MEMORANDUM

ADMINISTRATION DEPARTMENT
TOWN OF CUMBERLAND, MAINE

Date: July 14, 2022

To: Cumberland Planning Board

From: Carla Nixon, Town Planner

Subject: The Grange Site Plan Review

Sketch plan review for this project was conducted last month. There was a discussion of waivers at that time; those waivers need to be acted upon at this meeting.

The applicant's engineer, Jeff Read, P.E., will be submitting a response to the Town Engineer's comments prior to the meeting. Christina will post it to the packet once it is received.

In general, this project could be approved with conditions that can be drafted at the meeting once the Board has reviewed the response memo from Mr. Read, decided on the requested waivers, and heard from any members of the public.

Date	July 14, 2022
To	Town of Cumberland Planning Board
From	Carla Nixon, Town Planner
Subject	**Planning Board Site Plan Review: The Grange Hall Pub at Longwoods Preserve.**

I. REQUEST:

The applicant/owner is Synergosity, LLC. The applicant is requesting Planning Board Site Plan Review for a 7,419 square foot restaurant to be located at 76 Longwoods Road. Approximately 55 acres of the 61.55 acre parcel will be placed into permanent conservation and will be used as a working farm and for a public trail network.

The parcel is shown on Tax Assessor's Map R3, Lots 6A and 13 and is located in the Rural Residential 1 (RR 1) district. There is a contract zone agreement that allows for the restaurant use and sets out additional requirements and restrictions on the parcel.

Jeff Read, P.E., of Sevee and Maher Engineers prepared the application and will represent the applicant. Al Palmer, P.E., of Gorrill Palmer Engineers has reviewed the plans for the Town.

II. PROJECT HISTORY:

June 21, 2022: Sketch Plan Review.

III. PROJECT OVERVIEW:

Proposed Uses: Restaurant; Agriculture and Conservation areas. *Note: 2 food trucks and one beverage cart will be allowed for a period of one year of the date of Planning Board approval.*

Days & Hours of Operation: Normal anticipated hours will be 11:30 a.m. to 9:00 p.m.- seven days a week.

Employees: 8-10

Parking: 59; 2 handicap spaces. 16 grassed parking spaces. Remainder of spaces are in parking lot (reclaim surface).

Entrance: From Route 9 (Longwoods Road): A bituminous, paved entrance apron, then a reclaimed surface for the entrance road that is 20' wide, 1300' long with 2' gravel shoulders on each side.

Easements: 1) A 450' wide CMP easement that bisects the entrance drive; 2) A conservation easement with Maine Farmland Trust.

Flood Map: FEMA Maps # 230162 0015B. The area to be developed is located in Zone 3 (Area of Minimal Flooding) and a portion of the parcel around East Branch of the Piscataqua River is in Zone A (Areas of 100-year flood)

Wetland Impact: 350 sf.

Utilities: Private well and septic.

Lighting Plan: Sign at entrance will be lit. Will there be lights at entrance from Rt. 9? Along the access drive? On the patio? Provide cut sheets of the style, size and wattage of the various fixtures Add all locations to the Sheet C-102 with legend of fixture types. The contract zone agreement states that all lighting shall be downward facing, fully shielded and on motion detectors from 11:00 p.m. to 7:00 a.m.

Signage: There are two proposed signs.

Buffering: None provided

Historical Features: None

Solid Waste: 1 dumpster

Fire Protection: Alarm System

Aquifer Protection Area: No.

Outside Agency Approvals Required:

Agency	Type of Permit	Status
MDEP	Stormwater Permit by Rule	TBD
MDOT	Driveway Entrance Permit	On file
Maine Historic Preservation Commission		Received. Dated 5/16/22
Maine Natural Areas Program	Rare & Exemplary Botanical Features. None documented.	Received. Dated: 5/17/22
Maine Inland Fisheries & Wildlife		Received. Dated: 5/15/22

IV. DEPARTMENT HEAD REVIEWS:

William Longley, Code Enforcement Officer: No comments
Charles Rumsey, Police Chief: No comments
Dan Small, Fire Chief:

After reviewing this site plan application, I have the following comments:

A) The building shall be equipped with a fire alarm system that is monitored by an approved fire alarm company. The system shall have an annunciator panel located at the main entrance that can be silenced with the push of ***one*** button from this location. The strobe or other visual alarm signaling devices shall remain active when the system is silenced. The alarm system shall identify the exact location of each individual initiation device with plain text at the fire alarm panel(s).

B) The building shall be equipped with a hinged key box approved by the fire department. The box shall be large enough to contain four complete sets of keys that fit all areas and utility devices in the entire building.

V. LANDS AND CONSERVATION COMMISSION REVIEW: No comments

VI. WAIVER REQUESTS:

1. Hydro Geologic Evaluation
2. High Intensity Soil Survey
3. Traffic Study
4. Market Study
5. Landscape Plan

VII. PLANNER'S COMMENTS:

See highlighted areas throughout the review.

VIII. PEER REVIEW ENGINEER'S COMMENTS: Al Palmer, P.E. Gorrill Palmer Engineers;

Date: July 11, 2022
Project: Grange Hall Pub
Subject: Peer Review

As requested by the Town, Gorrill Palmer has conducted an Engineering Peer Review for the above referenced project. Information received for this assignment included:

- Site Plan Applications and attachments, dated June 28, 2022, prepared by SME on behalf of the Synergosity, LLC, consisting of 224 pages
- Site Plan Drawing Set, dated June 2022, prepared by SME consisting of 15 drawings
- Entrance Permit issued by MaineDOT on June 29, 2022

Based on our review of this information, general engineering principles and the Town of Cumberland Zoning Ordinance, we offer the following comments related to the engineering and design aspects of this project:

Subdivision Application

1. As stated in the Application, the following waivers were requested:
    a. High Intensity Soil Survey
    b. Hydro-geologic study
    c. Market study
    d. Landscape Plan

    We have no objections to the granting of the waiver of the High Intensity Soil Survey from an engineering perspective based on the scale and nature of the project.

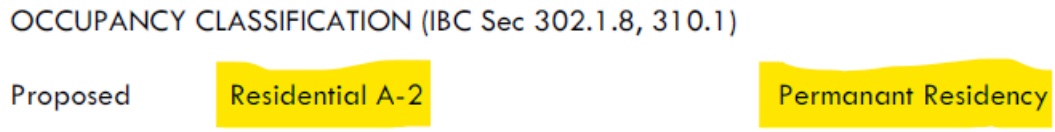
    We do not recommend granting the waiver for the hydro-geologic study at this time as the Applicant is also requesting a waiver from the Department of Health & Human Services of the separation of the on-site well to the on-site subsurface wastewater disposal system.

    We would defer to the Planning Board as to the Market Study.

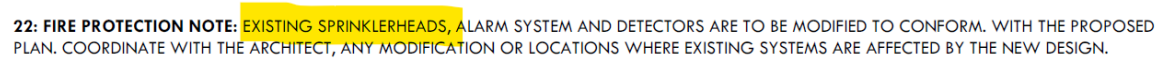
    Regarding the Landscape Plan, the Applicant states: *"The proposed development will be hidden from Longwoods Road by the natural crest of the topography, while maintaining the existing forest on all other sides of the project parcel."* While we agree that the project will not be visible from Longwoods Road, Section 229-10 Approval Standards, Paragraph I.2. states: *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. The Applicant does not appear to have provided any information that demonstrates conformance with Section 229-10.I.2.

2. The Applicant notes in Section 1.2 Traffic on Page 1-2 that the Project will generate 312 daily trip ends and 53 PM peak hour trip ends but has not provided any calculations to support this statement.
3. The Applicant states in Section 2.3.B. Traffic, Circulation and Parking on Page 2-2: *"At full build out, the total anticipated weekday trips from the development will be 433 trips. The peak hour trips were analyzed as well, and it is estimated that the development will result in 65 trips in the weekday a.m. peak hour and 75 trips in the weekday p.m. peak hour."* The Applicant should address the discrepancy in the trip generation calculations.
4. The Board should determine whether a Traffic Impact Study is required.
5. The Applicant should provide evidence of approval from the Department of Health and Human Services of the Transient Public Water Supply for the restaurant.
6. No wetland or natural resources report was submitted as part of the Application.
7. The Applicant should address whether any vernal pools were identified and/or studied as part of the wetland investigation.
8. Have wetlands been delineated through the entire site, in particular on the western portion where trails are proposed?
9. The Applicant submitted a letter from the Maine Department of Inland Fisheries & Wildlife that states: *Wood Turtle - Occurrences of wood turtle, a State Species of Special Concern, have been documented within the vicinity of the proposed project. Wood turtles use a mix of aquatic and terrestrial habitats throughout the year including riparian meadows, shrub thickets, farmland, and deciduous forests as well as bogs, forested wetlands, vernal pools, and streams. If these habitats are present in the project area, we recommend that they be avoided and adequately buffered with a 300-foot undisturbed, intact vegetative cover.* The Applicant should address whether any habitat was identified in the project area as part of the natural resources mapping.
10. The Applicant submitted a letter from the Maine Natural Areas Program that states: *Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.* The Applicant should provide information as to whether a field investigation has been conducted to review whether the rare and exemplary botanical features documented to occur in the vicinity of the project site by MNAP.
11. As noted in the snippet below, Drawing A001 indicates an occupancy classification of Residential A-2, which should be clarified.



12. As noted in the snippet below, Drawing A001 references existing sprinklers, which should be clarified.

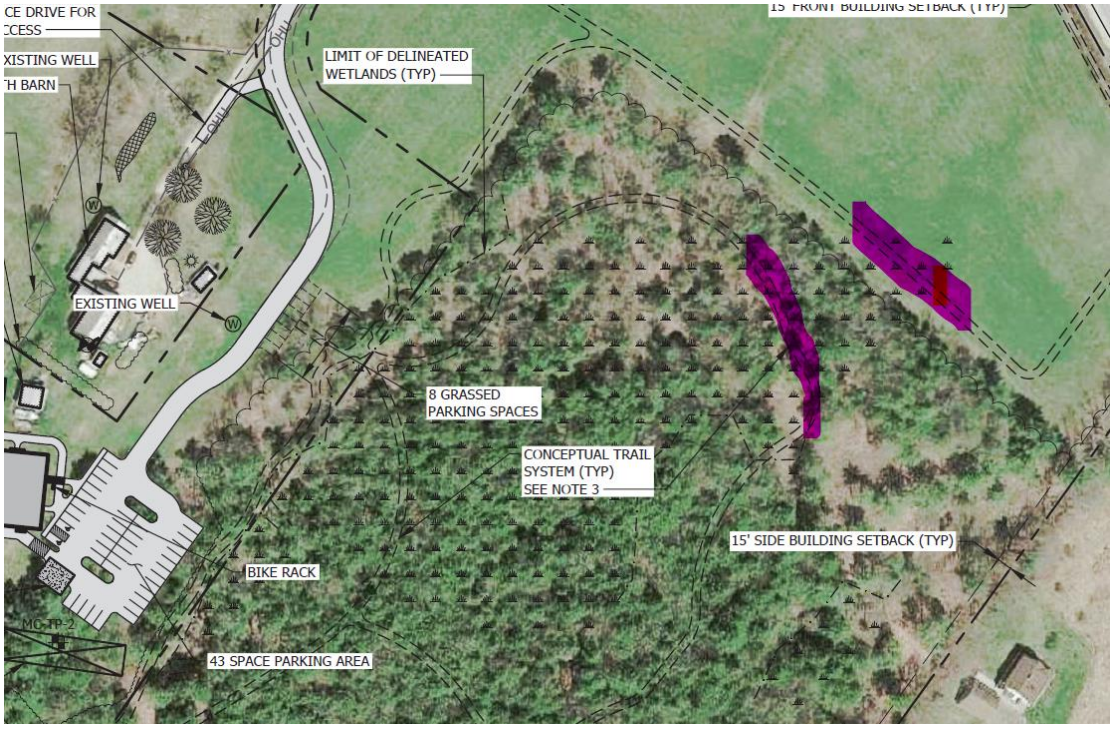


13. As a 120 seat restaurant the facility will generate in excess of 2,000 gpd of wastewater, which would typically be considered an engineered system requiring approval from the Department of Health & Human Services. While the facility has 1 kitchen and 1 bathroom, the Applicant has simply shown two sewer services exiting the building with an assumption that the flow will be equally distributed between the two services thereby not resulting in greater than 2,000 gpd being directed to either subsurface system. It is noted that one service is directly off the kitchen, and the second service is at the far corner of the structure of the building from the kitchen. There is no information provided as to how the internal plumbing will distribute the flow to the two proposed subsurface systems. Based on our experience on similar projects, the facility should be designed as an engineered system, which would require a mounding and transmissivity analysis and a reserve area. If the Applicant elects to

continue to pursue "splitting" the flow to two beds, we recommend that confirmation be sought from DHHS that this is acceptable.

Site Plans

14. The source of the topographic survey (ground, aerial or LIDAR) should be noted on the Plan Set.
15. A Plan, suitable for recording at the Registry of Deeds, should be submitted clearly depicting the limits of the land for which a conservation easement will be granted.
16. Site Layout Plan – As the Trail Parking will be grassed, it may not be readily apparent to users. We would recommend that signage be added for the parking.
17. Site Layout Plan – The Trail Parking that will be perpendicular to the access drive appears to include curb stops, but they are not labeled on the plan.
18. Site Utility Plan – A 6" Ductile Iron pipe is shown for the service from the well to the proposed structure. This appears excessive.
19. Site Utility Plan – As currently designed, the wastewater from the bathroom with the Grange Hall (considered black water due to toilets) and the seasonal bathroom are being directed to the grease trap which is not in accordance with general engineering practice.
20. Site Overview Plan – The trail system appears to traverse wetlands in several areas as noted in purple on the snippet below, but do not appear to be included as impacts. Based on our experience on past projects, trails would be considered impacts unless a boardwalk system is incorporated through wetlands. The Applicant should provide clarity from the MDEP regarding this matter.



21. Access Drive Plan and Profile – It appears that users of the Trailhead adjacent to the parking will need to traverse the roadside ditch to access the path. We would recommend consideration of incorporating either a culvert or boardwalk so users do not need to traverse the ditch.
22. Access Drive Plan and Profile – Approximately 800 feet of the access drive is being widened and upgraded as part of the project, but a Point of Interest demonstrating that the peak flow rate at the Longwoods Road (Route 9) ditch is not being increased was not included in the Stormwater Analysis. We recommend analyzing the flow tributary to the ditch to verify whether there is any increase, and if so, incorporation of mitigation such as ditch turnouts to mitigate the increase.
23. Sections and Details – The Typical Road Section with Grassed Parking shows 4" of loam and seed over 15" of gravel. Based on our experience on other projects, 4" of loam over 15" of gravel will not result in an adequate depth of loam to retain moisture sufficient for a sustainable grass catch.

24. Sections and Details – The Schedule of Surface Finishes indicates only 3" of loam for grassed parking. See Comment #21 above.
25. Sections and Details – The buildup for the Service Path to the Seasonal Bathroom/Storage Structure should be noted on the Schedule of Surface Finishes. This path would appear to need to be adequate for use by the septic tank pumper.

Chapter 229 – SITE PLAN REVIEW

SECTION 229-10: 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.

There are no known environmentally sensitive areas on the parcel. The site is not located within habitat for rare and endangered plants and animals, or significant wildlife or fisheries habitat.

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

B. Traffic, Circulation and Parking

(1)1 Traffic Access and Parking

Vehicular access to and from the development must be safe and convenient.

(a) Any driveway or proposed street must be designed so as to provide the minimum sight distance according to the Maine Department of Transportation standards, to the maximum extent possible.

(b) Points of access and egress must be located to avoid hazardous conflicts with existing turning movements and traffic flows.

(c) The grade of any proposed drive or street must be not more than +3% for a minimum of two (2) car lengths, or forty (40) feet, from the intersection.

(d) The intersection of any access/egress drive or proposed street must function: (a) at a Level of Service D, or better, following development if the project will generate one thousand (1,000) or more vehicle trips per twenty-four (24) hour period; or (b) at a level which will allow safe access into and out of the project if less than one thousand (1,000) trips are generated.

(e) Where a lot has frontage on two (2) or more streets, the primary access to and egress from the lot must be provided from the street where there is less potential for traffic congestion and for traffic and pedestrians hazards. Access from other streets may be allowed if it is safe and does not promote short cutting through the site.

(f) Where it is necessary to safeguard against hazards to traffic and pedestrians and/ or to avoid traffic congestion, the applicant shall be responsible for providing turning lanes, traffic directional islands, and traffic controls within public streets.

(g) Access ways must be designed and have sufficient capacity to avoid queuing of entering vehicles on any public street.

(h) The following criteria must be used to limit the number of driveways serving a proposed project:

[1] No use which generates less than one hundred (1) vehicle trips per day shall have more than one (1) two-way driveway onto a single roadway. Such driveway must be no greater than thirty (30) feet wide.

[2] No use which generates one hundred (1) or more vehicle trips per day shall have more than two (2) points of entry from and two (2) points of egress to a single roadway. The combined width of all access ways must not exceed sixty (60) feet.

(2) Access way Location and Spacing

Access ways must meet the following standards:

(a) Private entrance / exits must be located at least fifty (50) feet from the closest un-signalized intersection and one hundred fifty (150) feet from the closest signalized intersection, as measured from the point of tangency for the corner to the point of tangency for the access way.

This requirement may be reduced if the shape of the site does not allow conformance with this standard.

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

(3) Internal Vehicular Circulation

The layout of the site must provide for the safe movement of passenger, service, and emergency vehicles through the site.

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

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

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

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

(4) Parking Layout and Design

Off street parking must conform to the following standards:

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

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

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

Parking Angle	Stall Width	Skew Width	Stall Depth	Aisle Width

90°	9'-0"		18'-0"	24'-0" 2-way
60°	8'-6"	10'-6"	18'-0"	16'-0" 1-way
45°	8'-6"	12'-9"	17'-6"	12'-0" 1-way
30°	8'-6"	17'-0"	17'-0"	12'-0" 1 way

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

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

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

The Town Engineer has made comments regarding the parking plan that need to be addressed.

The Board finds the standards of this section have not been met.

(5) Building and Parking Placement

10.2.5.1 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.

10.2.5.2 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 building and parking plan is appropriate to the type and scale of the development.

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.

The Town Engineer has reviewed and approved the stormwater and erosion control plan.

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

D. Water, Sewer, Utilities 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 Town Engineer has made comments regarding the water and septic systems which need to be addressed.

Based on the above findings of fact, the Board finds the standards of this section have not 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.

The Town Engineer has requested additional information.

(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.

The Town Engineer has requested additional information.

(3) Aquifer Protection

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

The site is not located within the Town Aquifer Protection Area.

Based on the above finding of fact, the Board finds the standards of this section have not 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 area of the site proposed for development is not located within a floodplain.

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.

There is a letter of file from the Maine Historic Preservation Commission stating that there are no historic or archaeological resources on the site.

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.

Additional lighting information is required.

Based on the above findings of fact, the Board finds the standards of this section have not 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.

A landscaping plan and buffering plan was not submitted. A waiver has been requested.

Based on the above findings of fact, the Board finds the standards of this section have not been met.

J. Noise

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

The contract zone agreement states that amplified music is limited to the hours of 10:00 am to 10:00 pm. Indoor music is allowed until 11:00 a.m.

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.

None of the above items will be stored on site.

