAND DESIGN SOLUTIONS
LAND PLANNING, SITE PLANNING & LANDSCAPE ARCHITECTURE
1 Faraday Drive, Suite 7, Cumberland, ME 04021 tel:(207) 829-1717

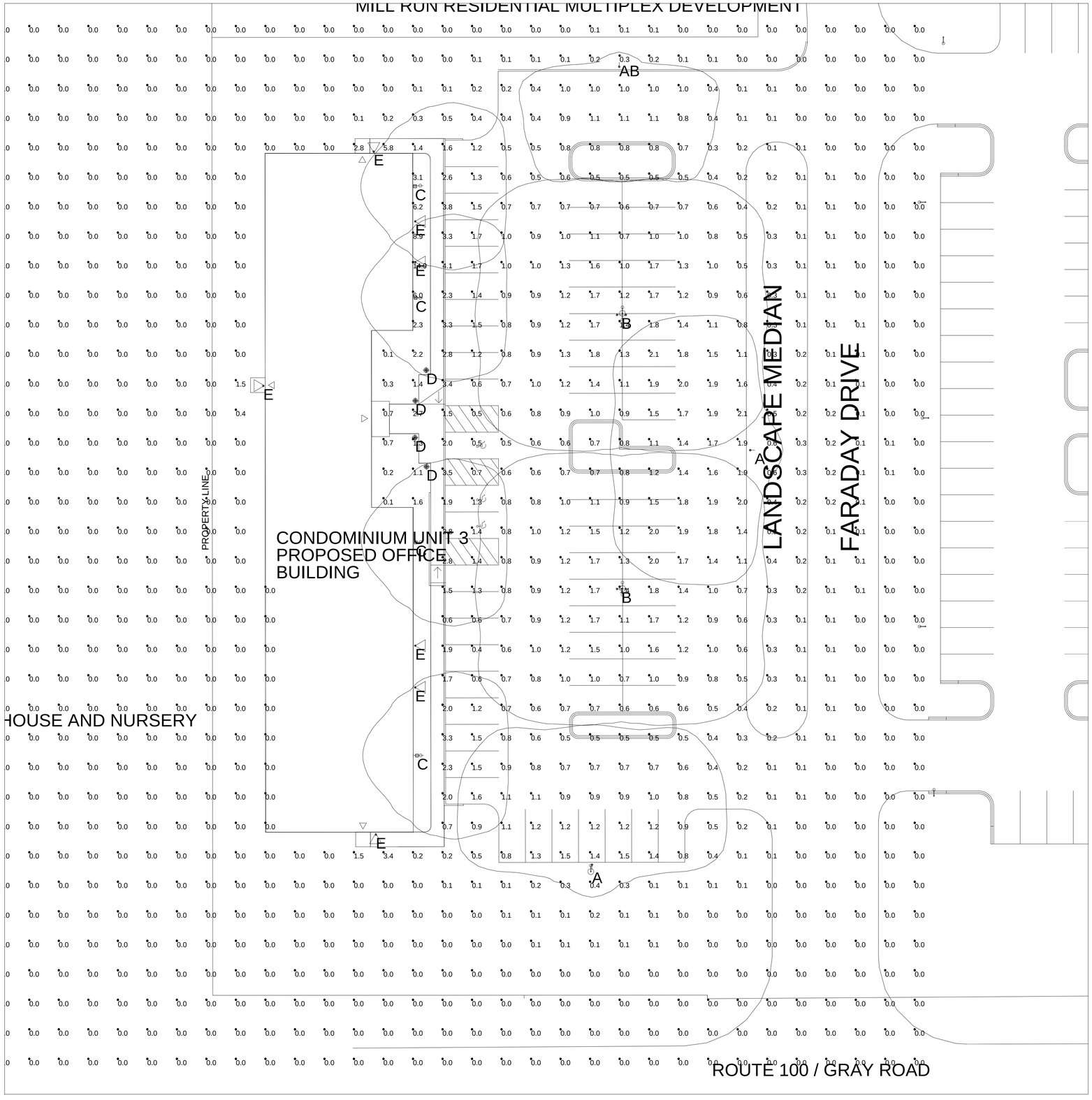
OWNER & APPLICANT
GREEN SIP CONSTRUCTION
110 MARGINAL WAY, SUITE 193, PORTLAND, MAINE 04101