(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.

One dumpster is shown on the plan and will be adequately screened.

(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 are no safety hazards to children on site.

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 utilized a professional land surveyor, engineer architect, and licensed soils evaluator in preparation of the application.

Financial Capacity: The Applicant has provided a letter stating the net worth of the applicant and his ability to fund the project.

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

M. Design and Performance Standards:

The project is not subject to any Town Design Standards

LIMITATION OF APPROVAL: Construction of the improvements covered by any site plan approval must be substantially commenced within twelve (12) months of the date upon which the approval was granted. If construction has not been substantially commenced and substantially completed within the specified period, the approval shall be null and void. The applicant may request an extension of the approval deadline prior to expiration of the period. Such request must be in writing and must be made to the Planning Board. The Planning Board may grant up to two (2), six (6) month extensions to the periods if the approved plan conforms to the ordinances in effect at the time the extension is granted and any and all federal and state approvals and permits are current.

STANDARD CONDITION OF APPROVAL:

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

PROPOSED CONDITIONS OF APPROVAL:

1. A preconstruction conference shall be held prior to the start of construction.
2. All outstanding fees shall be paid prior the preconstruction conference.
3. A performance guarantee in an amount acceptable to the Town Manager and Town Engineer shall be provided prior to the preconstruction conference. In addition, a check for 2% of the cost of public improvements shall be provided prior to the preconstruction conference.
4. All clearing limits shall be clearly flagged by the applicant and inspected and approved by the town engineer prior to the preconstruction conference.
5. There shall be no indoor or outdoor storage of any hazardous materials.
6. The applicant will provide evidence of an MDEP NRPA Permit by Rule application prior to the preconstruction conference.
7. The applicant shall obtain a sign permit from the Town prior to the placement of signage.
8. The applicant shall comply with all state and local fire regulations.
9. A blasting permit, if needed, shall be obtained from the Town Code Enforcement Officer prior to blasting.
10. Any outstanding issues raised by the Town Engineer shall be addressed prior to the preconstruction conference.

From: denison gallaudet <denny.gallaudet@gmail.com>
Sent: Monday, July 18, 2022 8:43 AM
To: Carla Nixon <cnixon@cumberlandmaine.com>
Cc: Mike Schwindt <Applewoodacres@hotmail.com>; John Jensenius <jensenius@yahoo.com>; Gordon Lichter <gordonl@gmail.com>
Subject: Site Plan Review for The Grange Hall at Longwoods Preserve

Good morning Carla

On behalf of the Lands and Conservation Commission, I have reviewed the above as submitted by Synergosity, LLC on June 28, 2022.

The LCC is generally supportive of this Application, noting that it dovetails with the following Recommended Actions of Cumberland's Climate Action Plan

- Make available 5-10 acre parcels to market gardeners
- Buy more locally grown food
- Conserve 30% of Cumberland's lands by 2030

However the LCC notes that the CZA provides for permitted uses that include hiking/XC trails and timber harvesting. These uses are defined more fully in the Agricultural Conservation Easement between Synergosity LLC and Maine Farmland Trust Inc. dated May 4, 2022 (the "CE").

The LCC recommends that the CE be modified as follows:

- The Trail Corridor, as depicted on Exhibit B, be changed to designate specifically a public access point from Longwoods Road in perpetuity.
- Forest Management 6.2.3 D (vii) be changed to be consistent with the Town of Cumberland's Guiding Principles for forest management namely that average annual harvest levels, over rolling periods of no more that 10 years, do not exceed the calculated sustained yield harvest level.

Regards,

Denny Gallaudet
Lands and Conservation Commission.

SME
SEVEE & MAHER
ENGINEERS

4 Blanchard Road, P.O. Box 85A
Cumberland, ME 04021
Tel: 207.829.5016 • Fax: 207.829.5692
info@smemaine.com
smemaine.com

July 14, 2022

Carla Nixon, Town Planner
Cumberland Town Hall
290 Tuttle Road
Cumberland, Maine 04021

Subject: The Grange Hall Pub at Longwoods Preserve
Town of Cumberland Site Plan Review Application
Response to Peer Review Comments dated July 11, 2022.

Dear Ms. Nixon,

Sevee & Maher Engineers, Inc. (SME) has prepared the following response to peer review comments by Gorrill-Palmer for The Grange Hall Pub at Longwoods Preserve project received via email on July 11, 2022. The comment headings correspond to the peer review sections included in the memo. The application materials have been revised in response to review comments as indicated below:

ENGINEER PEER REVIEW COMMENTS

Subdivision Application

1. **As stated in the Application, the following waivers were requested:**
   a. **Market study**
   b. **Landscape Plan**
   c. **Market study**
   d. **Landscape Plan**

   We have no objections to the granting of the waiver of the High Intensity Soil Survey from an engineering perspective based on the scale and nature of the project.

   SME Response: No response required.

   We do not recommend granting the waiver for the hydro-geologic study at this time as the Applicant is also requesting a waiver from the Department of Health & Human Services of the separation of the on-site well to the on-site subsurface wastewater disposal system.

   SME Response: A variance request to reduce the separation requirement between the on-site well and proposed septic systems was reviewed and awarded preliminary approval by the Maine Department of Health & Human Services (DHHS). A copy of the preliminary approval letter is attached for reference.

With regard to the waiver request from the requirement for a hydrogeologic study, the proposed septic system locations are more than 300 feet from the closest property line, which will allow for bio-chemical removal of nutrients from the groundwater. A statement from Mark Cenci, L.G. was provided with the site plan application to support this waiver request. An additional copy is attached to this letter for reference.

We would defer to the Planning Board as to the Market Study.

SME Response: This item was discussed with the Planning Board at the Preapplication Conference. The Board indicated they would generally support this waiver request.

Regarding the Landscape Plan, the Applicant states: ***"The proposed development will be hidden from Longwoods Road by the natural crest of the topography, while maintaining the existing forest on all other sides of the project parcel."*** **While we agree that the project will not be visible from Longwoods Road, Section 229-10 Approval Standards, Paragraph I.2. states:** ***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.*** **The Applicant does not appear to have provided any information that demonstrates conformance with Section 229-10.I.2.**

SME Response: This item was also discussed with the Planning Board at the Preapplication Conference. Based on the size of the parcel, the location of the proposed development, and the visibility from the public way, the Board indicated they would generally support this waiver request. The site will be buffered on all sides by hundreds of feet of conservation land managed by the Chebeague and Cumberland Land Trust (CCLT). As a farm and existing hay field, the character and particular identity of this site will be best preserved by minimizing additional plantings at the site entrance and along street edges.

The natural landscape of the parcel will be maintained with minimal disturbance. The property development includes a viewshed buffer along Route 9 within the conservation area. Drawing C-103 outlines the buffer between the existing structure ("Farmstead Area") and the proposed development to help soften the appearance and minimize the visual impact of the new development.

2. **The Applicant notes in Section 1.2 Traffic on Page 1-2 that the Project will generate 312 daily trip ends and 53 PM peak hour trip ends but has not provided any calculations to support this statement.**

   SME Response: Please see the attached letter to the Maine Department of Transportation (MEDOT) outlining project conditions and traffic calculations. We have also attached a copy of the approved MEDOT Driveway Entrance Permit for the project for reference.

3. **The Applicant states in Section 2.3.B. Traffic, Circulation and Parking on Page 2-2:** ***"At full build out, the total anticipated weekday trips from the development will be 433 trips. The peak hour trips were analyzed as well, and it is estimated that the development will result in 65 trips in***

the weekday a.m. peak hour and 75 trips in the weekday p.m. peak hour." **The Applicant should address the discrepancy in the trip generation calculations.**

SME Response: The calculations presented above took the worst-case scenario for each traffic application on the site to produce the most conservative traffic calculation possible for the property. As outlined above, we have attached copies of our letter to MEDOT outlining project conditions and traffic calculations, and a copy of the approved MEDOT Driveway Entrance Permit for the project for reference.

4. **The Board should determine whether a Traffic Impact Study is required.**

   SME Response: As outlined in the previous two responses, the project has received a MEDOT Driveway Entrance Permit. Peak hour trips from the proposed development will not conflict with peak hour commuter traffic on Longwoods Road, and vehicle trips generated by this development will not require a MEDOT Traffic Permit.

5. **The Applicant should provide evidence of approval from the Department of Health and Human Services of the Transient Public Water Supply for the restaurant.**

   SME Response: A copy of the preliminary approval letter from the Maine Department of Health & Human Services (DHHS) is attached for reference. As outlined in the letter, final approval from the Drinking Water Program will be required prior to the well's use.

6. **No wetland or natural resources report was submitted as part of the Application.**

   SME Response: A copy of the Wetland Delineation and Vernal Pool Review report and plan completed by Coppi Environmental, LLC is attached for your review.

7. **The Applicant should address whether any vernal pools were identified and/or studied as part of the wetland investigation.**

   SME Response: As outlined above, wetlands and vernal pools were reviewed in the project area. A copy of the Wetland Delineation and Vernal Pool Review report and plan completed by Coppi Environmental, LLC is attached for review.

8. **Have wetlands been delineated through the entire site, in particular on the western portion where trails are proposed?**

   SME Response: Wetlands have not been delineated through the western area of the site. The trail locations are conceptual and will be located by CCLT to avoid sensitive areas, including wetlands and vernal pools. A copy of the Maine Farmland Trust Baseline Data Documentation for the conservation easement is attached for your review.

9. **The Applicant submitted a letter from the Maine Department of Inland Fisheries & Wildlife that states:** ***Wood Turtle - Occurrences of wood turtle, a State Species of Special Concern, have been documented within the vicinity of the proposed project. Wood turtles use a mix of aquatic and terrestrial habitats throughout the year including riparian meadows, shrub***

thickets, farmland, and deciduous forests as well as bogs, forested wetlands, vernal pools, and streams. If these habitats are present in the project area, we recommend that they be avoided and adequately buffered with a 300-foot undisturbed, intact vegetative cover. **The Applicant should address whether any habitat was identified in the project area as part of the natural resources mapping.**

SME Response: This project is designed to minimally impact potential wood turtle habitat on the property by minimizing the project footprint and siting the proposed construction to existing developed areas to the greatest extent possible. To date, no Wood Turtles have been observed on the proposed project site. A copy of the Maine Farmland Trust (MFT) Baseline Data Documentation for the conservation easement is also attached for your review.

10. **The Applicant submitted a letter from the Maine Natural Areas Program that states:** ***Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.*** **The Applicant should provide information as to whether a field investigation has been conducted to review whether the rare and exemplary botanical features documented to occur in the vicinity of the project site by MNAP.**

    SME Response: The response from MNAP is their typical language for projects in unstudied areas. This project will be constructed on grassed land that has been previously farmed and woodland that has been historically harvested. Based on historical use of the property and minimal disturbance to the forested portion of the property, any additional field study should not be necessary.

11. **As noted in the snippet below, Drawing A001 indicates an occupancy classification of Residential A-2, which should be clarified.**

    OCCUPANCY CLASSIFICATION (IBC Sec 302.1.8, 310.1)

Proposed	Residential A-2	Permanant Residency

    SME Response: This has been forwarded to the Architect for clarification and will be addressed as part of the building permit for the project.

12. **As noted in the snippet below, Drawing A001 references existing sprinklers, which should be clarified.**

    22: FIRE PROTECTION NOTE: EXISTING SPRINKLERHEADS, ALARM SYSTEM AND DETECTORS ARE TO BE MODIFIED TO CONFORM. WITH THE PROPOSED PLAN. COORDINATE WITH THE ARCHITECT, ANY MODIFICATION OR LOCATIONS WHERE EXISTING SYSTEMS ARE AFFECTED BY THE NEW DESIGN.

    SME Response: This has been forwarded to the Architect for clarification and will be addressed as part of the building permit for the project.

13. **As a 120-seat restaurant the facility will generate in excess of 2,000 gpd of wastewater, which would typically be considered an engineered system requiring approval from the Department of Health & Human Services. While the facility has 1 kitchen and 1 bathroom, the Applicant has simply shown two sewer services exiting the building with an assumption that the flow will be equally distributed between the two services thereby not resulting in greater than 2,000 gpd being directed to either subsurface system. It is noted that one service is directly off the kitchen, and the second service is at the far corner of the structure of the building from the kitchen. There is no information provided as to how the internal plumbing will distribute the flow to the two proposed subsurface systems. Based on our experience on similar projects, the facility should be designed as an engineered system, which would require a mounding and transmissivity analysis and a reserve area. If the Applicant elects to continue to pursue "splitting" the flow to two beds, we recommend that confirmation be sought from DHHS that this is acceptable.**

    SME Response: This has been forwarded to the Architect and septic designer for clarification and will be addressed prior to application for a building permit for the project. Details for internal plumbing will be finalized through building design to separate flows. The plumbing systems will be separated for the kitchen drains, which will be routed through a grease trap. The typical blackwater systems from the bathrooms will be routed to a second system.

Site Plans

1. **The source of the topographic survey (ground, aerial or LIDAR) should be noted on the Plan Set.**

    SME Response: General Note 2 has been added to Drawing C-100, for clarification.

2. **A Plan, suitable for recording at the Registry of Deeds, should be submitted clearly depicting the limits of the land for which a conservation easement will be granted.**

    SME Response: The conservation easement has already been delineated and recorded. A copy of the deed is attached to this letter for reference.

3. **Site Layout Plan – As the Trail Parking will be grassed, it may not be readily apparent to users. We would recommend that signage be added for the parking.**

    SME Response: Parking signage has been added to the grassed parking areas.

4. **Site Layout Plan – The Trail Parking that will be perpendicular to the access drive appears to include curb stops, but they are not labeled on the plan.**

    SME Response: The curb stops are labeled as "typical" on the plan. An additional note has been added at the trail parking area for clarity.

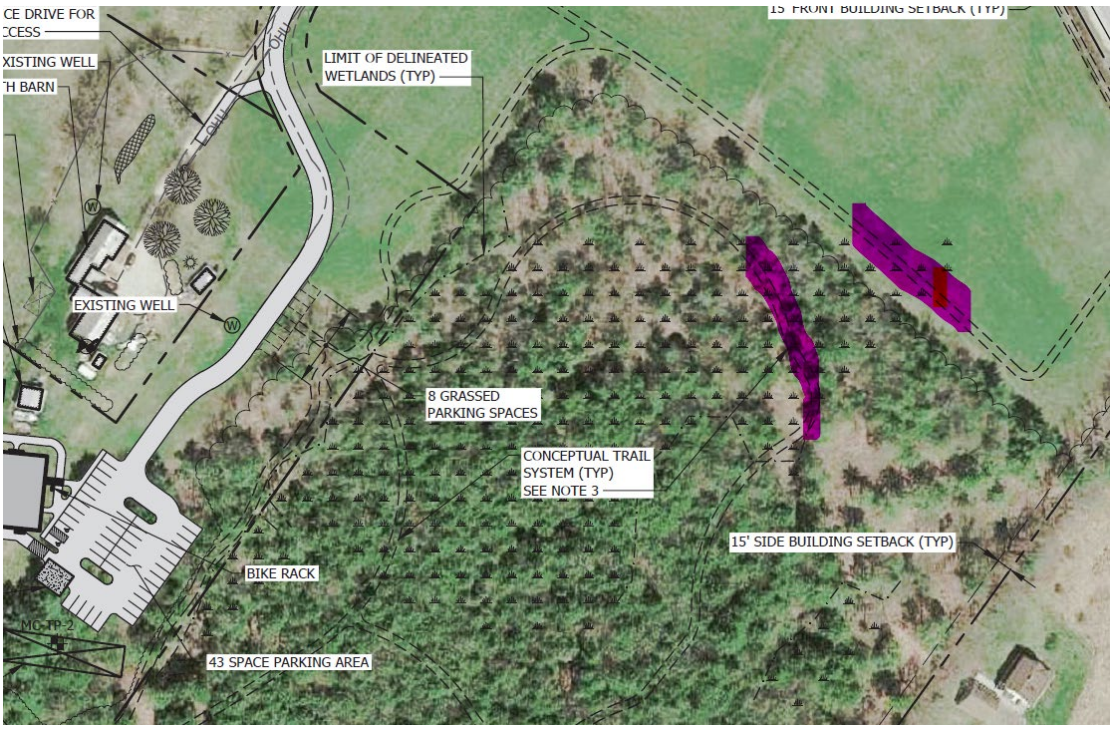
5. **Site Utility Plan – A 6" Ductile Iron pipe is shown for the service from the well to the proposed structure. This appears excessive.**

SME Response: Water pipe connecting the new well to the restaurant has been updated to 3-inch HDPE pipe. A note has been added to coordinate final installation with the well installer and building plumbing designer.

6. **Site Utility Plan – As currently designed, the wastewater from the bathroom with the Grange Hall (considered black water due to toilets) and the seasonal bathroom are being directed to the grease trap which is not in accordance with general engineering practice.**

   SME Response: As outlined in our comment response to Item 13, wastewater from the bathrooms will be separated from the kitchen waste and routed to a second septic system. This has been forwarded to the septic designer for clarification and will be addressed prior to application for a building permit for the project.

7. **Site Overview Plan – The trail system appears to traverse wetlands in several areas as noted in purple on the snippet below, but do not appear to be included as impacts. Based on our experience on past projects, trails would be considered impacts unless a boardwalk system is incorporated through wetlands. The Applicant should provide clarity from the MDEP regarding this matter.**



SME Response: The trail locations are conceptual and shown for illustrative purposes only. Final trail design will be coordinated with CCLT and MFT and use existing skidder trails and logging routes around existing natural resources to the greatest extent possible. Any additional natural resource investigation required to complete trail design and construction will be completed at that time. Please refer to Note 3 on Drawing C-102.

8. **Access Drive Plan and Profile – It appears that users of the Trailhead adjacent to the parking will need to traverse the roadside ditch to access the path. We would recommend consideration of incorporating either a culvert or boardwalk so users do not need to traverse the ditch.**

   SME Response: Boardwalks have been added to ensure users have a safe transition from the parking area onto the trail system.

9. **Access Drive Plan and Profile – Approximately 800 feet of the access drive is being widened and upgraded as part of the project, but a Point of Interest demonstrating that the peak flow rate at the Longwoods Road (Route 9) ditch is not being increased was not included in the Stormwater Analysis. We recommend analyzing the flow tributary to the ditch to verify whether there is any increase, and if so, incorporation of mitigation such as ditch turnouts to mitigate the increase.**

   SME Response: SME has completed HydroCAD modeling to analyze the impact of stormwater runoff at Longwoods Road. Our model indicates a 1.26 cfs increase, 0.83 cfs increase, and 1.07 cfs decrease in peak flow runoff at the roadside ditch along Longwoods Road in the 2-, 10-, and 25-year storm events, respectively. At its fullest, the existing roadside ditch flows at approximately 35 percent of maximum capacity during the 25-year storm event. Increases in peak flow are minor. Proposed development will not impact the existing stormwater infrastructure at Longwoods Road. HydroCAD printouts from the analysis are attached for reference.

10. **Sections and Details – The Typical Road Section with Grassed Parking shows 4” of loam and seed over 15” of gravel. Based on our experience on other projects, 4” of loam over 15” of gravel will not result in an adequate depth of loam to retain moisture sufficient for a sustainable grass catch.**

    SME Response: The proposed 4 inches of loam and seed over 15 inches of compacted gravel will produce a sustainable grass catch without significant rutting. This area will be maintained by the developer and CCLT. Additional loam and seed can be added, if necessary

11. **Sections and Details – The Schedule of Surface Finishes indicates only 3” of loam for grassed parking. See Comment #21 above.**

    SME Response: The schedule of surface finishes has been updated to reflect 4 inches of loam and seed over the grassed parking area.