DESIGN: DEPT.
DRAWN: DEPT
CHKD: TWS
DATE: JANUARY 2021
SCALE: 1"= 40'

PROPOSED PROFESSIONAL OFFICE / CONDOMINIUM UNIT #3
197 GRAY ROAD, CUMBERLAND, MAINE

WATER QUALITY PLAN

PROJ. NO. 17-131
DWG. NO. D-102
REV. A



PLAN VIEW

NOTES:
1) EXACT MOUNTING DETAILS TO BE DETERMINED AT JOBSITE BY OTHERS.
2) CALCULATIONS MAY or MAY NOT SHOW THE EFFECT OF SHADOWING CAUSED BY BUILDINGS AND OBJECTS WITHIN THE CALCULATED SPACE OR IN THE SITE AREA.
3) READINGS SHOWN ARE INITIAL HORIZONTAL FOOTCANDLES ON A FLAT SITE WITHOUT REFLECTIONS OR OBSTRUCTIONS UNLESS OTHERWISE INDICATED.
4) THIS CALCULATION IS BASED ON LIMITED INFORMATION SUPPLIED BY OTHERS TO SWANEY LIGHTING ASSOCIATES AND STANDARD ASSUMPTIONS OF THE SPACE AND/OR SITE.
5) CONFORMANCE TO CODES AND OTHER LOCAL REQUIREMENTS AS DETERMINED BY THE AHJ ARE THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.
6) THIS LAYOUT DRAWING MUST BE COORDINATED WITH THE SITE LOCATION FOR CORRECT FIXTURE ORIENTATION.
7) DOCUMENTS PRINTED OR PLOTTED FROM ELECTRONIC FILES MAY APPEAR AT OTHER THAN THE DESIRED OR ASSUMED GRAPHIC SCALES. IT IS THE RESPONSIBILITY OF THE RECIPIENT TO VERIFY THAT THE PRINTED OR PLOTTED-TO-SCALE DRAWING IS PRINTED TO SCALE.

Luminaire Schedule (note fixture cataloge numbers are not complete)

Type	Qty	Lum. Lumens	LLF	Lum. Watts	Description
A	2	4572	0.900	40	UCM2-ANG-36L-325-3K7-4W
B	2	4572	0.900	40	TWIN UCM2-ANG-36L-325-3K7-4W
C	4	3289	0.900	28.73	WDS-D-24L-30-5K7-4W-UNV-WH
D	4	784	0.900	18.7	VRB1-15L3K
E	7	1490	0.900	14	ENC0-XX-13L-30-FL
AB	1	2493	0.900	40	UCM2-ANG-36L-325-3K7-4W-HS

Calculation Summary

Label	Avg	Max	Min	Avg/Min	Max/Min
site	0.34	14.9	0.0	N.A.	N.A.