12. **Sections and Details – The buildup for the Service Path to the Seasonal Bathroom/Storage Structure should be noted on the Schedule of Surface Finishes. This path would appear to need to be adequate for use by the septic tank pumper.**

    SME Response: The schedule of surface finishes has been updated to reflect construction requirements for the seasonal bathroom access path.

In addition to the materials attached to this letter to support our response to peer review comments, SME has attached a project construction estimate to support the Site Plan application.

If you have any questions or comments, please do not hesitate to contact me. We look forward to reviewing the comments with the Planning Board at the meeting on July 19, 2022.

Sincerely,

SEVEE & MAHER ENGINEERS, INC.

Jeffrey T. Read, P.E.
Senior Civil Engineer

Attachments

Attachment 1 – DHHS Preliminary Approval
Attachment 2 – Mark Cenci Letter
Attachment 3 –MEDOT Calculations
Attachment 4 – MEDOT Permit
Attachment 5 – Vernal Pool and Wetland Survey
Attachment 6 – MFT Baseline Scan
Attachment 7 – Exterior Lighting
Attachment 8 – Conservation Easement
Attachment 9 – HydroCAD Modeling
Attachment 10 – Construction Budget

ATTACHMENT 1

DHHS PRELIMINARY APPROVAL

SME
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ENGINEERS

Janet T. Mills
Governor

Jeanne M. Lambrew, Ph.D.
Commissioner

Maine Department of Health and Human Services
Maine Center for Disease Control and Prevention
11 State House Station
286 Water Street
Augusta, Maine 04333-0011
Tel; (207) 287-8016; Fax (207) 287-9058
TTY: Dial 711 (Maine Relay)

February 28, 2022

Alexander Timson
173 Spurwink Road
Scarborough, ME 04074

Re: Preliminary approval for new water supply well to serve -Longwoods Preserve

Dear Mr. Timson,

I have reviewed the preliminary approval for a transient well application regarding the proposed well for Longwoods Preserve. Our site visit to survey the potential location for a well was successful. While surveying the location, we indicated that the existing leach field is 175 feet away from potential well site. With an existing leach field 175 feet away from potential well site we are requiring that the well be constructed with 90 feet of casing in which 10 feet is in bedrock.

Preliminary approval for this site is granted

After the well is drilled, you must receive final approval from the Drinking Water Program prior to putting well online. The final approval application is part of the New Well Approval Packet and must be completed and returned. The final approval application recommends a pump test concluding when the safe yield of the well can be determined with confidence as well as satisfactory results for the water tests described on the list of testing requirements in the New Well Approval Packet. Once you have chosen a State of Maine certified lab please notify us.

Please call me at 207-441-6458 if you have any questions or concerns.

Sincerely,

Jeremiah "Jed" Haws

Jeremiah Haws
PWS Inspector
Maine Drinking Water Program
Maine Center for Disease Control and Prevention
Department of Health and Human Services
286 Water St; 3rd Floor
11 SHS
Augusta, Me 04333-0011
Phone: 207-441-6458
Fax: 207-287-4172

ATTACHMENT 2

MARK CENCI LETTER

SME
SEVEE & MAHER
ENGINEERS

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

May 25, 2022

Alex Timpson
Synergosity, LLC
173 Spurwink Road
Scarborough, ME 04074

RE: Waiver request for hydrogeologic study, 76 Longwoods Road, Cumberland

Alex:

I believe a request to waive the hydrogeologic study of the two proposed septic systems is appropriate for this site. Both systems are in the interior of the parcel. The travel distances of both wastewater plumes are hundreds of feet to any abutting property. Forested wetlands are present at the base of the knolls. These will bio-chemically remove nutrients from the ground water. These site-specific conditions are sufficient to justify the waiver.

Mark Cenci, LG #467

ATTACHMENT 3

MEDOT CALCULATIONS

SME
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SME
SEVEE & MAHER
ENGINEERS

4 Blanchard Road, P.O. Box 85A
Cumberland, ME 04021
Tel: 207.829.5016 • Fax: 207.829.5692
info@sme-engineers.com
sme-engineers.com

June 17, 2022

VIA EMAIL

Mr. Van Terrell
Maine Department of Transportation
Southern Region, Scarborough, Maine

Email: van.terrell@maine.gov

Subject: Grange Hall Pub at Longwoods Preserve
76 Longwoods Road, Cumberland, Maine
Maine DOT Driveway/Entrance Permit Application

Dear Mr. Terrell:

This letter is in response to your email received on May 17, 2022, regarding the Maine Department of Transportation (MEDOT) Driveway/Entrance Permit Application submitted by our client, Synergosity, LLC (Synergosity), on May 5, 2022, and subsequent conversations with MEDOT Southern Region Traffic Engineer Randy Illian for the proposed Grange Hall Pub at Longwoods Preserve project (Project) off Longwoods Road (ME 9) in Cumberland, Maine.

PROJECT DESCRIPTION

The Longwoods Preserve project is located on a 61.56-acre parcel identified as Lots 6A and 13 on Town of Cumberland Tax Map R3. Existing development on the parcel includes an existing single-family residence, barn, and agricultural structures dating from 1870. Current access to the parcel includes a 12-foot-wide gravel driveway off ME 9.

Synergosity is proposing the development of the Grange Hall Pub as a farm to table restaurant and brew pub to serve as a gathering place for the community while maintaining the existing farm buildings and agricultural character on the parcel. Proposed development will include a new 3,456 square-foot, 120 seat restaurant, and a 43-space parking area. The project will include approximately 55-acres of conservation land with a trail system and two dedicated trail heads to be developed in cooperation with the Chebeague & Cumberland Land Trust (CCLT). A total of 16 parking spaces will be provided for trail use, with 8 spaces at each trail entrance.

Additional site improvements include expanding the existing gravel driveway to a 20-foot-wide access drive and upgrading the driveway entrance at ME 9. The improved driveway entrance will include a paved apron with 25-foot radii to protect the edge of the existing travel way. Sight distance from the entrance will exceed 500 feet looking both north and south on ME 9.

PARKING

Onsite parking was calculated according to the standards outlined in the Town of Cumberland (Town) Land Use Ordinance. The Town requires 1 parking space for every 3 seats at a restaurant. The proposed

Grange Hall Pub will include a maximum of 120 seats, requiring a minimum of 40 parking spaces. Three additional parking spaces were included for restaurant staff, for a total restaurant parking of 43 spaces.

Sixteen parking spaces will be dedicated to the trail system on the conservation parcel, 8 at each trail entrance. These spaces were calculated based on peak hour trips for a public park on Saturday and Sunday, which averaged 16 trips for both days. Based on this information, we anticipate that 16 parking spaces will be adequate for this portion of the project.

In total, the project proposes 54 permanent spaces. Grassed overflow parking areas are proposed for use during farm-based special events, such as weddings, receptions, family reunions, or special occasion celebrations when the designated parking areas may not be sufficient to accommodate excess parking. The Town Farm-Based Special Events License is limited to eight events per calendar year, therefore overflow parking will be very infrequent.

TRAFFIC CALCULATION

The Trip Generation Manual 11th Edition, published by the Institute of Transportation Engineers (ITE), outlines Land Use 931 for a Fine Dining Restaurant as a full-service earing establishment with a typical duration of stay of at least 1 hour. A fine dining restaurant generally does not serve breakfast but may serve lunch. All fine dining restaurants serve dinner. This use most accurately represents the proposed Grange Hall Pub. Similar uses, such as Fast Casual Restaurant (930) and High Turnover (Sit-Down) Restaurant (932) do not represent the table service or stay duration anticipated for this use and were not used to estimate vehicle trips.

The land use most closely associated with the on-site trail system was Public Park (411), which includes hiking trails, ball fields, campsites, and picnic facilities.

The combined daily vehicle trips and peak hour calculations are intended to be conservative and are based on a combination of the highest estimated values for each category and use, regardless of the day of the week. In addition, the anticipated number of peak hour trips and trips per day include the combined calculation for facility seats and total employees.

The maximum number of vehicle trips per day was estimated to be 433 trips. The number of vehicle trips during the PM peak hour was estimated to be 75 trips. Calculations are shown below for reference:

SME
SEVEE & MAHER
ENGINEERS

Calculations

Knowns:

Seats: 120 Employees: 9 (Maximum at one time) Trail System Size: 55 Acres

---

Fine Dining Restaurant (931) – per seat
Daily Vehicle Trips per Seat on a weekday: 2.60
Daily Vehicle Trips: 2.60 x 120 = **312**

Peak Hour of Generator Vehicle Trips per Seat on a Saturday: 0.33
Peak Hour: 0.33 x 120 = **40**

Fine Dining Restaurant (931) – per Employee
Peak Hour of Generator (AM) Vehicle Trips per Employee: 0.69
Peak Hour (AM): 0.69 x 9 = **7**

Peak Hour of Generator (PM) Vehicle Trips per Employee: 1.79
Peak Hour (PM): 1.79 x 9 = **17**

Public Park (411) – per Acre

Daily Vehicle Trips on a Sunday: 2.19
Daily Vehicle Trips: 2.19 x 55 = **121**

Peak Hour of Generator Vehicle Trips on a Sunday: 0.31
Peak Hour: 0.31 x 55 = **18**

Fine Dining Restaurant (931) and Public Park (411) - **Combined**

Daily Vehicle Trips: **312 + 121 = 433**

Peak Hour (AM): **40 + 7 + 18 = 65**

Peak Hour (PM): **40 + 17 + 18 = 75**

As outlined above, peak hour trips are below the maximum 100 trips per peak hour to require a Traffic Movement Permit. Based on the conservative nature of the calculations, we anticipate traffic generated from the proposed development will be less than the calculated value. We do not believe traffic from the proposed development will cause unreasonable road congestion or unsafe conditions on the adjacent public roadway.

Please feel free to contact me at 207-829-5016 or dpd@smemaine.com if you have any questions or need additional information.

Sincerely,

SEVEE & MAHER ENGINEERS, INC.

Daniel Diffin, P.E., LEED AP BD+C
Vice President

cc: Alex Timpson, Synergosity, LLC

ATTACHMENT 4

MEDOT PERMIT

SME
SEVEE & MAHER
ENGINEERS

Maine Department of Transportation

Janet T. Mills
Governor

Driveway/Entrance Permit

Bruce A. Van Note
Commissioner

Permit Number: 31044 - **Entrance ID:** 1

OWNER

Name: **Alexander Timpson**
Address: **173 Spurwink Road**
Scarborough, ME 04074
Telephone: **(207)415-7273**

Date Printed: **June 29, 2022**

LOCATION

Route: **0009X, Longwoods Road**
Municipality: **Cumberland**
County: **Cumberland**
Tax Map: **R03** Lot Number: **6A and 13**
Culvert Size: **15 inches**
Culvert Type: **plastic**
Culvert Length: **40 feet**
Date of Permit: **June 29, 2022**
Approved Entrance Width: **20 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 **Restaurant, farmers market, gathering hall, and access to public trail.** at a point **3667** feet **North** from **Townline Falmouth/Cumberland,** 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: 43.769321N, -70.249277W.

S - This entrance permit is for a 120 seat Fine Dining Restaurant (LUC 931) and a 55 acre Public Park (LUC 411).

S - In the town of Cumberland on the easterly side of Route 9, the centerline being approximately 3667 feet northeasterly of the Falmouth/Cumberland Townline and approximately 30 feet northeasterly of utility pole 37.

Approved by: Van Fall Date: 6-29-2022

STANDARD CONDITIONS AND APPROVAL

1. Provide, erect and maintain all necessary barricades, lights, warning signs and other devices as directed by MaineDOT to properly safeguard traffic while the construction is in progress.

2. At no time cause the highway to be closed to traffic

3. Where the driveway is located within a curb, curb and gutter, and/or sidewalk section, completely remove the existing curb, curb and gutter, and/or sidewalk as may be required to create the driveway and restore drainage. All driveways abutting sidewalk sections shall meet the requirements set forth in the Americans with Disabilities Act of 1990, 42 U.S.C. Sec. 12131 et seq.

4. Obtain, have delivered to the site, and install any culverts and/or drainage structures which may be necessary for drainage, the size, type and length as called for in the permit pursuant to 23 M.R.S.A. Sec. 705. All culverts and/or drainage structures shall be new.

5. Start construction of the proposed driveway within twenty-four (24) months of the date of permit issuance and substantially complete construction of the proposed driveway within twelve months of commencement of construction.

6. Comply with all applicable federal, state and municipal regulations and ordinances.

7. Do not alter, without the express written consent of the MaineDOT, any culverts or drainage swales within the MaineDOT right of way.

8. File a copy of the approved driveway permit with the affected municipality or LURC, as appropriate within 5 business days of receiving the MaineDOT approval.

9. Construct and maintain the driveway side slopes to be no steeper than the adjacent roadway side slopes, but in no case to be steeper than 3 horizontal to 1 vertical, unless the side slope is behind existing roadway guardrail, in which case it shall be no steeper than 2 horizontal to 1 vertical.

10. Notify the MaineDOT of a proposed change of use served by the driveway when increase in traffic flow is expected to occur. This does not exempt the need for obtaining a Traffic Movement Permit (TMP) if trip generation meets or exceeds 100 passenger car equivalents (PCE) during the peak hour of the day.

11. Construct or implement and maintain erosion and sedimentation measures sufficient to protect MaineDOT facilities.

12. Driveways shall be designed such that all maneuvering and parking of any vehicles will take place outside the highway right-of-way and where vehicles will exit the premises without backing onto the highway traveled way or shoulders. All driveways will have a turnaround area to accomodate vehicles using the premises.

13. Closing any portion of a highway or roadway including lanes, shoulders, sidewalks, bike lanes, or ATV access routes is not permitted without MaineDOT approval.

FURTHER CONDITION OF THE PERMIT

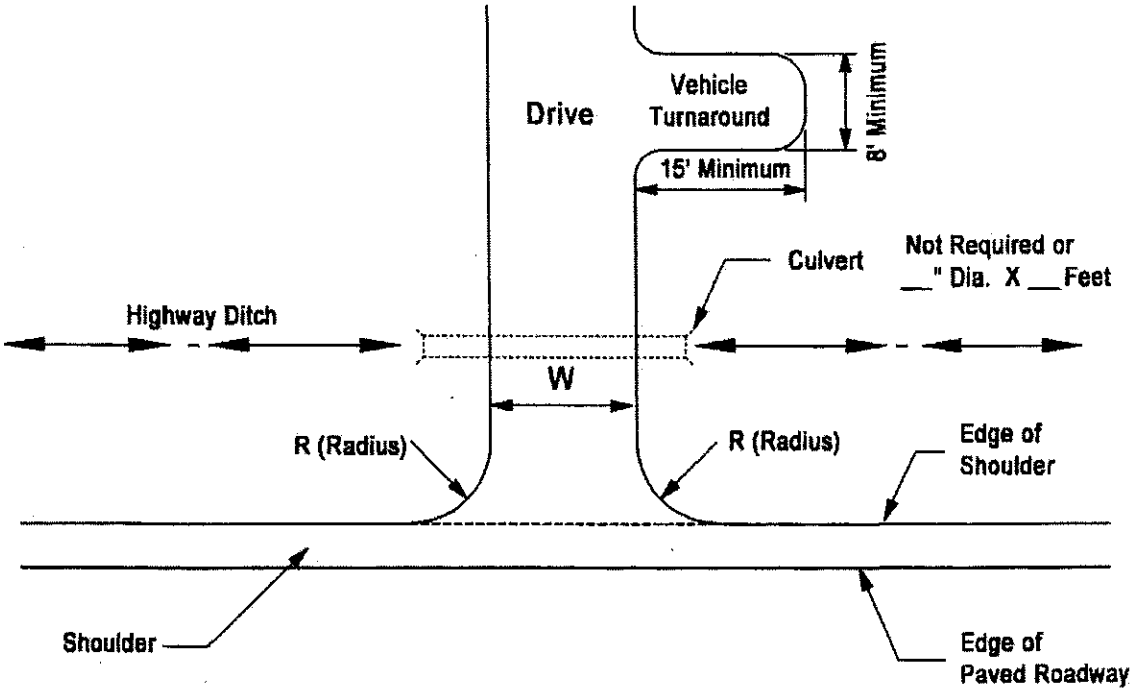
The owner shall assume, the defense of, and pay all damages, fines, and penalties for which he/she shall become liable, and shall indemnify and safe harmless said Department, its representatives, agents and employees from liability, actions against all suits, claims, damages for wrongful death, personal injuries or property damage suffered by any person or association which results from the willful or negligent action or inaction of the owner/applicant (agent) and in proceedings of every kind arising out of the construction and maintenance of said entrance(s), including snow removal.

Nothing herein shall, nor is intended to, waive any defense, immunity or limitation of liability which may be available to the MaineDOT, their officers, agents or employees under the Maine Tort Claims Act or any other privileges and/or immunities provided by law. It is a further condition that the owner will agree to keep the right of way inviolate for public highway purposes and no signs (other than traffic signs and signals), posters, billboards, roadside stands, culvert end walls or private installations shall be permitted within Right of Way limits.

State of Maine
Department of Transportation

Entrance / Driveway Details

PLAN

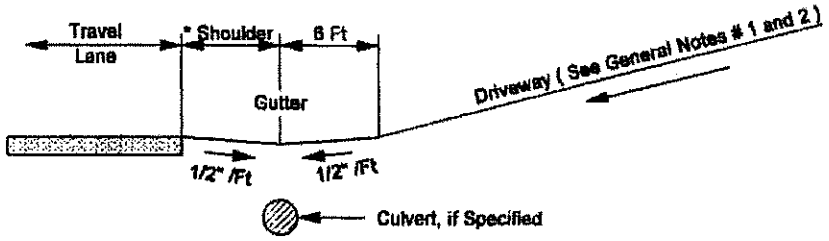


GENERAL NOTES -

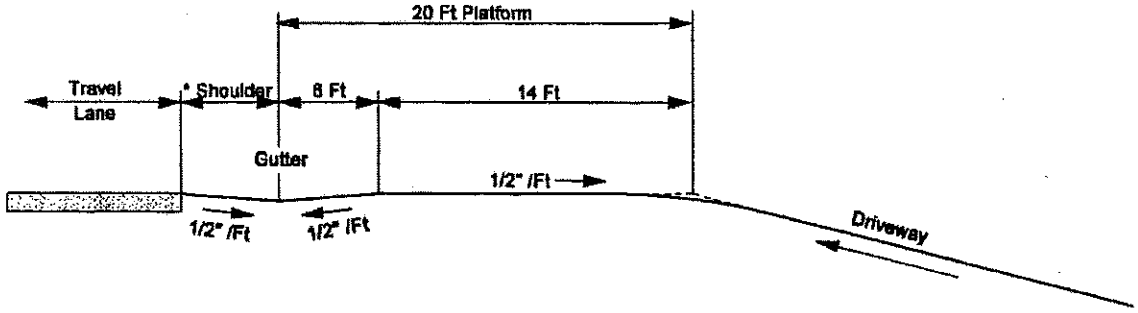
1. ALL RESIDENTAL OR COMMERCIAL DRIVES WITH 10% GRADE OR MORE SLOPING DOWN TOWARDS THE HIGHWAY SHALL BE PAVED TO THE RIGHT OF WAY LINE, AS A MINIMUM, INCUDING SHOULDER, IF GRAVEL AND HAVE DITCHES TO CONTROL RUNOFF.
2. DRIVES SLOPING TO THE HIGHWAY SHALL BE CROWNED (1/2" PER FT. MINIMUM).
3. TO THE MAXIMUM EXTENT PRACTICAL, THE ENTRANCE MUST BE CONSTRUCTED PERPENDICULAR TO THE HIGHWAY AT THE POINT OF ACCESS. EXCEPT WHERE CURBING EXISTS OR IS PROPOSED, THE MINIMUM RADIUS ON THE EDGES OF THE ENTRANCE MUST BE 10 FEET OR AS OTHERWISE REQUIRED AS SHOWN.
4. ENTRANCES/DRIVEWAYS WILL BE BUILT WITH AN ADEQUATE TURN-AROUND AREA ON SITE TO ALLOW ALL VEHICLES TO MANUVER AND PARK WITHOUT BACKING ONTO THE HIGHWAY. THIS TURN-AROUND SHALL BE AT LEAST 8 FEET WIDE BY 15 FEET LONG.
5. ENTRANCES/DRIVEWAYS AND OTHER ASSOCIATED SITE WORK WHICH DIRECTS WATER (RUNOFF) TOWARD THE HIGHWAY MUST BE CONSTRUCTED, CROWNED STABILIZED AND MAINTAINED WITH MATERIALS AND APPROPRIATE TEMPORARY/PERMANENT EROSION CONTROL MATERIALS IN ACCORDANCE WITH MDOT BEST MANAGEMENT PRACTICES.
6. THE PROFILE OF THE ENTRANCES MUST COMPLY WITH THE DETAILS SHOWN ON PAGE 2.

MDOT Entrance / Driveway Details, Continued

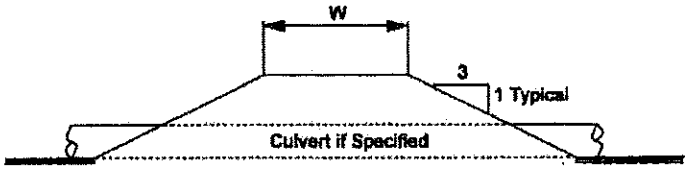
PROFILE
Details



NOTE :
Grade of Existing Shoulder Should Be Maintained To Create A Gutter With a Minimum Of Three Inches Below The Edge Of Traveled Way.
* Distance Of The Gutter From The Edge Of Traveled Way Should Be The Same As Existing Shoulder Or A Minimum Of 4 Feet.



Driveway Cross Section



ATTACHMENT 5

VERNAL POOL AND WETLAND SURVEY

SME
SEVEE & MAHER
ENGINEERS

Coppi Environmental, LLC
Wetland & Soil Services, Consulting & Permitting
PO BOX 226 Hollis Center, ME 04042
207.756.3245 cjc1829@gmail.com

May 5, 2022

Mr. Jeffrey Read, P.E.
Senior Civil Engineer
Sevee & Maher Engineers, Inc.
4 Blanchard Road
Cumberland, ME 04021

RE: *Wetland Delineation and Vernal Pool Review*, 76 Longwoods Road (Preserve Project), Cumberland, ME.

Dear Mr. Reed:

On April 13th and 27th, 2022, I reviewed the property for vernal pools. During this review, I did not observe any vernal pools in the property wetlands within the investigation area. The investigation area for pools included the delineation area (blue) and the area within 250 feet of it (red). No evidence of amphibian breeding was present, such as the presence of wood frog or salamander egg masses. As such, the project area is not subject to DEP's vernal pool protection under the Natural Resources Protection Act (NRPA), Chapter 335 Significant Wildlife Habitat Rules. No further documentation is necessary.

On April 27th, 2022, I also completed a wetland delineation at the above-mentioned property. The scope of the delineation included the area within the blue polygon. The investigation area contained forested wetlands in the eastern section and to the southwest, wet meadow wetlands. Wetlands were flagged in blue and labeled alphanumerically. I GPS-located wetland flags with a Trimble Geo 7x Hand Held unit. Attached with this report is the Wetland Delineation Plan which illustrates the wetland areas.

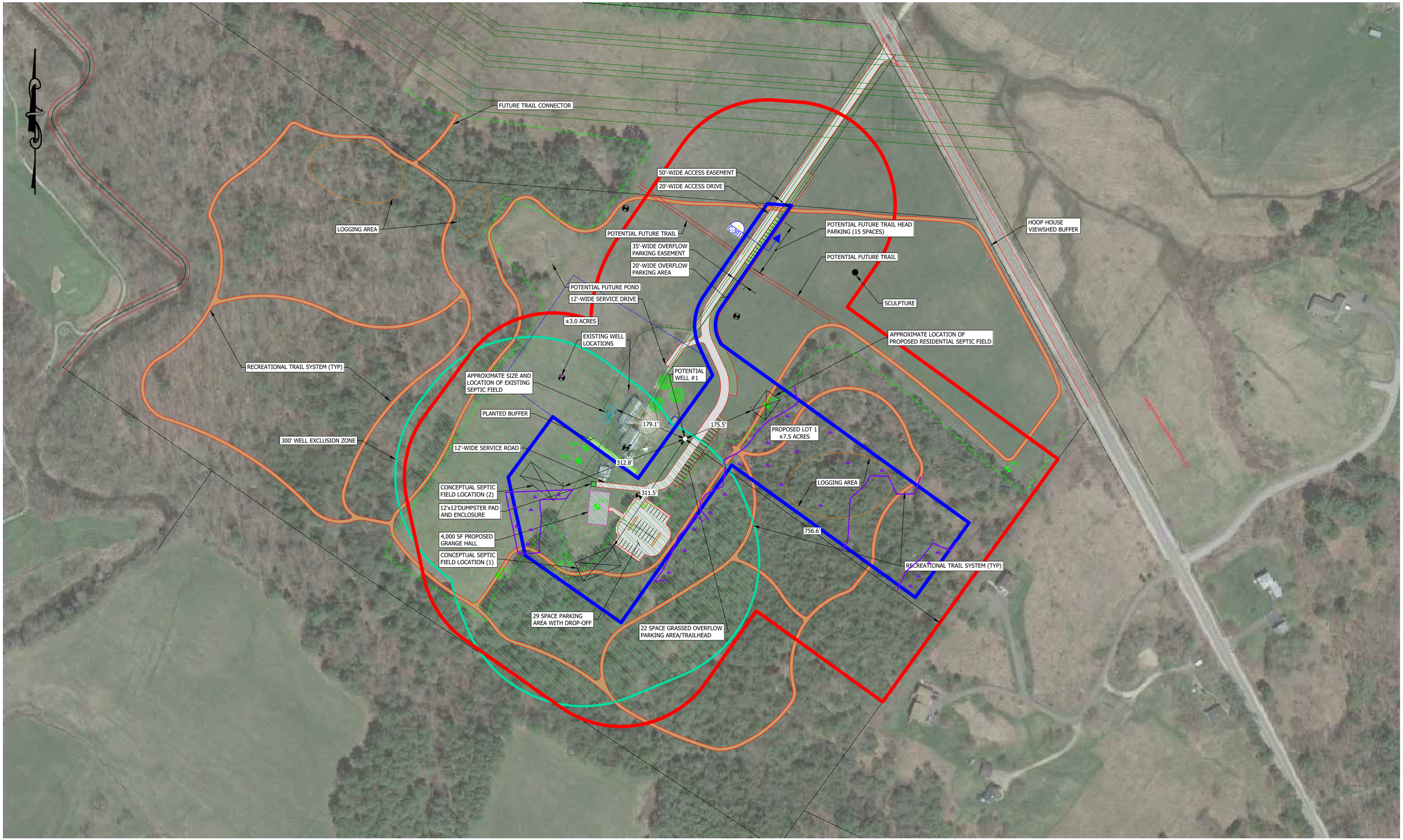
Based on site observations and analysis of NWI maps and Cumberland's Shoreland zoning map (project area does not contain a shoreland zone), the project wetlands are eligible for the normal Tier wetland permit process administered by DEP.

Please contact me by phone at 756-3245 or by email at cjc1829@gmail.com if you have any further questions or matters for discussion.

Sincerely,

Christopher J. Coppi

Christopher J. Coppi LSS, LSE, CWS
Consulting Soil and Wetland Scientist



GRAPHIC SCALE

100 0 50 100 200

(IN FEET)

1 inch = 100 ft.

BASE MAP PROVIDED BY SEVEE & MAHER

LEGEND

WETLAND AREA

LIMIT OF WETLAND INVESTIGATION

DATE:	REVISIONS:

Coppi Environmental, LLC
Wetland & Soil Services, Consulting & Permitting
PO BOX 226 Hollis Center, ME 04042
207.756.3245 cjc1829@gmail.com

Drawn By: B.J. | Checked By: C.C.

Date: 4/11/2022 | Scale: 1" = 100'

SITE PLAN

PREPARED FOR
SEVEE & MAHER

LONGWOODS PRESERVE

CUMBERLAND, MAINE

ATTACHMENT 6

MFT BASELINE SCAN

SME
SEVEE & MAHER
ENGINEERS

MAINE FARMLAND TRUST

CONSERVATION EASEMENT
BASELINE DATA DOCUMENTATION

LONGWOODS FARM

CUMBERLAND

CUMBERLAND COUNTY

MAINE

TABLE OF CONTENTS

- APPENDICES –

PROPERTY INFORMATION

FARM NAME:	LONGWOODS FARM
LOCATION:	76 Longwoods Road Cumberland, ME 04101
ACRES:	*~54 ACRES*
EASEMENT LANDOWNER:	SYNERGOSITY LLC 173 SPURWINK ROAD SCARBOROUGH, ME 04074
EASEMENT HOLDER:	Maine Farmland Trust 97 Main St. Belfast, Maine 04915

PROJECT BACKGROUND

Portions of the Landowner's entire property are encumbered by an Agricultural Conservation Easement (the "Easement") granted to Maine Farmland Trust recorded as Book _____, Page _____ in the Cumberland County Registry of Deeds. Landowner approached Maine Farmland Trust and the Cumberland and Chebeague Land Trust with an interest in establishing a 'synergistic' property supporting both a working farm and a farm-to-table restaurant. The Conservation Easement has been created with the cooperation of the Cumberland and Chebeague Land Trust (CCLT) who plan to accept assignment of the Easement after closing.

The Easement was purchased through Maine Farmland Trust's Purchased Easement Program, with a contribution from CCLT. A bargain sale component was contributed by the Landowner.

PROPERTY DESCRIPTION

The Property has been surveyed and new monumentation placed at two corners of excluded land of Landowner, depicted on Exhibit B to the Easement and referred to herein as "Excepted Parcel". Property boundaries are delineated with flagging, fencing and a shared boundary with the East Branch of the Piscataqua River. Fourteen (14) acres of the Property are maintained as open fields, thirty-four (34) acres of the Property are maintained as productive forest (currently enrolled in tree-growth), and approximately six (6) acres of the Property are designated as wetlands.

PAST AND PRESENT USES

The Landowner purchased the Property in the fall of 2021. The previous owners tended to a small herd of Belted Galloway cattle. As the previous owner 'retired' from farming the fields were maintained and hayed by a neighboring farm. Present plans for the farm include the desire to lease the farmhouse, barn and residence to a farmer who —ideally—would provide agricultural products to the planned restaurant (to be constructed on the Excluded Parcel) as well as the opportunity to sell directly to customers from the Property. It is expected that some of the ancillary activities associated with the restaurant will utilize portions of the easement area. Future utilities, wells and septic systems are expected to be placed entirely within the Excepted Parcel.

EXISTING STRUCTURES AND IMPROVEMENTS

The Property contains a single residential structure attached to a barn. The Property is accessed through a right of way and driveway approaching the building. Other improvements to the Property include several woods roads utilized for prior logging, a small former gravel/sand pit, and multiple areas lined with wire fencing, each as consistent with the agricultural, forestry, or recreational uses of the Property.

Structures

Building Type	*Size*
Residence	45'x 30'
Residential Addition	25' x 15'
Garage (attached)	20' x 15'
Barn (two story)	50' x 30'

Improvements:

- Drilled well
- Septic tank and leach field (to west of residence)
- Woods roads
- Fencing
- Driveway

Disturbances/Other:

- Former Gravel/Sand pit

CONSERVATION VALUES

AGRICULTURAL

Approximately 26% (14 acres) of the Property is maintained as open fields. 50% (27 acres) of the Property is classified as Prime Farmland Soils and Sols of Statewide or Local Importance. Approximately 75% of the open fields are classified as Prime Farmland Soils or Soils of Statewide or Local Importance. Predominant soil types are Podunk fine sandy loam, Belgrade very fine sandy loam, and Buxton silt loams.

Longwoods Farm (~54 Acres)		Acres	% of Property
	Open	14	26%
	Wooded	34	63%
	Other	6	11%
Prime Farmland Soils			
Py	Podunk fine sandy loam	3	6%
Farmland Soils of Statewide Importance			
BgB	Belgrade very fine sandy loam, 2 to 8 percent slopes	5	9%
BuB	Buxton silt loam, 3 to 8 percent slopes	16	
Farmland Soils of Local Importance			
Sn	Scantic silt loam	5	9%
BuC2	Buxton silt loam, 8 to 15 percent slopes, eroded	1	2%
	Total Farmland Soils	*27*	*50%*

Podunk
The Podunk series consists of very deep, moderately well drained soils formed in recent alluvium on floodplains. The soils are on floodplains along the major rivers and streams. The soils formed in recent alluvium derived principally from gneiss, schist, granite, and quartzite. Slope ranges from 0 to 3 percent. Flooding frequency varies from once or twice a year to once in 5 to 10 or more years. Used mainly for growing row crops, hay, or pasture. Wooded areas are in eastern white pine, white birch, yellow birch, gray birch, balsam fir, red spruce, white spruce, hemlock, red maple, elm, and alders.

Belgrade
The Belgrade series consists of very deep, moderately well-drained soils formed in glaciolacustrine material. Runoff can be negligible to high. Cleared areas of this soils type are mainly used for growing grasses, and legumes for hay or pasture, and for silage, as well as potatoes, sweet corn, vegetables and other crops. Common trees in woodlots are white, red and black oak, hickory, sugar maple, red maple, ash, tulip, black birch, yellow birch, beech, white pine, and hemlock.

Buxton
The Buxton soil series consists of very deep, moderately well-drained soils, typically found along coastal lowlands and river valleys. Cleared areas are used mainly for hay, forage crops, or pasture, and can also support silage, corn, or vegetables. Common trees found growing on these soils include eastern white pine, balsam fir, paper birch, white spruce, eastern hemlock, and northern red oak.

FORESTRY

The Property has approximately 34 acres of woodland, currently enrolled in tree-growth. The forest is comprised, primarily, of evergreens (white pine, hemlock and spruce) in the uplands and mixed hardwood closer to the river frontage (primarily beech, birch and oak). The forest shows some evidence of recent (<10 years) harvesting but the majority is relatively mature showing a mix of different age classes and species throughout the Property. Landowner will be developing a forest management plan for the Property.

WATER RESOURCES

Water for the Property is supplied by a single drilled well located to the west of the current residence and barn. The Property also benefits from approximately 1,700 feet of frontage along the East Branch of the Piscataqua River though this area contains significant slopes and some riverine floodplain.

ADDITIONAL CONSERVATION VALUES

RECREATIONAL RESOURCES

The Property includes a public recreational Trail Corridor, designated by this conservation easement, that provides opportunity for low-impact outdoor recreation including, but not limited to nature study, snowshoeing, cross country skiing, and hiking.

ECOLOGICAL RESOURCES

The Property includes approximately one thousand seven hundred (1,700) feet of frontage along the East Branch of the Piscataqua River and approximately six (6) acres of ecologically important riparian floodplain adjacent to the East Branch of the Piscataqua River

REPORT INFORMATION

REPORT PREPARATION

This report was prepared by Maine Farmland Trust Lands Staff who are properly trained and qualified to perform field work and prepare such reports. The principal preparer was Christopher Franklin, Land Project Manager. Field work was conducted by same on 03/21/2022.

FIELD WORK METHODS

Compass bearing are Magnetic North. All GPS waypoints were obtained with an iPhone 11utilizing with the Gaia GPS app. Datum is WGS84; all coordinates are decimal degrees. All fixes were obtained with a 3D (differential) level of accuracy. All photographs were obtained using an iPhone 11 with the GeoJot+Core app. Automatic camera settings were used throughout the survey; no photographs have been altered.

Weather conditions on 03/21/2022 were mostly sunny.

Non-field data for the maps originated from the Maine Office of GIS, the Maine Natural Areas Program, US Geologic Survey, USDA Natural Resources Conservation Service, the Natural Agriculture Imagery Program, and the Existing Conditions Survey created by Boundary Points dated 4/12/2022.

- *ACKNOWLEDGMENT OF PROPERTY CONDITION* -

This is to certify that I, Alexander Timpson, authorized signatory for Synergosity LLC, Landowner of land encumbered by an Agricultural Conservation Easement in the Town of Cumberland, County of Cumberland, State of Maine, presently known as "Longwoods Farm" executed by the parties hereto and to be recorded at the Cumberland County Registry of Deeds, am familiar with the condition of the land subject to said Easement and, in compliance with Section 1:170A-14(g)(5) of the federal tax regulations, do acknowledge and certify that the above items, taken together and separately, are an accurate representation of the Property as of the date of the grant of said Easement.

Easement
Landowner: _____ 5/4/2022

Name: Alexander Timpson
Title: Member
Duly Authorized Hereunto

Date:

- *ATTESTATION* –

Landowner.

STATE OF MAINE
COUNTY OF Cumberland.

On the 4th day of May, Landowner, Synergosity LLC, Inc. has caused these presents to be signed and sealed in its corporate name by Alexander Timpson, Member, hereunto duly authorized, and personally appeared before me the above-named Alexander Timpson and made oath that the foregoing description and acknowledgments made on personal knowledge are true.

_____
Notary Public

Chris Franklin
Typed or Printed Name
My Commission Expires:

Chris Franklin
Notary Public
State of Maine
My Comm. Exp. July 21, 2024

- *ACKNOWLEDGMENT OF PROPERTY CONDITION* -

This is to certify that I, Christopher Franklin, an authorized representative of the Holder of an Agricultural Conservation Easement on land in the Town of Cumberland, County of Cumberland, State of Maine, presently known as "Longwoods Farm" executed by the parties hereto and to be recorded at the Cumberland County Registry of Deeds, am familiar with the condition of the land subject to said Easement and, in compliance with Section 1:170A-14(g)(5) of the federal tax regulations, do acknowledge and certify that the above items, taken together and separately, are an accurate representation of the Property as of the date of the grant of said Easement.

Easement Holder: _____ 5-4-2022

Maine Farmland Trust, by: Date:
Christopher Franklin, duly authorized hereunto

- *ATTESTATION* –

Holder.

STATE OF MAINE
COUNTY OF CUMBERLAND, ss.

On the 4th day of MAY, personally appeared before me the above-named Christopher Franklin and made oath that the foregoing description and acknowledgments made on personal knowledge are true.