SITE LTG 2-24-21 rev 1.AGI

GENERATED BY SWANEY LIGHTING, SCARBOROUGH ME - 207-883-7100 - swaneylighting.com

TITLE: MILL RUN - PHASE 3
CUMBERLAND, ME
SITE LIGHTING LAYOUT

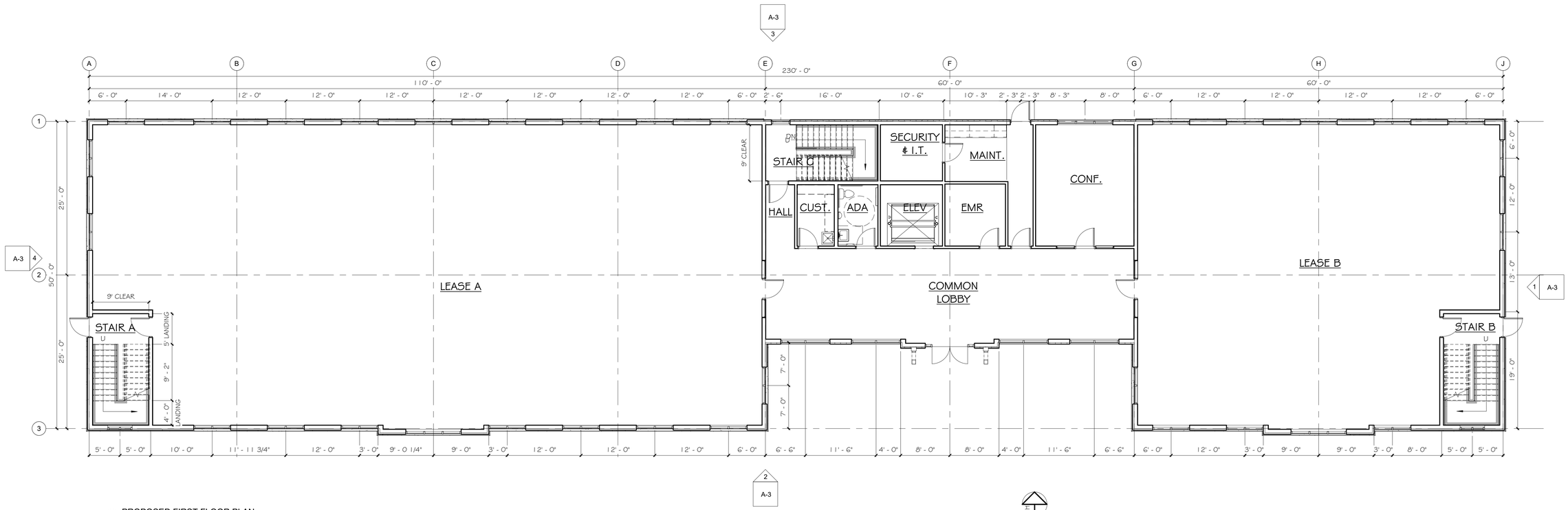
Date: 2/24/2021

GENERATED FOR: LAND DESIGN SOLUTIONS

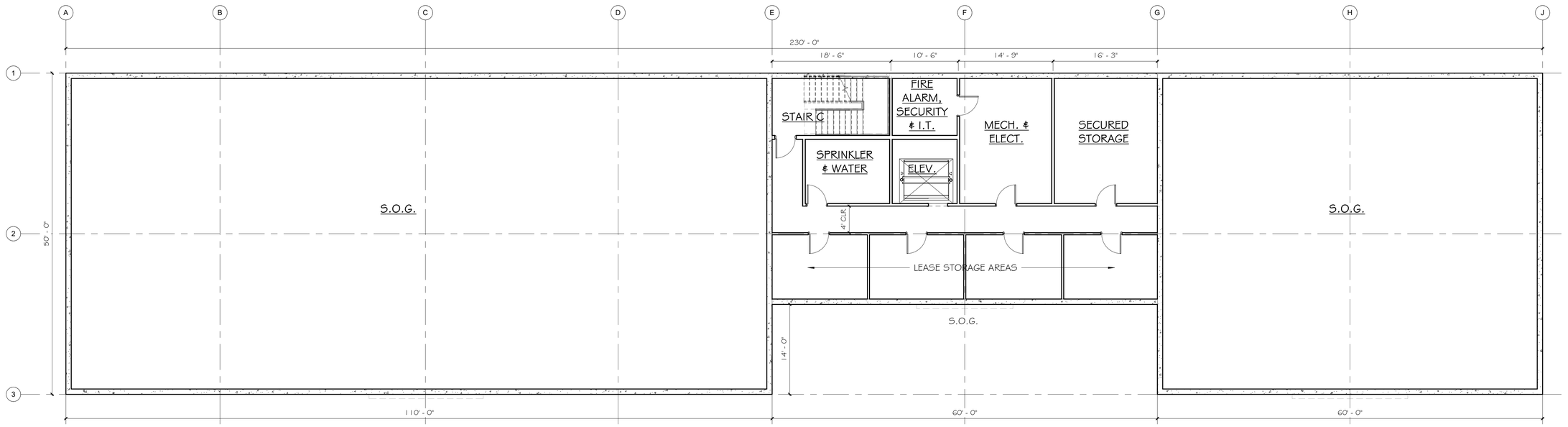
SCALE: NOT TO SCALE

Page 1 of 1

SWANEY LIGHTING ASSOCIATES, INC.