_____
Notary Public

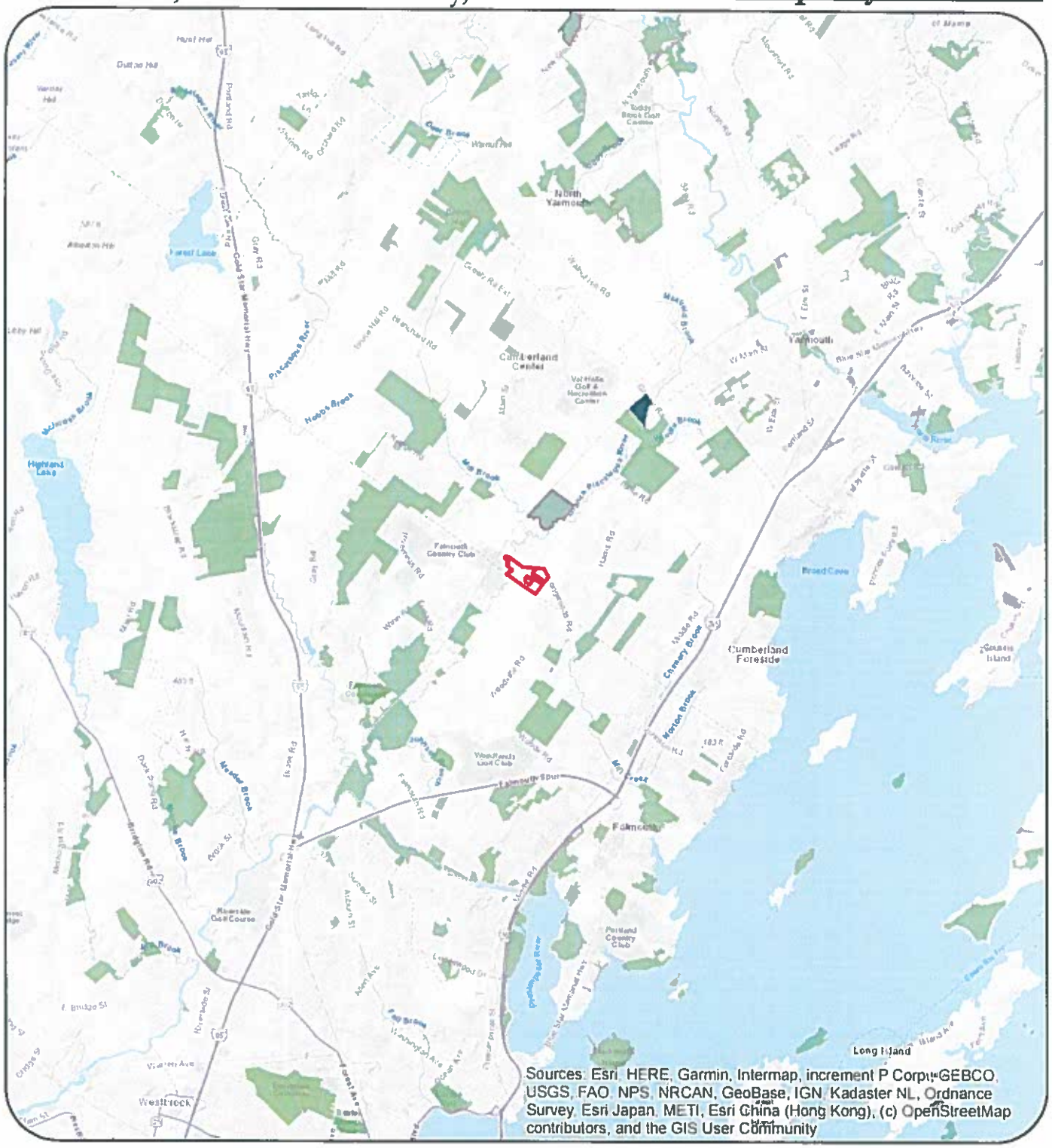
Amanda Wheeler
Typed or Printed Name
My Commission Expires:

AMANDA WHEELER
Notary Public, State of Maine
My Commission Expires Sept. 27, 2028

Longwoods Farm

Cumberland, Cumberland County, Maine

Appendix 1-A
Property Location



Property

Maine Farmland Trust Held Easement

Other Conserved Lands

0 2 4 Miles

MAINE FARMLAND TRUST

Note: Information on this map is provided for purposes of discussion and visualization only; mapped boundaries and acreages are approximate.

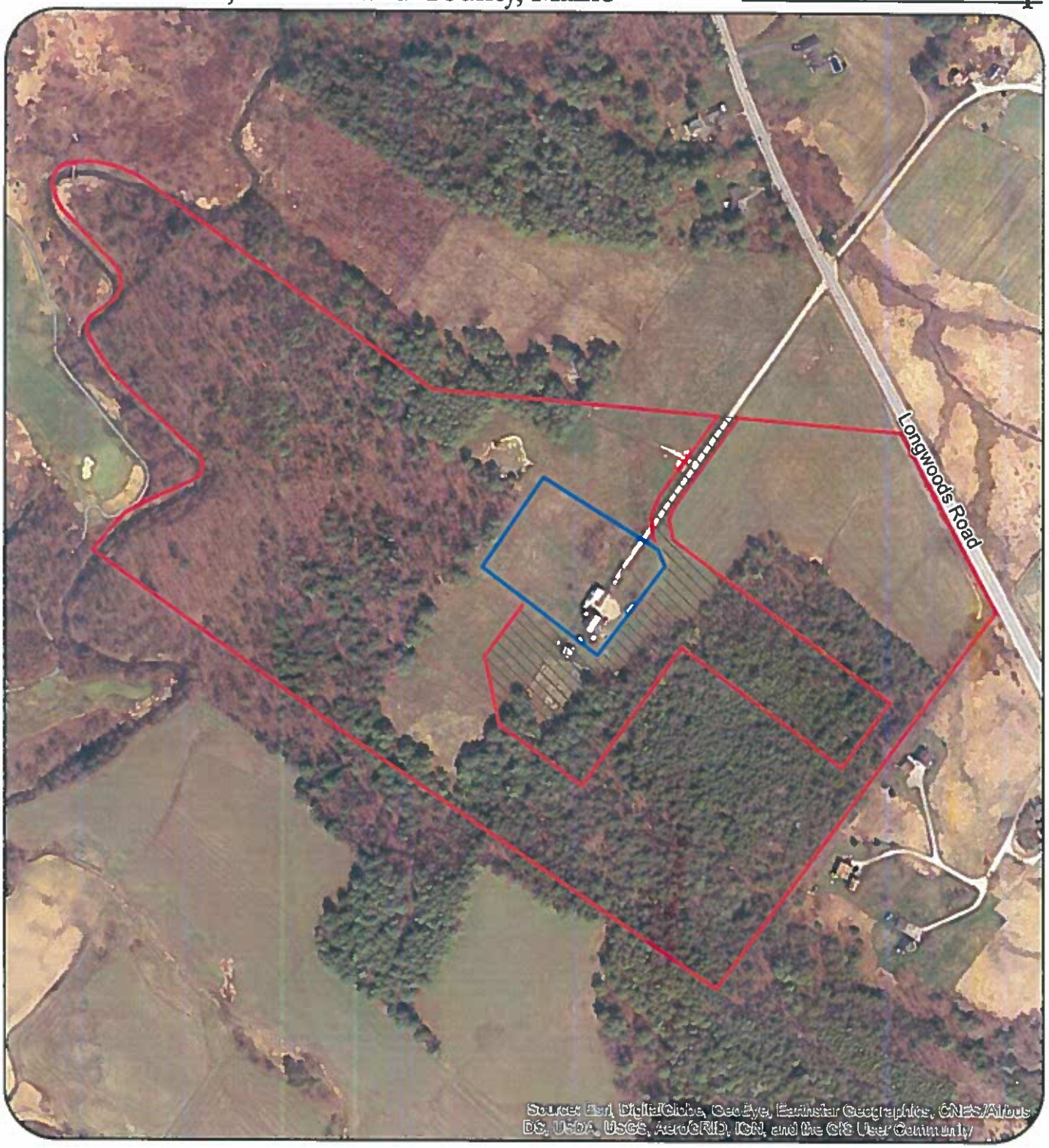
N

Created by , MFT, Chris Franklin 4/28/2022.
Base Data Source: Maine Office of GIS, To be recorded Existing Conditions Survey by Bounrday Points 04/12/2022, Maine DEM Lidar, Town of Cumberland Tax Parcel Data.

Longwoods Farm

Cumberland, Cumberland County, Maine

Appendix 1-B
Aerial Photo Map



Property (~54 Acres) Excepted Parcel (7.5 acres) Farmstead Area (3 acres)

0 500 1,000 Feet

N

MAINE FARMLAND TRUST

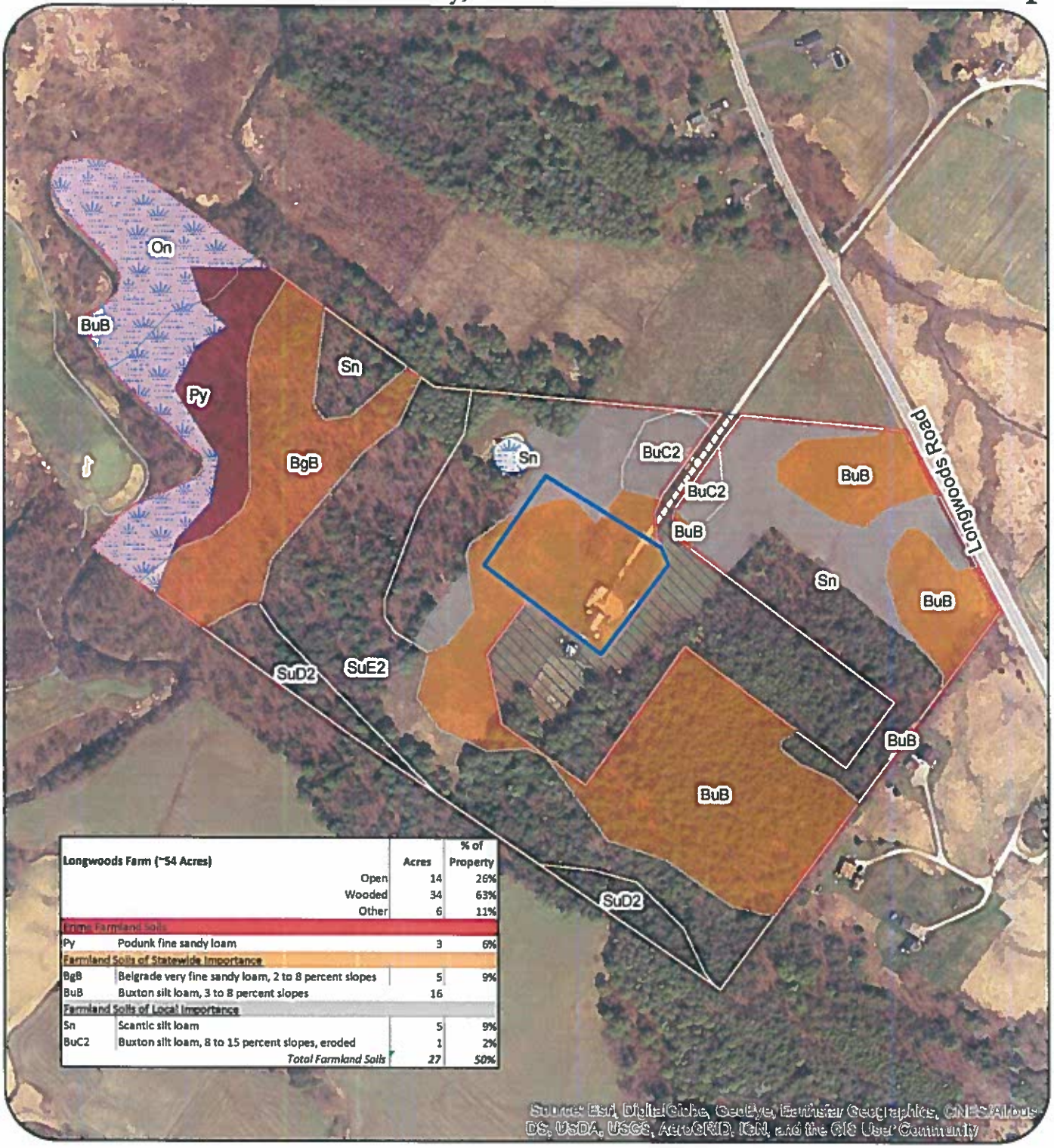
Note: Information on this map is provided for purposes of discussion and visualization only; mapped boundaries and acreages are approximate.

Created by Chris Franklin, MFT, 04/12/22
Base Data Source: Maine Office of GIS, ESRI World Imagery (Clarity).
Boundary based on Maine DEM Lidar, Town of Cumberland Tax Parcel Data.

Longwoods Farm

Cumberland, Cumberland County, Maine

Appendix 1-C
Soils Map



Longwoods Farm (~54 Acres)		Acres	% of Property
	Open	14	26%
	Wooded	34	63%
	Other	6	11%
Prime Farmland Soils			
Py	Podunk fine sandy loam	3	6%
Farmland Soils of Statewide Importance			
BgB	Belgrade very fine sandy loam, 2 to 8 percent slopes	5	9%
BuB	Buxton silt loam, 3 to 8 percent slopes	16	
Farmland Soils of Local Importance			
Sn	Scantic silt loam	5	9%
BuC2	Buxton silt loam, 8 to 15 percent slopes, eroded	1	2%
	Total Farmland Soils	*27*	*50%*

Property (~54 Acres) | Excepted Parcel (7.5 acres) | Farmstead Area (3 acres)

Wetlands | Prime Farmland Soils | Farmland of Statewide Importance

Farmland Soils of Local Importance

0 500 1,000 Feet

MAINE FARMLAND TRUST

Note: Information on this map is provided for purposes of discussion and visualization only; mapped boundaries and acreages are approximate.

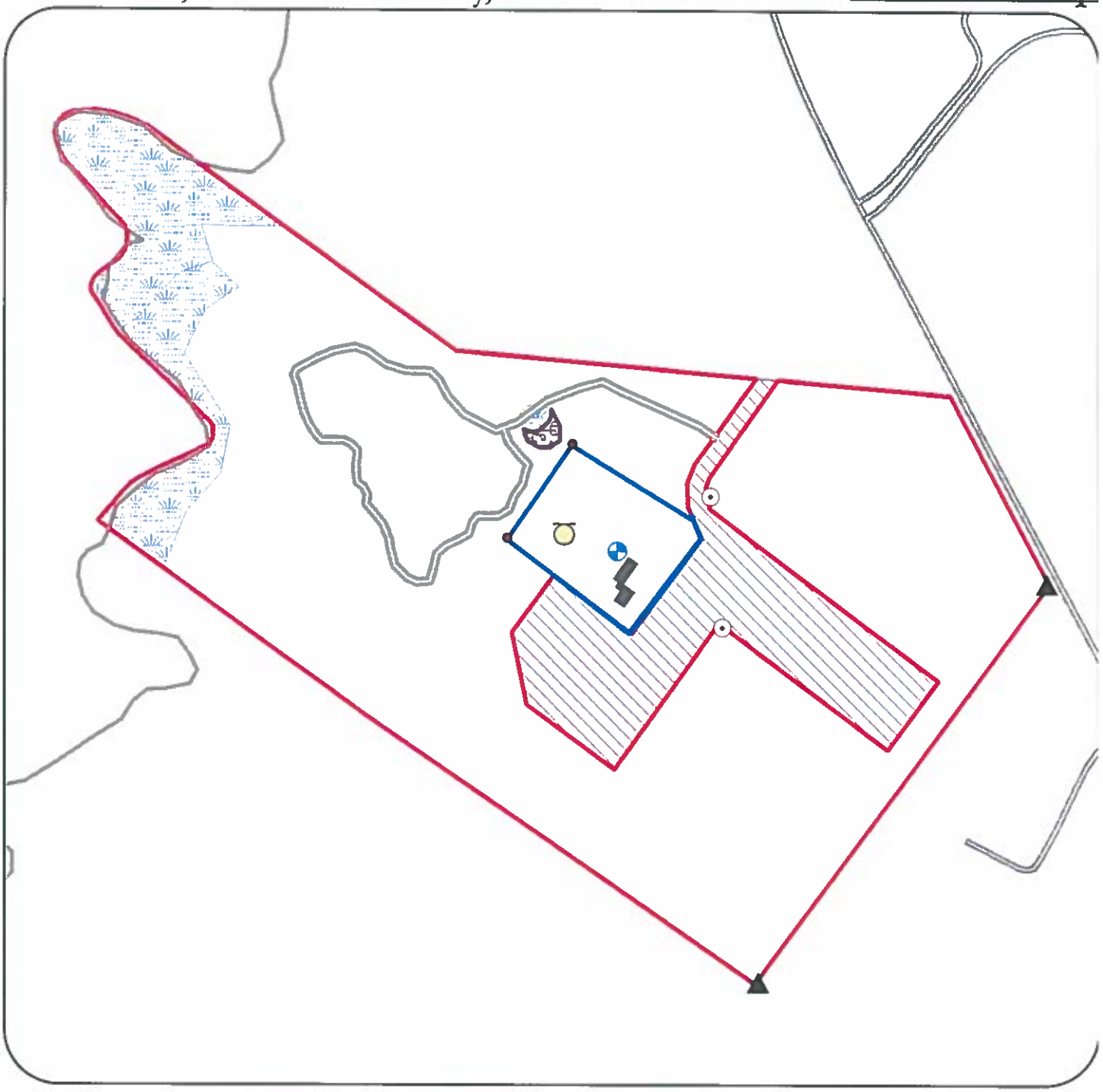
N

Created by Chris Franklin, MFT, 04/27/22
Base Data Source: Maine Office o f GIS, ESRI World Imagery (Clarity),Existing Conditions Survey created by Boundary Points dated 4/12/2022
Boundary based on Maine DEM Lidar, Town of Cumberland Tax Parcel Data.