1 PROPOSED FIRST FLOOR PLAN
1/8" = 1'-0"



2 PROPOSED FOUNDATION PLAN
1/8" = 1'-0"

GRANT HAYS ASSOCIATES
ARCHITECTURE & INTERIOR DESIGN
P.O. BOX 6179 FALMOUTH MAINE 04105
207.871.5900 www.granthays.com

SEAL

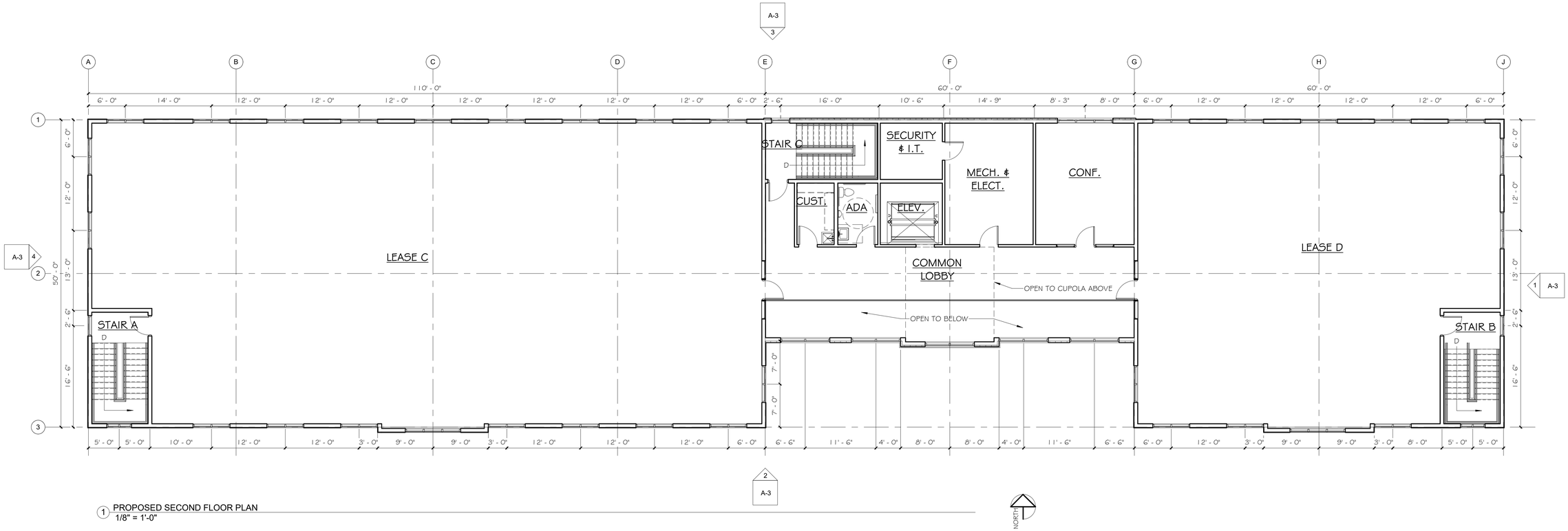
REVISIONS

DRAWING NAME

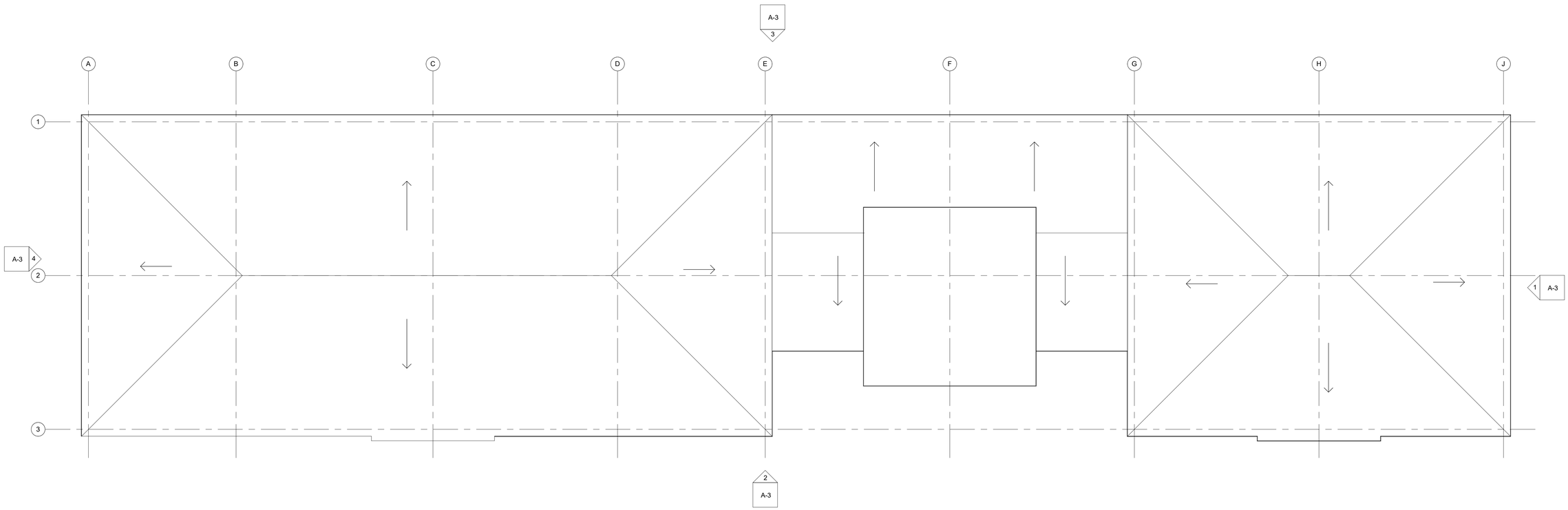
SCHMIDT MEDICAL BUILDING
CUMBERLAND MAINE, 04027

SHEET
PROPOSED FIRST FLOOR & FOUNDATION PLANS

DATE
2 FEB 2021
SCALE
1/8" = 1'-0"