Longwoods Farm

Cumberland, Cumberland County, Maine

Appendix 1-D
Features Map



Property (~54 Acres)
Excepted Parcel (7.5 acres)
Farmstead Area (3 acres)
5/8" Rebar Set MFT
Survey Pins Set
Trail Corridor
Referenced Survey Pins
Wetlands/Riparian Floodplain
Former Sand/Gravel Pit
Structures
Wells
Septic

0 500 1,000 Feet

MAINE FARMLAND TRUST

Note:Information on this map is provided for purposes of discussion and visualization only; mapped boundaries and acreages

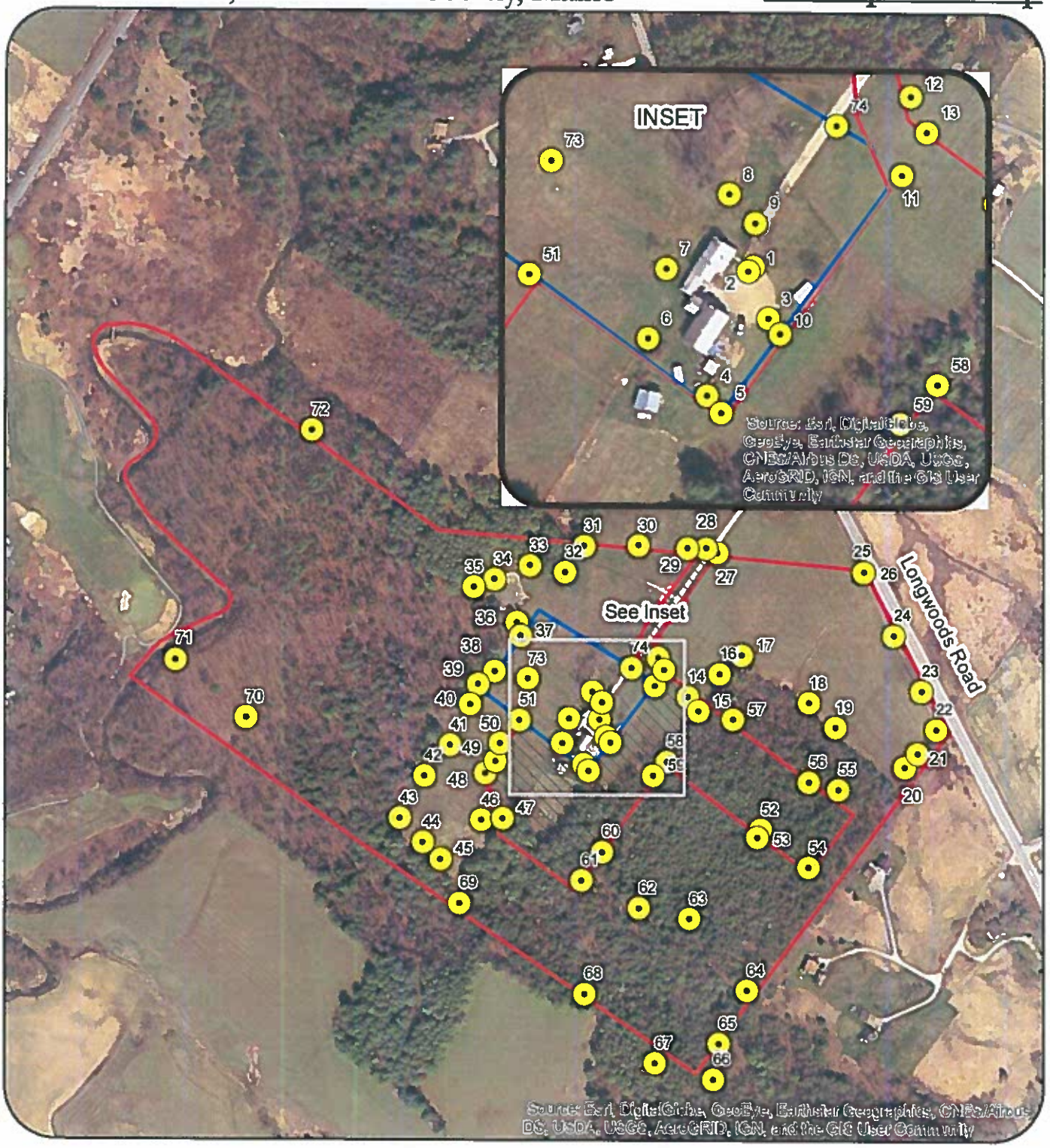
N

Created by Chris Franklin, MFT, 04/27/22
Base Data Source: Maine Office o f GIS, ESRI
World Imagery (Clarity), Existing Conditions Survey cre
Boundary Points dated 4/12/2022
Boundary based on Maine DEM Lidar, Town of Cumber
Tax Parcel Data

Longwoods Farm

Cumberland, Cumberland County, Maine

Appendix 2-A
Photopoint Map



Property (~54 Acres) Excepted Parcel (7.5 acres) Farmstead Area (3 acres)

Photopoints

MAINE FARMLAND TRUST

Note: Information on this map is provided for purposes of discussion and visualization only; mapped boundaries and acreages are approximate.

N

0 500 1,000 Feet

Created by Chris Franklin, MFT, 04/12/22
Base Data Source: Maine Office of GIS, ESRI World Imagery (Clarity), To be recorded Existing Conditions Survey by Boundary Points 04/12/2022.
Boundary based on Maine DEM Lidar, Town of Cumberland Tax Parcel Data.

Baseline Data Report Photographs

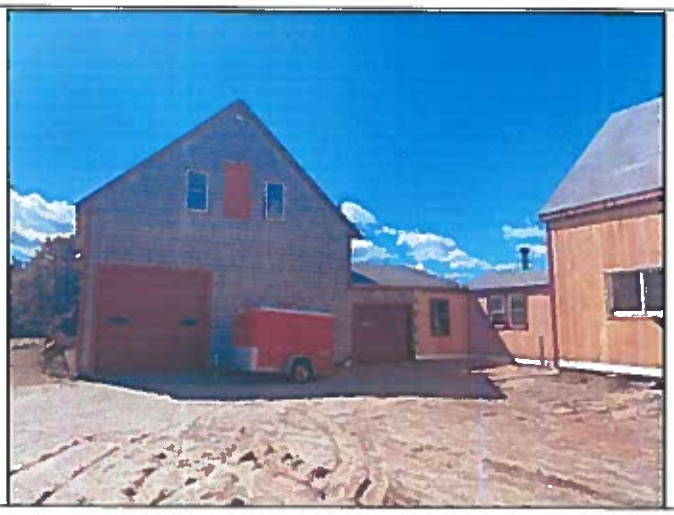
Longwoods Farm: 54 Acres: Cumberland Maine

APPENDIX 2-B

Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	1
Property Name	Longwoods Farm
File Name	1__photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	285° WNW
Feature Type	Permanent Structure
Notes	Residence
Photographer Initials	CWF
Latitude	N 43° 46' 01.07"
Longitude	W 70° 15' 05.07"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	2
Property Name	Longwoods Farm
File Name	2_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	241° WSW
Feature Type	Permanent Structure
Notes	Residence, Residential Addition, Garage and Barn
Photographer Initials	CWF
Latitude	N 43° 46' 01.02"
Longitude	W 70° 15' 05.14"
Date	03/21/2022
Make	Apple
Model	iPhone12,3



Baseline Data Report Photographs

Longwoods Farm: 54 Acres: Cumberland Maine

Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	3
Property Name	Longwoods Farm
File Name	3_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	264° W
Feature Type	Permanent Structure
Notes	Barn
Photographer Initials	CWF
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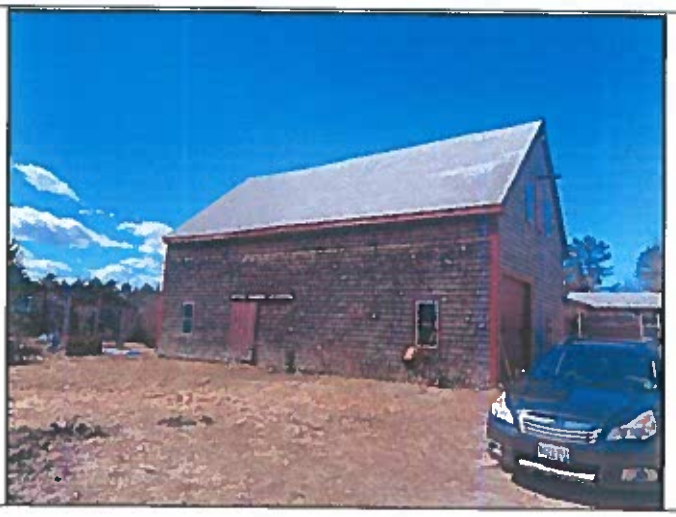
Longitude	W 70° 15' 04.85"
Date	03/21/2022
Make	Apple
Model	iPhone12,3



Attributes	
Photo Number	4
Property Name	Longwoods Farm
File Name	4_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	342° NNW
Feature Type	Permanent Structure
Notes	Barn
Photographer Initials	CWF
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Longitude	W 70° 15' 05.75"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

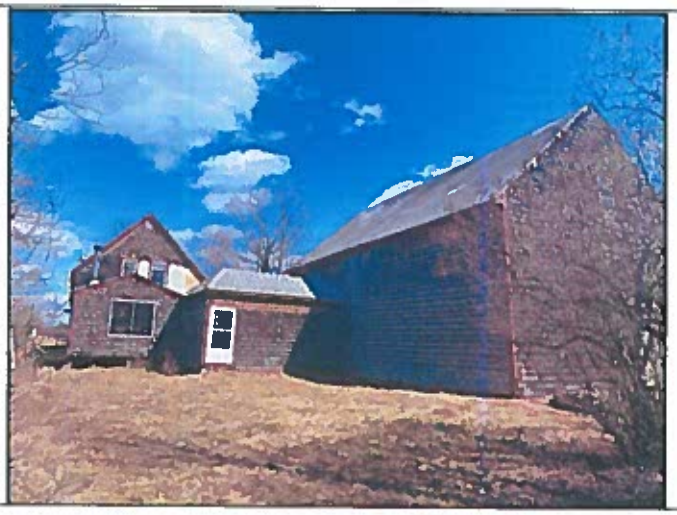
Attributes	
Photo Number	5
Property Name	Longwoods Farm
File Name	5_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	307° NW
Feature Type	Farmstead Area (FSA) Boundary
Notes	Northerly
Photographer Initials	CWF
Latitude	N 43° 45' 59.52"
Longitude	W 70° 15' 05.54"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Baseline Data Report Photographs

Longwoods Farm: 54 Acres: Cumberland Maine

Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	6
Property Name	Longwoods Farm
File Name	6_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	55° NE
Feature Type	Permanent Structure
Notes	Barn, Garage, Residential Addition and Residence
Photographer Initials	CWF
Latitude	N 43° 46' 00.30"
Longitude	W 70° 15' 06.63"
Date	03/21/2022
Make	Apple
Model	iPhone12,3



Attributes	
Photo Number	7
Property Name	Longwoods Farm
File Name	7_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	85° E
Feature Type	Permanent Structure
Notes	Residence and Residential Addition
Photographer Initials	CWF
Latitude	N 43° 46' 01.04"
Longitude	W 70° 15' 06.36"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	8
Property Name	Longwoods Farm
File Name	8_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	193° SSW
Feature Type	Permanent Structure
Notes	Residence
Photographer Initials	CWF
Latitude	N 43° 46' 01.84"
Longitude	W 70° 15' 05.43"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Baseline Data Report Photographs

Longwoods Farm: 54 Acres: Cumberland Maine

Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	9
Property Name	Longwoods Farm
File Name	9_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	36° NE
Feature Type	Surface Alteration
Notes	Driveway
Photographer Initials	CWF
Latitude	N 43° 46' 01.53"
Longitude	W 70° 15' 05.04"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	10
Property Name	Longwoods Farm
File Name	10_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	227° SW
Feature Type	FSA Boundary
Notes	Toward SW flagged FSA corner
Photographer Initials	CWF
Latitude	N 43° 46' 00.36"
Longitude	W 70° 15' 04.67"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	11
Property Name	Longwoods Farm
File Name	11_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	219° SW
Feature Type	Farmstead Area
Notes	Toward SW flagged FSA corner
Photographer Initials	CWF
Latitude	N 43° 46' 02.05"
Longitude	W 70° 15' 02.86"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Baseline Data Report Photographs

Longwoods Farm: 54 Acres: Cumberland Maine

Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	12
Property Name	Longwoods Farm
File Name	12_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	176° S
Feature Type	Field
Notes	Current condition of open fields
Photographer Initials	CWF
Latitude	N 43° 46' 02.89"
Longitude	W 70° 15' 02.74"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	13
Property Name	Longwoods Farm
File Name	13_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	341° NNW
Feature Type	Field
Notes	Current condition of open field
Photographer Initials	CWF
Latitude	N 43° 46' 02.51"
Longitude	W 70° 15' 02.50"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	14
Property Name	Longwoods Farm
File Name	14_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	132° SE
Feature Type	Boundary
Notes	Excluded Parcel Boundary line
Photographer Initials	CWF
Latitude	N 43° 46' 01.75"
Longitude	W 70° 15' 01.50"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Baseline Data Report Photographs

Longwoods Farm: 54 Acres: Cumberland Maine

Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	15
Property Name	Longwoods Farm
File Name	15_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	32° NNE
Feature Type	Field
Notes	Field Edge at Excluded Parcel boundary
Photographer Initials	CWF
Latitude	N 43° 46' 01.33"
Longitude	W 70° 15' 01.06"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	16
Property Name	Longwoods Farm
File Name	16_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	43° NE
Feature Type	Field
Notes	Current condition of open fields
Photographer Initials	CWF
Latitude	N 43° 46' 02.43"
Longitude	W 70° 15' 00.20"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	17
Property Name	Longwoods Farm
File Name	17_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	124° SE
Feature Type	Field
Notes	Current condition of open field edge
Photographer Initials	CWF
Latitude	N 43° 46' 03.01"
Longitude	W 70° 14' 59.32"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Baseline Data Report Photographs

Longwoods Farm: 54 Acres: Cumberland Maine

Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	18
Property Name	Longwoods Farm
File Name	18_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	337° NNW
Feature Type	Field
Notes	Current condition of open fields
Photographer Initials	CWF
Latitude	N 43° 46' 01.64"
Longitude	W 70° 14' 56.53"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	19
Property Name	Longwoods Farm
File Name	19_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	82° E
Feature Type	Field
Notes	Current condition of open fields
Photographer Initials	CWF
Latitude	N 43° 46' 00.93"
Longitude	W 70° 14' 55.43"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	20
Property Name	Longwoods Farm
File Name	20_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	26° NNE
Feature Type	Boundary
Notes	Current condition of field edge
Photographer Initials	CWF
Latitude	N 43° 45' 59.79"
Longitude	W 70° 14' 52.57"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Baseline Data Report Photographs

Longwoods Farm: 54 Acres: Cumberland Maine

Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	21
Property Name	Longwoods Farm
File Name	21_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	296° WNW
Feature Type	Field
Notes	Current condition of open fields
Photographer Initials	CWF
Latitude	N 43° 46' 00.20"
Longitude	W 70° 14' 52.05"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	22
Property Name	Longwoods Farm
File Name	22_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	334° NNW
Feature Type	Road Frontage
Notes	Open field edge along Longwoods Road
Photographer Initials	CWF
Latitude	N 43° 46' 00.92"
Longitude	W 70° 14' 51.32"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	23
Property Name	Longwoods Farm
File Name	23_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	293° WNW
Feature Type	Field
Notes	Current condition of open fields
Photographer Initials	CWF
Latitude	N 43° 46' 02.05"
Longitude	W 70° 14' 51.93"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Baseline Data Report Photographs

Longwoods Farm: 54 Acres: Cumberland Maine

Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	24
Property Name	Longwoods Farm
File Name	24_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	337° NNW
Feature Type	Road Frontage
Notes	Open field edge along Longwoods Road
Photographer Initials	CWF
Latitude	N 43° 46' 03.67"
Longitude	W 70° 14' 53.10"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	25
Property Name	Longwoods Farm
File Name	25_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	249° WSW
Feature Type	Field
Notes	Current condition of open fields
Photographer Initials	CWF
Latitude	N 43° 46' 05.53"
Longitude	W 70° 14' 54.45"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	26
Property Name	Longwoods Farm
File Name	26_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	273° W
Feature Type	Boundary
Notes	Current condition of open field
Photographer Initials	CWF
Latitude	N 43° 46' 05.52"
Longitude	W 70° 14' 54.35"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Baseline Data Report Photographs

Longwoods Farm: 54 Acres: Cumberland Maine

Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	27
Property Name	Longwoods Farm
File Name	27_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	99° E
Feature Type	Field
Notes	Current condition of open field
Photographer Initials	CWF
Latitude	N 43° 46' 06.00"
Longitude	W 70° 15' 00.36"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	28
Property Name	Longwoods Farm
File Name	28_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	219° SW
Feature Type	Boundary
Notes	Current condition of open field
Photographer Initials	CWF
Latitude	N 43° 46' 06.14"
Longitude	W 70° 15' 00.84"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

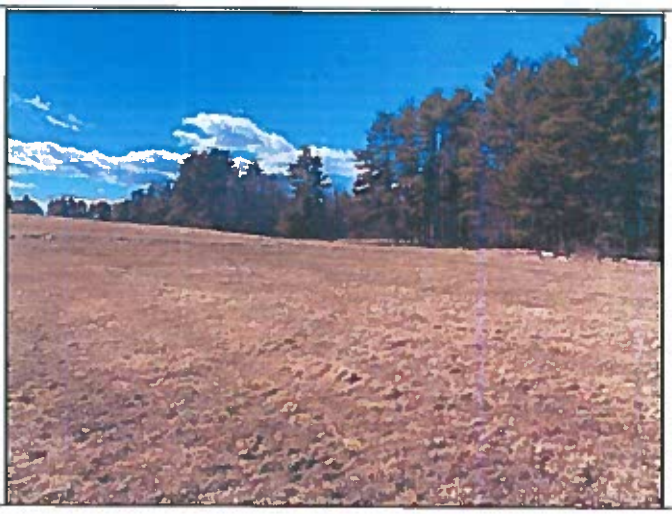
Attributes	
Photo Number	29
Property Name	Longwoods Farm
File Name	29_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	262° W
Feature Type	Boundary
Notes	Open fields along CMP boundary
Photographer Initials	CWF
Latitude	N 43° 46' 06.13"
Longitude	W 70° 15' 01.61"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Baseline Data Report Photographs

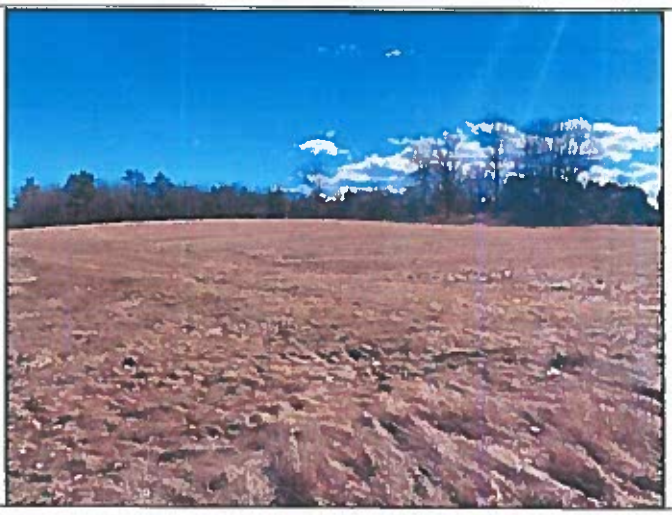
Longwoods Farm: 54 Acres: Cumberland Maine

Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	30
Property Name	Longwoods Farm
File Name	30_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	245° WSW
Feature Type	Field
Notes	Current condition of open fields
Photographer Initials	CWF
Latitude	N 43° 46' 06.18"
Longitude	W 70° 15' 03.64"
Date	03/21/2022
Make	Apple
Model	iPhone12,3



Attributes	
Photo Number	31
Property Name	Longwoods Farm
File Name	31_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	158° SSE
Feature Type	Field
Notes	Current condition of open fields
Photographer Initials	CWF
Latitude	N 43° 46' 06.14"
Longitude	W 70° 15' 05.86"
Date	03/21/2022
Make	Apple
Model	iPhone12,3



Attributes	
Photo Number	32
Property Name	Longwoods Farm
File Name	32_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	82° E
Feature Type	Field
Notes	Current condition of open fields toward CMP boundary
Photographer Initials	CWF
Latitude	N 43° 46' 05.34"
Longitude	W 70° 15' 06.63"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Baseline Data Report Photographs

Longwoods Farm: 54 Acres: Cumberland Maine

Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	33
Property Name	Longwoods Farm
File Name	33_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	286° WNW
Feature Type	Field
Notes	Current condition of open fields
Photographer Initials	CWF
Latitude	N 43° 46' 05.53"
Longitude	W 70° 15' 08.07"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	34
Property Name	Longwoods Farm
File Name	34_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	120° ESE
Feature Type	Surface Alteration
Notes	Former gravel/sand pit
Photographer Initials	CWF
Latitude	N 43° 46' 05.10"
Longitude	W 70° 15' 09.52"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	35
Property Name	Longwoods Farm
File Name	35_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	223° SW
Feature Type	Surface Alteration
Notes	Woods road
Photographer Initials	CWF
Latitude	N 43° 46' 04.86"
Longitude	W 70° 15' 10.34"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Baseline Data Report Photographs

Longwoods Farm: 54 Acres: Cumberland Maine

Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	36
Property Name	Longwoods Farm
File Name	36_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	50° NE
Feature Type	Field
Notes	Current condition of open fields
Photographer Initials	CWF
Latitude	N 43° 46' 03.85"
Longitude	W 70° 15' 08.57"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	37
Property Name	Longwoods Farm
File Name	37_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	133° SE
Feature Type	Farmstead Area
Notes	Current condition of open fields
Photographer Initials	CWF
Latitude	N 43° 46' 03.46"
Longitude	W 70° 15' 08.40"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

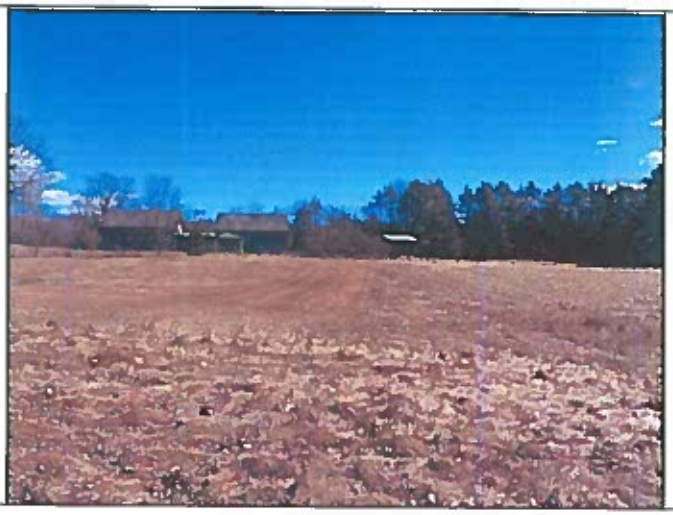
Attributes	
Photo Number	38
Property Name	Longwoods Farm
File Name	38_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	208° SSW
Feature Type	Field
Notes	Current condition of open field edge
Photographer Initials	CWF
Latitude	N 43° 46' 02.40"
Longitude	W 70° 15' 09.44"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Baseline Data Report Photographs

Longwoods Farm: 54 Acres: Cumberland Maine

Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	39
Property Name	Longwoods Farm
File Name	39_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	130° SE
Feature Type	Boundary
Notes	FSA boundary
Photographer Initials	CWF
Latitude	N 43° 46' 02.01"
Longitude	W 70° 15' 10.12"
Date	03/21/2022
Make	Apple
Model	iPhone12,3



Attributes	
Photo Number	40
Property Name	Longwoods Farm
File Name	40_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	184° S
Feature Type	Field
Notes	Current condition of open fields
Photographer Initials	CWF
Latitude	N 43° 46' 01.40"
Longitude	W 70° 15' 10.42"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	41
Property Name	Longwoods Farm
File Name	41_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	95° E
Feature Type	Field
Notes	Current condition of open fields
Photographer Initials	CWF
Latitude	N 43° 46' 00.20"
Longitude	W 70° 15' 11.22"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Baseline Data Report Photographs

Longwoods Farm: 54 Acres: Cumberland Maine

Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	42
Property Name	Longwoods Farm
File Name	42_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	210° SSW
Feature Type	Field
Notes	Current condition of open field edge
Photographer Initials	CWF
Latitude	N 43° 45' 59.27"
Longitude	W 70° 15' 12.27"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	43
Property Name	Longwoods Farm
File Name	43_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	35° NE
Feature Type	Field
Notes	Current condition of open fields
Photographer Initials	CWF
Latitude	N 43° 45' 58.02"
Longitude	W 70° 15' 13.24"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	44
Property Name	Longwoods Farm
File Name	44_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	39° NE
Feature Type	Field
Notes	Current condition of open fields
Photographer Initials	CWF
Latitude	N 43° 45' 57.32"
Longitude	W 70° 15' 12.29"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Baseline Data Report Photographs

Longwoods Farm: 54 Acres: Cumberland Maine

Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	45
Property Name	Longwoods Farm
File Name	45_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	118° ESE
Feature Type	Field
Notes	Current condition of open field edge
Photographer Initials	CWF
Latitude	N 43° 45' 56.83"
Longitude	W 70° 15' 11.56"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	46
Property Name	Longwoods Farm
File Name	46_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	88° E
Feature Type	Boundary
Notes	Flagged corner of Excluded Parcel
Photographer Initials	CWF
Latitude	N 43° 45' 58.01"
Longitude	W 70° 15' 09.91"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

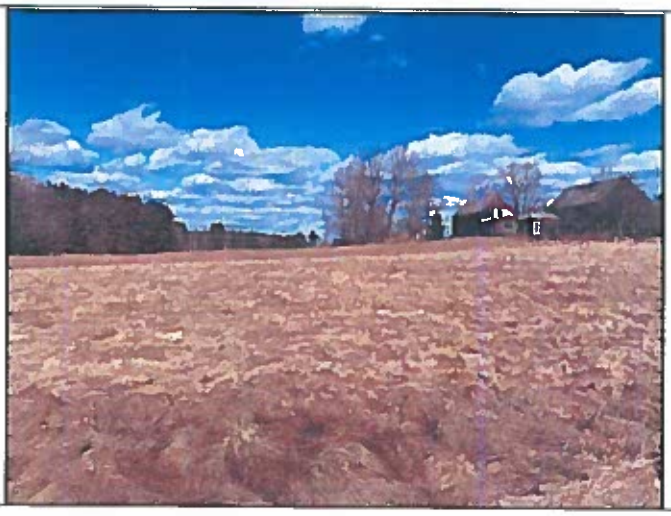
Attributes	
Photo Number	47
Property Name	Longwoods Farm
File Name	47_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	345° NNW
Feature Type	Boundary
Notes	Currrent condition of open fields
Photographer Initials	CWF
Latitude	N 43° 45' 58.08"
Longitude	W 70° 15' 09.04"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Baseline Data Report Photographs

Longwoods Farm: 54 Acres: Cumberland Maine

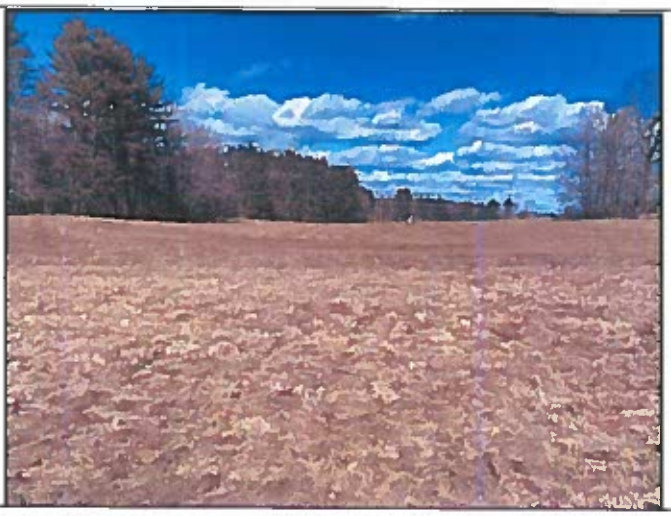
Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	48
Property Name	Longwoods Farm
File Name	48_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	39° NE
Feature Type	Boundary
Notes	Current condition of open fields
Photographer Initials	CWF
Latitude	N 43° 45' 59.39"
Longitude	W 70° 15' 09.78"
Date	03/21/2022
Make	Apple
Model	iPhone12,3



Attributes	
Photo Number	49
Property Name	Longwoods Farm
File Name	49_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	176° S
Feature Type	Boundary
Notes	Excluded Parcel boundary flag toward woods
Photographer Initials	CWF
Latitude	N 43° 45' 59.75"
Longitude	W 70° 15' 09.36"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	50
Property Name	Longwoods Farm
File Name	50_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	17° NNE
Feature Type	Field
Notes	Current condition of open fields
Photographer Initials	CWF
Latitude	N 43° 46' 00.27"
Longitude	W 70° 15' 09.19"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

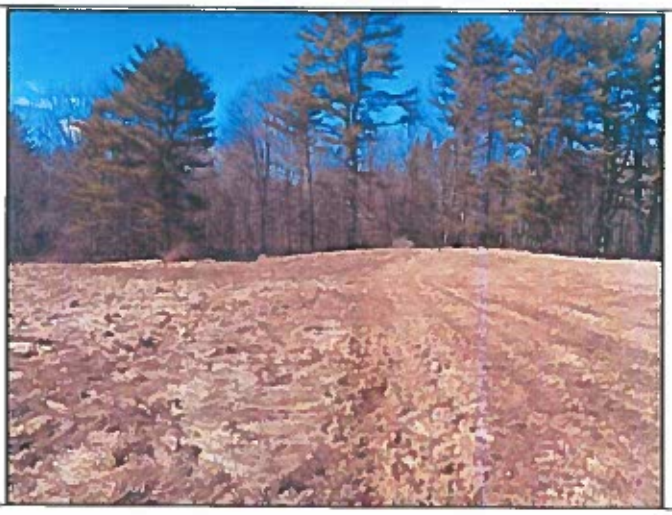


Baseline Data Report Photographs

Longwoods Farm: 54 Acres: Cumberland Maine

Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	51
Property Name	Longwoods Farm
File Name	51_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	308° NW
Feature Type	Boundary
Notes	Condition of open fields. Property to th....
Photographer Initials	CWF
Latitude	N 43° 46' 00.98"
Longitude	W 70° 15' 08.40"
Date	03/21/2022
Make	Apple
Model	iPhone12,3



Attributes	
Photo Number	52
Property Name	Longwoods Farm
File Name	52_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	159° SSE
Feature Type	Surface Alteration
Notes	Woods road. Note timber marking.
Photographer Initials	CWF
Latitude	N 43° 45' 57.88"
Longitude	W 70° 14' 58.42"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	53
Property Name	Longwoods Farm
File Name	53_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	175° S
Feature Type	Boundary
Notes	Flagged boundary
Photographer Initials	CWF
Latitude	N 43° 45' 57.64"
Longitude	W 70° 14' 58.57"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

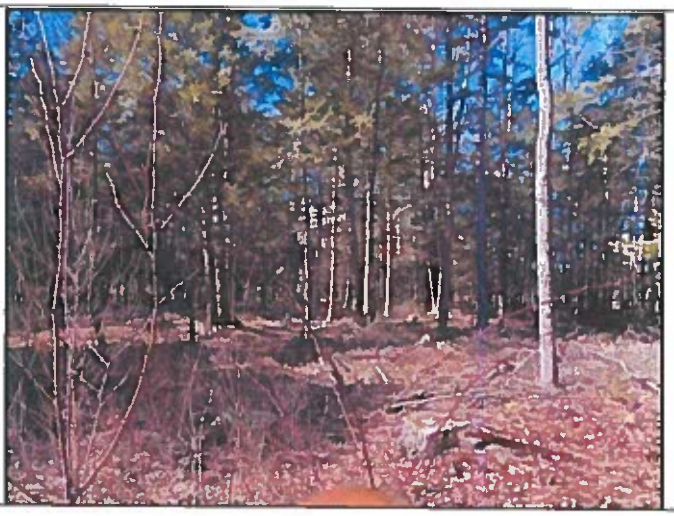
Baseline Data Report Photographs

Longwoods Farm: 54 Acres: Cumberland Maine

Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	54
Property Name	Longwoods Farm
File Name	54_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	355° N
Feature Type	Boundary
Notes	Staked boundary
Photographer Initials	CWF
Latitude	N 43° 45' 56.78"
Longitude	W 70° 14' 56.45"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	55
Property Name	Longwoods Farm
File Name	55_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	321° NW
Feature Type	Boundary
Notes	Excluded Parcel Boundary
Photographer Initials	CWF
Latitude	N 43° 45' 59.10"
Longitude	W 70° 14' 55.27"
Date	03/21/2022
Make	Apple
Model	iPhone12,3



Attributes	
Photo Number	56
Property Name	Longwoods Farm
File Name	56_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	149° SSE
Feature Type	Forestry
Notes	Existing slash near Excluded Parcelboundary
Photographer Initials	CWF
Latitude	N 43° 45' 59.31"
Longitude	W 70° 14' 56.49"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Baseline Data Report Photographs

Longwoods Farm: 54 Acres: Cumberland Maine

Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	57
Property Name	Longwoods Farm
File Name	57_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	121° ESE
Feature Type	Boundary
Notes	Flagged Excluded Parcel boundary
Photographer Initials	CWF
Latitude	N 43° 46' 01.11"
Longitude	W 70° 14' 59.63"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	58
Property Name	Longwoods Farm
File Name	58_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	137° SE
Feature Type	Boundary
Notes	Flagged Excluded Parcel corner
Photographer Initials	CWF
Latitude	N 43° 45' 59.82"
Longitude	W 70° 15' 02.34"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	59
Property Name	Longwoods Farm
File Name	59_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	215° SW
Feature Type	Boundary
Notes	Flagged Excluded Parcel boundary
Photographer Initials	CWF
Latitude	N 43° 45' 59.40"
Longitude	W 70° 15' 02.89"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Baseline Data Report Photographs

Longwoods Farm: 54 Acres: Cumberland Maine

Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	60
Property Name	Longwoods Farm
File Name	60_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	32° NNE
Feature Type	Boundary
Notes	Flagged Excluded Parcel boundary
Photographer Initials	CWF
Latitude	N 43° 45' 57.13"
Longitude	W 70° 15' 04.94"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	61
Property Name	Longwoods Farm
File Name	61_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	286° WNW
Feature Type	Boundary
Notes	Flagged Excluded Parcel boundary corner
Photographer Initials	CWF
Latitude	N 43° 45' 56.28"
Longitude	W 70° 15' 05.77"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	62
Property Name	Longwoods Farm
File Name	62_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	122° ESE
Feature Type	Surface Alteration
Notes	Existing woods road
Photographer Initials	CWF
Latitude	N 43° 45' 55.49"
Longitude	W 70° 15' 03.39"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

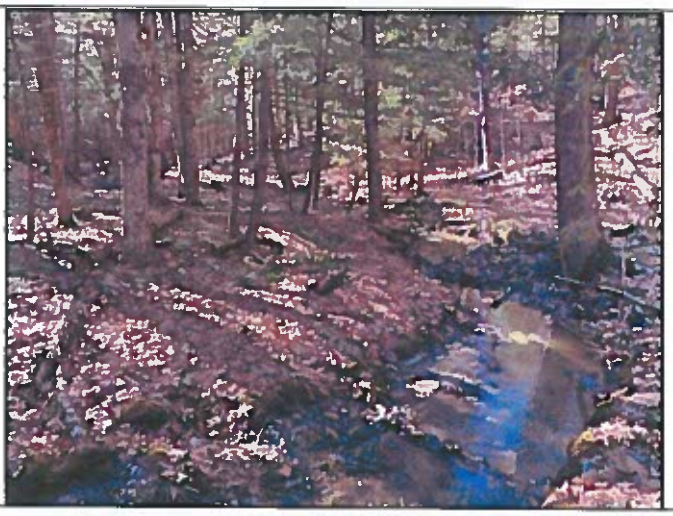
Baseline Data Report Photographs

Longwoods Farm: 54 Acres: Cumberland Maine

Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	63
Property Name	Longwoods Farm
File Name	63_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	69° ENE
Feature Type	Forestry
Notes	Existing forestry—recent
Photographer Initials	CWF
Latitude	N 43° 45' 55.20"
Longitude	W 70° 15' 01.30"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	64
Property Name	Longwoods Farm
File Name	64_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	275° W
Feature Type	Water feature
Notes	Brook
Photographer Initials	CWF
Latitude	N 43° 45' 53.12"
Longitude	W 70° 14' 58.89"
Date	03/21/2022
Make	Apple
Model	iPhone12,3



Attributes	
Photo Number	65
Property Name	Longwoods Farm
File Name	65_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	349° N
Feature Type	Boundary
Notes	Flagged boundary
Photographer Initials	CWF
Latitude	N 43° 45' 51.53"
Longitude	W 70° 15' 00.01"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Baseline Data Report Photographs

Longwoods Farm: 54 Acres: Cumberland Maine

Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	66
Property Name	Longwoods Farm
File Name	66_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	185° S
Feature Type	Boundary Monument
Notes	Iron pin found at Property corner.
Photographer Initials	CWF
Latitude	N 43° 45' 50.47"
Longitude	W 70° 15' 00.21"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	67
Property Name	Longwoods Farm
File Name	67_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	302° WNW
Feature Type	Boundary
Notes	Flagged boundary
Photographer Initials	CWF
Latitude	N 43° 45' 50.92"
Longitude	W 70° 15' 02.63"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	68
Property Name	Longwoods Farm
File Name	68_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	302° WNW
Feature Type	Boundary
Notes	Fenceline
Photographer Initials	CWF
Latitude	N 43° 45' 52.93"
Longitude	W 70° 15' 05.57"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Baseline Data Report Photographs

Longwoods Farm: 54 Acres: Cumberland Maine

Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	69
Property Name	Longwoods Farm
File Name	69_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	255° WSW
Feature Type	Boundary
Notes	Fenceline boundary
Photographer Initials	CWF
Latitude	N 43° 45' 55.55"
Longitude	W 70° 15' 10.74"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	70
Property Name	Longwoods Farm
File Name	70_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	309° NW
Feature Type	Forestry
Notes	Ash and birch grove
Photographer Initials	CWF
Latitude	N 43° 46' 00.89"
Longitude	W 70° 15' 19.64"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	71
Property Name	Longwoods Farm
File Name	71_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	329° NNW
Feature Type	Boundary
Notes	To flagged corner
Photographer Initials	CWF
Latitude	N 43° 46' 02.56"
Longitude	W 70° 15' 22.56"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Baseline Data Report Photographs

Longwoods Farm: 54 Acres: Cumberland Maine

Photographs Taken 03/21/2022 by Chris Franklin

Attributes	
Photo Number	72
Property Name	Longwoods Farm
File Name	72_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	279° W
Feature Type	Boundary
Notes	Assumed boundary
Photographer Initials	CWF
Latitude	N 43° 46' 09.41"
Longitude	W 70° 15' 17.10"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