DRAWN
MFH/mgk
JOB NO.
201102
SHEET
A-1



1 PROPOSED SECOND FLOOR PLAN
1/8" = 1'-0"



2 PROPOSED ROOF PLAN
1/8" = 1'-0"

GRANT HAYS ASSOCIATES
ARCHITECTURE & INTERIOR DESIGN
P.O. BOX 6179 FALMOUTH MAINE 04105
207.871.5900 www.granthays.com

SEAL

REVISIONS

DRAWING NAME

SCHMIDT MEDICAL BUILDING
CUMBERLAND MAINE, 04027

SHEET

PROPOSED SECOND FLOOR PLAN & ROOF PLAN

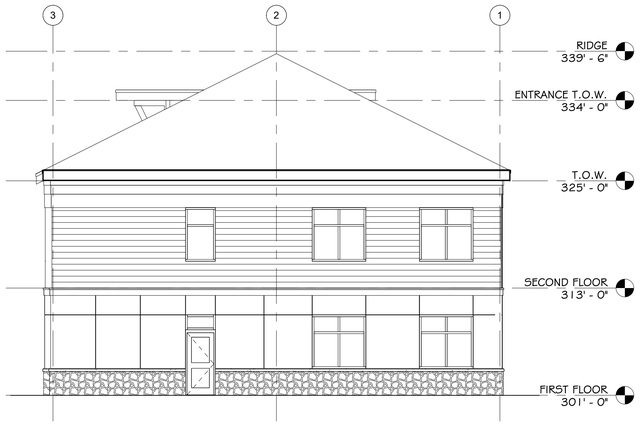
DATE
2 FEB 2021

SCALE
1/8" = 1'-0"

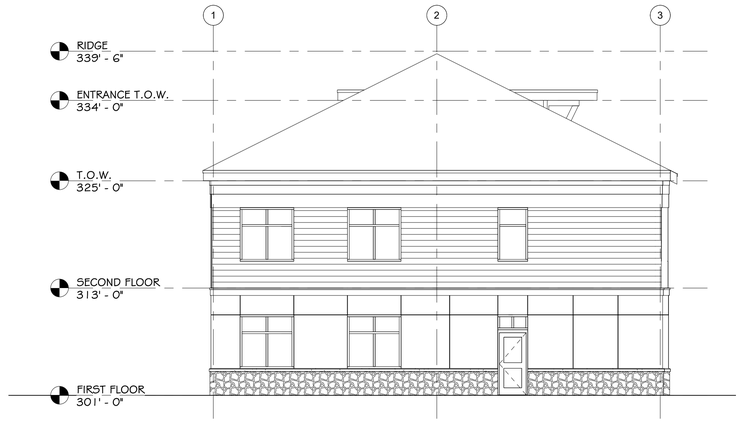
DRAWN
MFH/mgk

JOB NO.
201102

SHEET
A-2

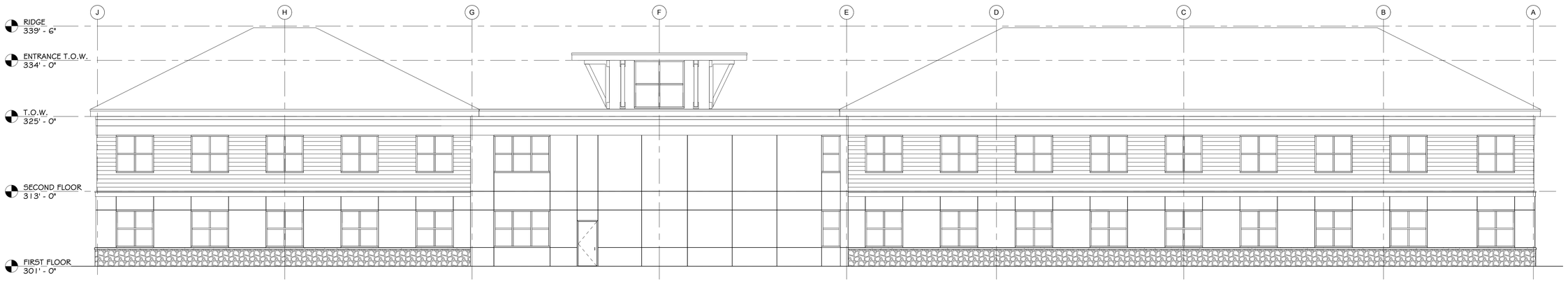


1 BUILDING EAST ELEVATION
1/8" = 1'-0"



4 BUILDING WEST ELEVATION
1/8" = 1'-0"

2 BUILDING SOUTH ELEVATION
1/8" = 1'-0"



3 BUILDING NORTH ELEVATION
1/8" = 1'-0"

GRANT HAYS ASSOCIATES
ARCHITECTURE & INTERIOR DESIGN
P.O. BOX 6179 FALMOUTH MAINE 04105
207.871.5900 www.granthays.com

SEAL

REVISIONS

DRAWING NAME

SCHMIDT MEDICAL BUILDING
CUMBERLAND MAINE, 04027

SHEET

PROPOSED EXTERIOR ELEVATIONS

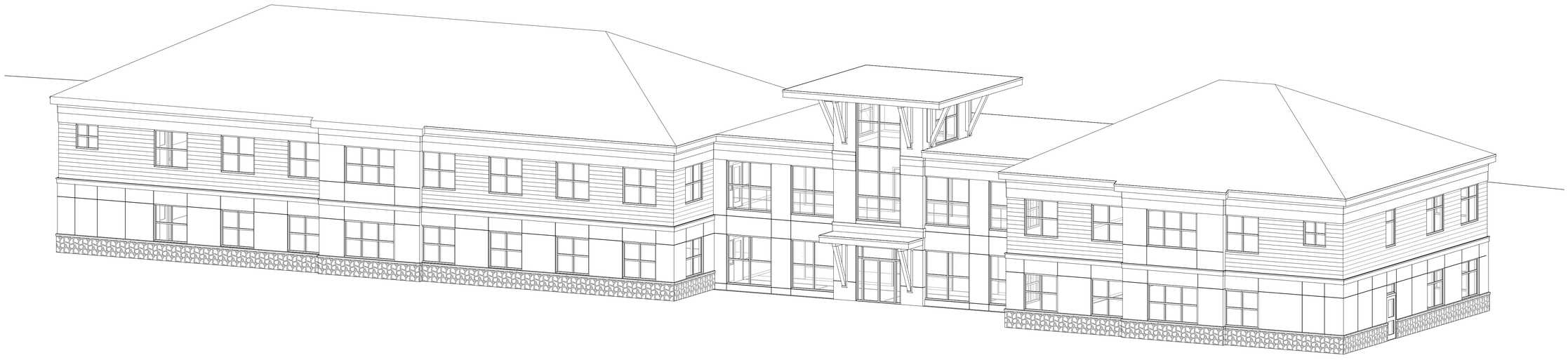
DATE
2 FEB 2021

SCALE
1/8" = 1'-0"

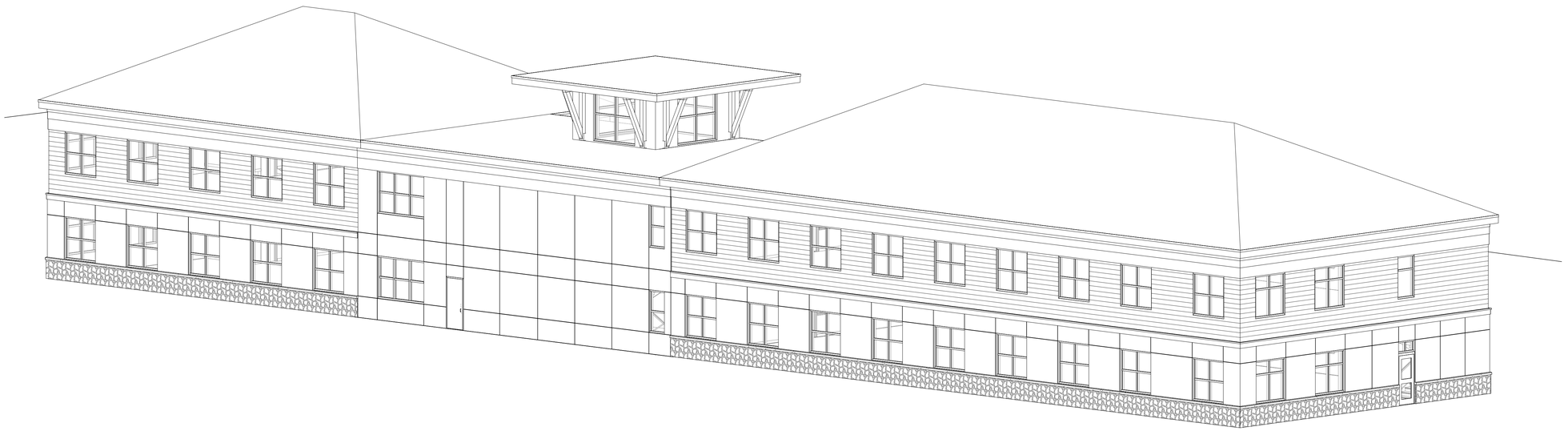
DRAWN
MFH/mgk

JOB NO.
201102

SHEET
A-3



1 PERSPECTIVE VIEW - SOUTHEAST



2 PERSPECTIVE VIEW - NORTHWEST

GRANT HAYS ASSOCIATES

ARCHITECTURE & INTERIOR DESIGN
P.O. BOX 6179 FALMOUTH MAINE 04105
207.871.5900 www.granthays.com

SEAL

REVISIONS

DRAWING NAME

SCHMIDT MEDICAL BUILDING

CUMBERLAND MAINE, 04027

SHEET

PERSPECTIVE VIEWS

DATE
2 FEB 2021

SCALE
NOT TO SCALE

DRAWN
MFH/mgk

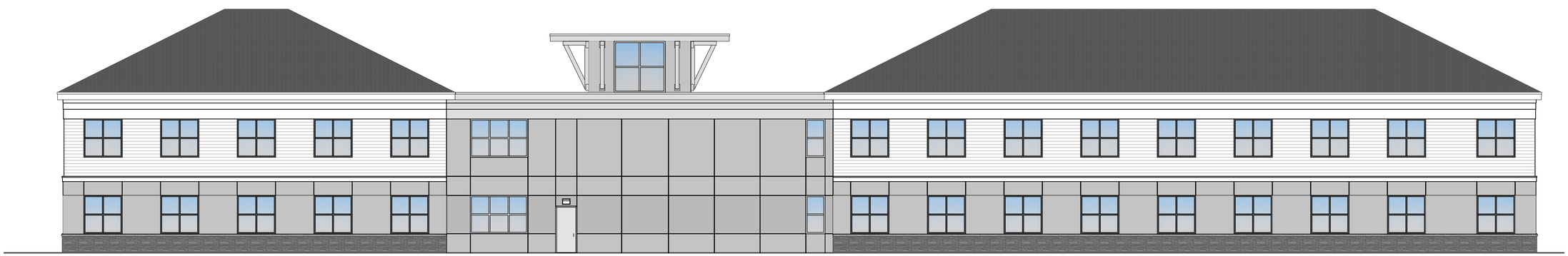
JOB NO.
201102

SHEET
A-4

1 BUILDING EAST ELEVATION
1/8" = 1'-0"

4 BUILDING WEST ELEVATION
1/8" = 1'-0"

2 BUILDING SOUTH ELEVATION
1/8" = 1'-0"



3 BUILDING NORTH ELEVATION
1/8" = 1'-0"

GRANT HAYS ASSOCIATES
ARCHITECTURE & INTERIOR DESIGN
P.O. BOX 6179 FALMOUTH MAINE 04105
207.871.5900 www.granthays.com

TEAL

REVISIONS

DRAWING NAME

SCHMIDT MEDICAL BUILDING
CUMBERLAND MAINE 04027

SHEET

EXTERIOR CONCEPT ELEVATIONS

DATE 15 APR 2021
SCALE 1/8" = 1'-0"
DRAWN MFH/mgk
JOB NO. 201102
SHEET A-3.1