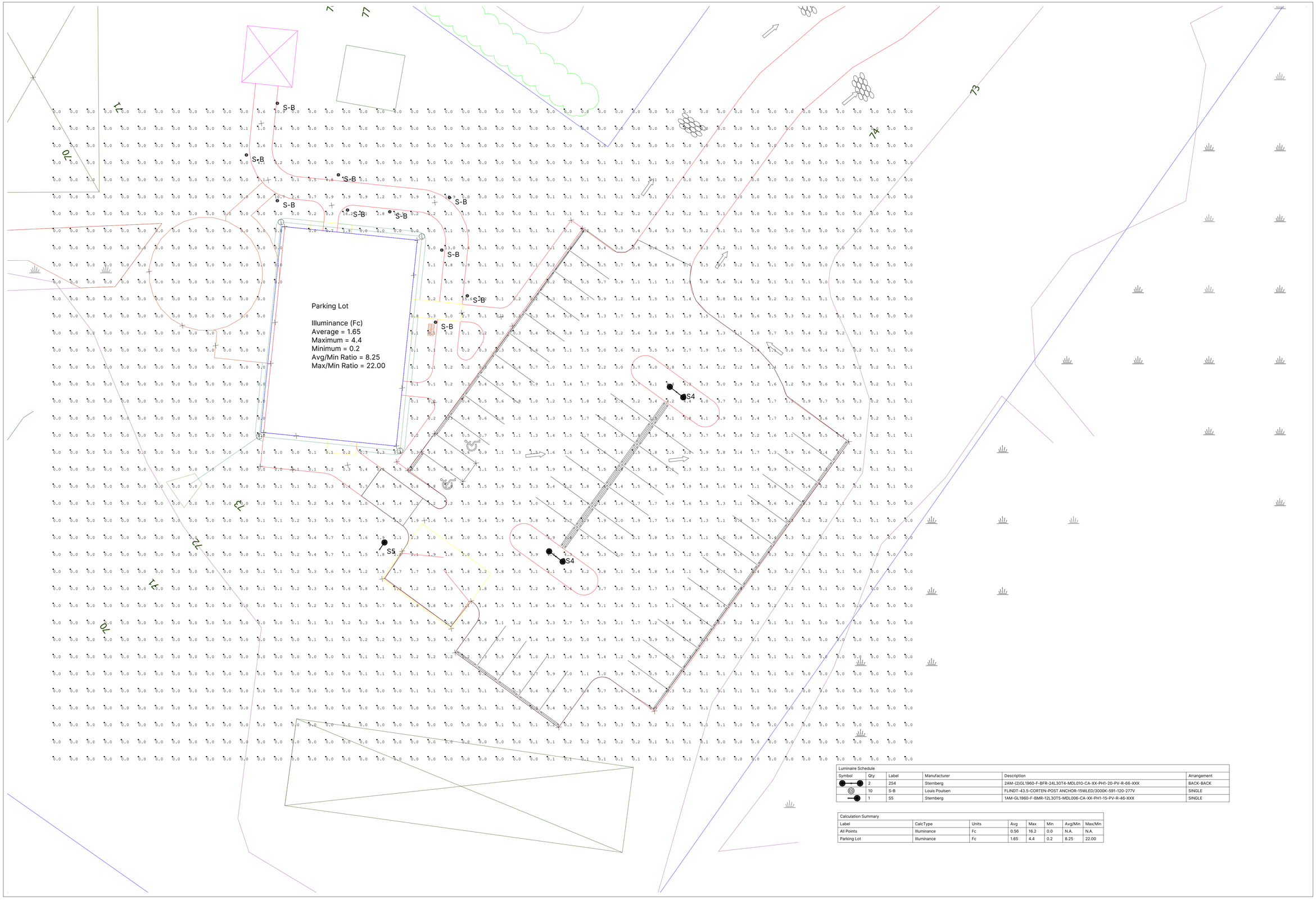
Attributes	
Photo Number	73
Property Name	Longwoods Farm
File Name	73_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	124° SE
Feature Type	Surface Alteration
Notes	Septic line and tank
Photographer Initials	CWF
Latitude	N 43° 46' 02.19"
Longitude	W 70° 15' 08.08"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

Attributes	
Photo Number	74
Property Name	Longwoods Farm
File Name	74_photo_Longwoods_2022_03_21_cwf.jpg
Photo Direction	188° S
Feature Type	Farmstead Area
Notes	From driveway
Photographer Initials	CWF
Latitude	N 43° 46' 02.58"
Longitude	W 70° 15' 03.84"
Date	03/21/2022
Make	Apple
Model	iPhone12,3

ATTACHMENT 7

EXTERIOR LIGHTING

SME
SEVEE & MAHER
ENGINEERS



Luminaire Schedule

Symbol	Qty	Label	Manufacturer	Description	Arrangement
	2	2S4	Sternberg	2AM-(2)GL1960-F-BFR-24L30T4-MDL010-CA-XX-PH1-20-PV-R-66-XXX	BACK-BACK
	10	S-B	Louis Poulsen	FLINDT-43.5-CORTEN-POST ANCHOR-15WLED/3000K-591-120-277V	SINGLE
	1	S5	Sternberg	1AM-GL1960-F-BMR-12L30T5-MDL006-CA-XX-PH1-15-PV-R-46-XXX	SINGLE

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
All Points	Illuminance	Fc	0.56	16.2	0.0	N.A.	N.A.
Parking Lot	Illuminance	Fc	1.65	4.4	0.2	8.25	22.00

44 Sixth Road
Woburn, MA 01801
C: 207-219-1716
E: mcorrao@illuminatene.com

#	Date	Comments

Revisions

Drawn By: MC
Checked By: MC
Date:7/7/2022
Scale:

76 Longwood Preserve Cumberland, ME Exterior Lighting Calc.REV2

SternbergLighting
ESTABLISHED 1923 / EMPLOYEE OWNED
GENESIS 3D Product Configurator

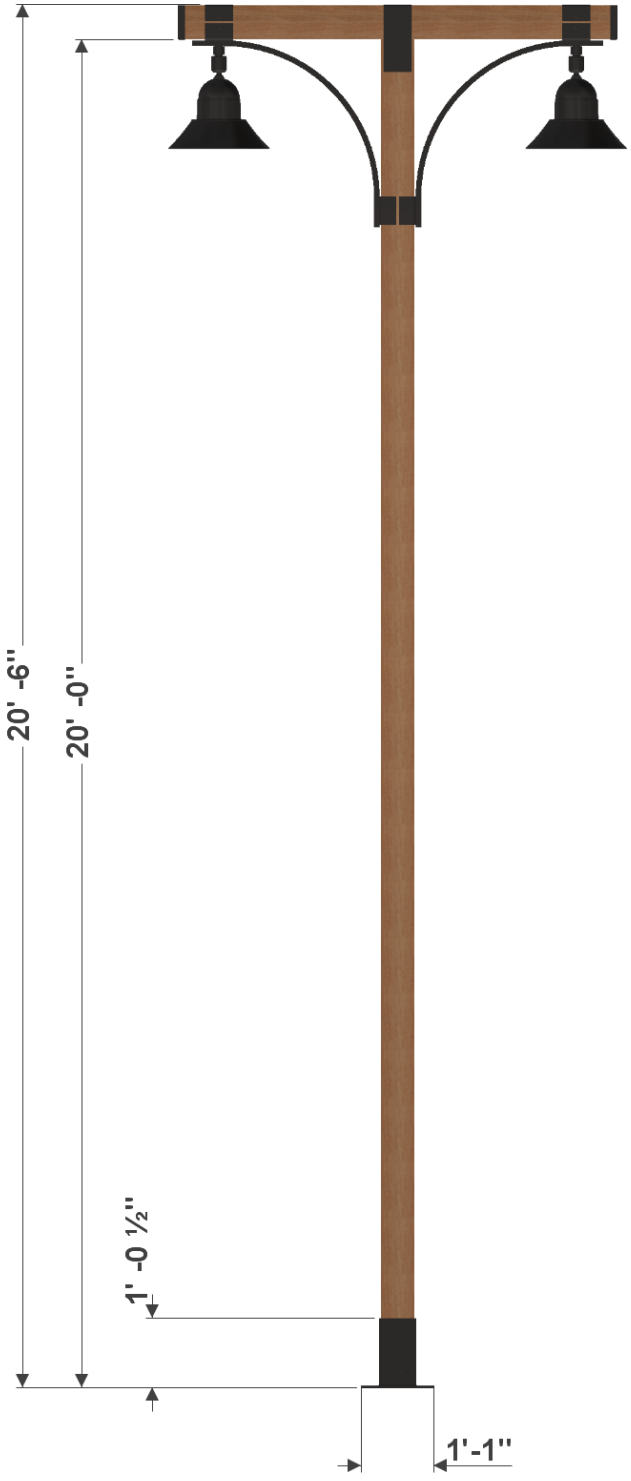
Catalog Number:	Type:
2A-GL1960-24L30T4-MDL010-CA-EZ/PH1/20/PV/R/66/BK	

Customer Approval:

Signature

Date

Conceptual assembly drawing, subject to Engineering verification by factory.



NUMBER OF ARMS: 2

ARM ARM MOUNTED FIXTURE: GL1960

The GL1960 Gallery Series is a large scale, decorative downlight fixture with a spun aluminum shade. The dome is available with six types of shades: straight (S), flared (F), bell (B), round rim (RR), round with flared rim (RF), and round with square rim (RS) styles. The luminaire measures 17-1/2" in diameter and 13-1/2" overall height. The Luminaire shall be UL listed in US and Canada.

LIGHT SOURCE: -24L30T4-MDL010

Array:	24 LEDS, 62W for MD_010, 88W for MD_014 (24L)
Color Temp:	3000K (30)
Distribution:	Type 4 (T4)
Driver:	Multi-Volt Dimmable Low-Range Driver,120-277V (MDL010)

OPTIONS: -CA-EZ

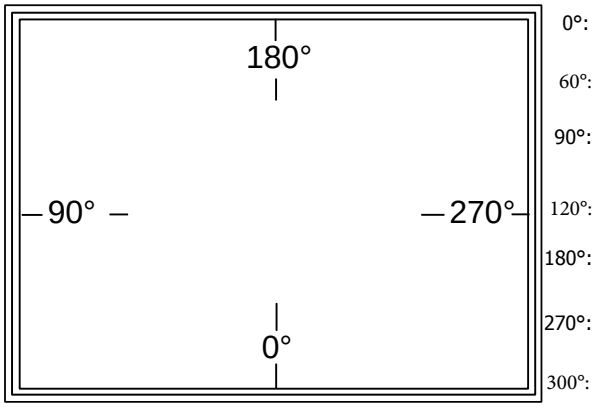
Lens:	Clear Acrylic (CA)
Hangstraight:	EZ Vertical (EZ)

POLE: PH1/20/PV/R/

This architectural laminated wood light pole measures 6-3/4" x 6" in cross section and is used with the one-way or two-way pronghorn crossarms.

FINISH: BK

Assembly shall be powder coated to Black Smooth finish. Prior to coating, the assembly shall be chemically cleaned and etched in a 5-stage washing system which includes alkaline cleaning, rinsing, phosphoric etching, reverse osmosis water rinsing, and non-chrome sealing to ensure corrosion resistance.

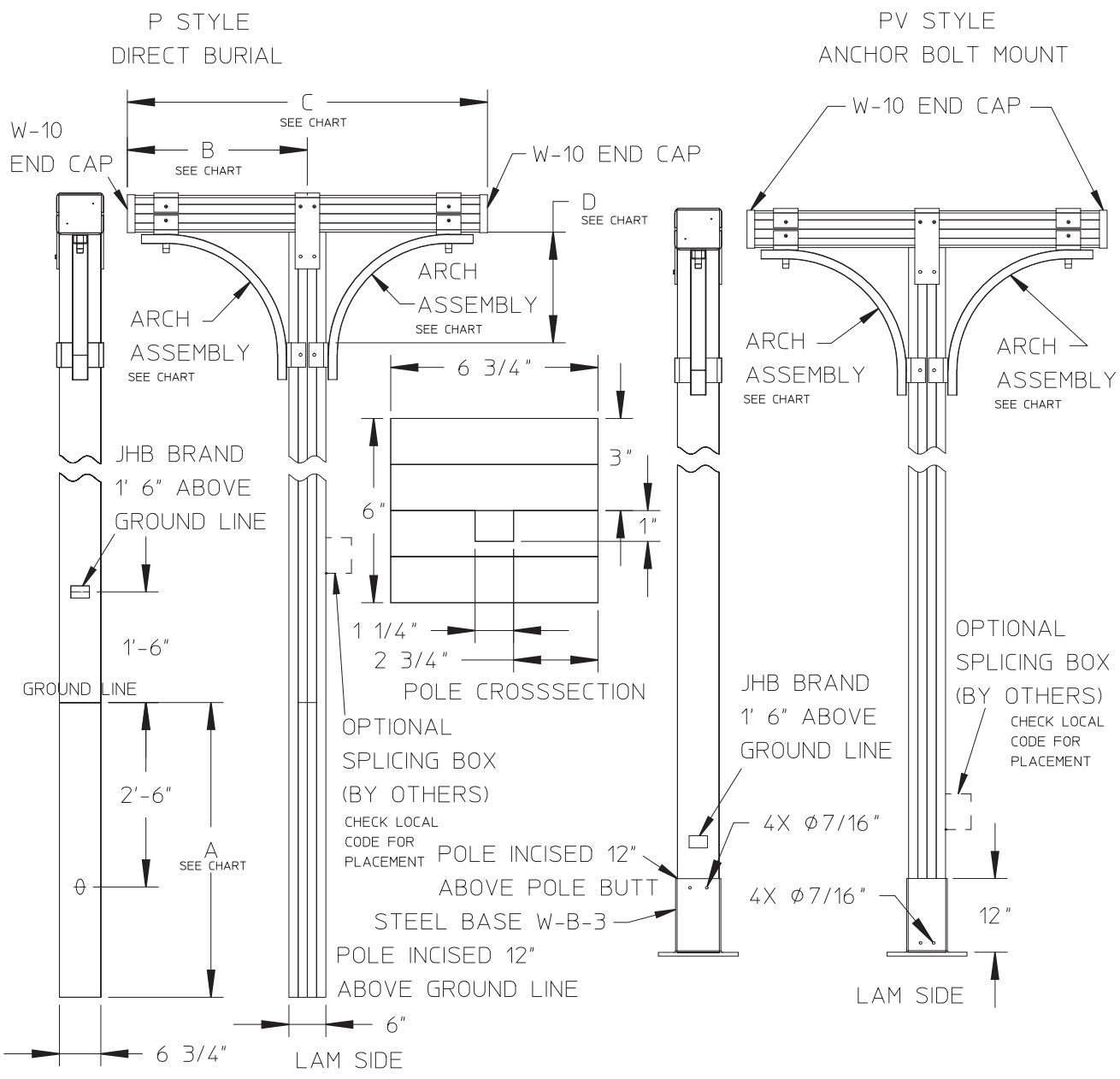


Bolt Info:

Access Door Orientation:
Street Side Orientation:

Rev	Description	By	Date
A			
B			
C			
D			
E			

Job Name:			
Job Location:			Drawing No. 43179
Drawn By:	Drawn Date:	Checked By:	Checked Date:



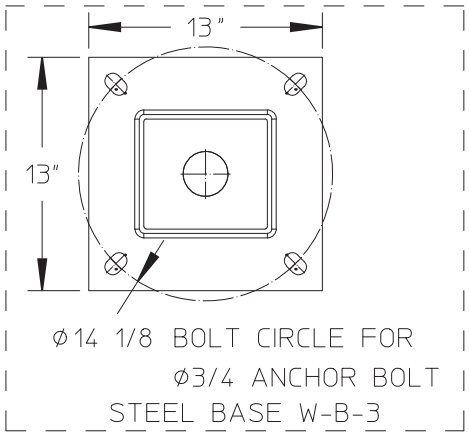
TWO WAY CROSS ARM CHART

DIM "C"	6'-6"	8'-6"
ARCH ASSEMBLY	A76-7D	A76-9D
DIM "B"	3'-3"	4'-3"
DIM "D"	28"	40"

P STYLE POLE BURY DEPTH CHART*

DIM "A"	3'6"	4'	4'6"
POLE LENGTH	12	15	20

*These are examples only. Actual bury depth must be designed according to local codes and soil conditions.



6-3/4" X 6" P AND PV PRONGHORN STRAIGHT POLE SPECIFICATION WITH TWO WAY CROSS ARM

TimberWood PRODUCTS

6-3/4" x 6" P AND PV PRONGHORN STRAIGHT POLE WITH TWO WAY CROSS ARM

BUILDING A PART NUMBER

MODEL	HEIGHT	TYPE	TEXTURE	TWO WAY CROSS ARM	FINISH*
PH1	15	PV	R	66	BKT**

MODEL	HEIGHT	TYPE	TEXTURE	TWO WAY CROSS ARM
PH1 – 6-3/4"x 6"	12 15 20	**P** – DIRECT BURIAL **PV** – ANCHOR BOLT	**R** – ROUGH **S** – SMOOTH	6'6" 8'6"

STANDARD FINISHES[1]

- **BKT** Black Textured
- **WHT** White Textured
- **PGT** Park Green Textured
- **ABZT** Architectural Medium Bronze Textured
- **DBT** Dark Bronze Textured

[1]Smooth finishes are available upon request

CUSTOM FINISHES

- **OI** Old Iron
- **RT** Rust
- **WBR** Weathered Brown
- **CD** Cedar
- **WBK** Weathered Black
- **TT** Two Tone

STERNBERG SELECT FINISHES

- **VG** Verde Green
- **SI** Swedish Iron
- **OWGT** Old World Gray Textured

*Base and metal parts (non-fixture)
**Default color if none is chosen

Specifications – For TimberWood Architectural Laminated Wood Light Poles

1.0 General: TimberWood Architectural Laminated Wood Light Poles shall be of materials, size, shapes, styles, patterns and fabrication as specified herein and as shown on JH Baxter detail drawings.

2.0 Lumber: Coast region Douglas Fir only for direct bury, (Port Orford Cedar or Alaskan Yellow Cedar for above ground use only). L1 laminating grade for strength and appearance is used on all exposed wide faces. L2 or L2 dense is used for interior laminations. Grades are described in current WCLIB Grading Rules.

3.0 Laminating Requirements: Architectural Laminated Wood Light Poles shall be laminated with adhesives meeting or exceeding the exterior durability performance requirements of the most recent revision of American National Standard ANSI / AITC A190.1-2007.

4.0 Surface Finish, Appearance & Tolerance: Open defects such as knotholes exceeding ½" in diameter or wane exceeding ¼" x 12" shall be filled with wood filler for surfaced four faces with edges eased to 3/8" radius. For rough, textured four sides, knots will be exposed. Tolerances shall be from +0 to -1/4" in width and depth.

5.0 Preservative Treatment: Architectural Laminated Wood Light Poles will be treated with 6% pentachlorophenol borne in light hydrocarbon solvent in conformance with AWPA Standards to a minimum net retention of 0.60 pounds per cubic foot of penta.

6.0 Trademark: Each Architectural Laminated Wood Light Poles shall be branded to indicate Manufacture-Month-Year at 18" above intended ground line.

7.0 Wrapping: Architectural Laminated Wood Light Poles will be individually wrapped.

8.0 Embedment: As required by local codes and soil conditions. Designed by others.

9.0 Top Protection: Metal cap must be installed unless fixture is top mounted.

10.0 Incising: All Architectural Laminated Wood Light Poles will be incised on all four sides to 1/2" in depth from butt to 16" above indicated ground mark (P poles) or 12" from butt if mounted in steel base (PV). Incising adds durability to treated Douglas Fir.

555 Lawrence Ave. Roselle, IL 60172 • 847-588-3400 • Fax 847-588-3440
www.sternberglighting.com Email: info@sternberglighting.com

SternbergLighting
ESTABLISHED 1923 / EMPLOYEE OWNED
GENESIS 3D Product Configurator

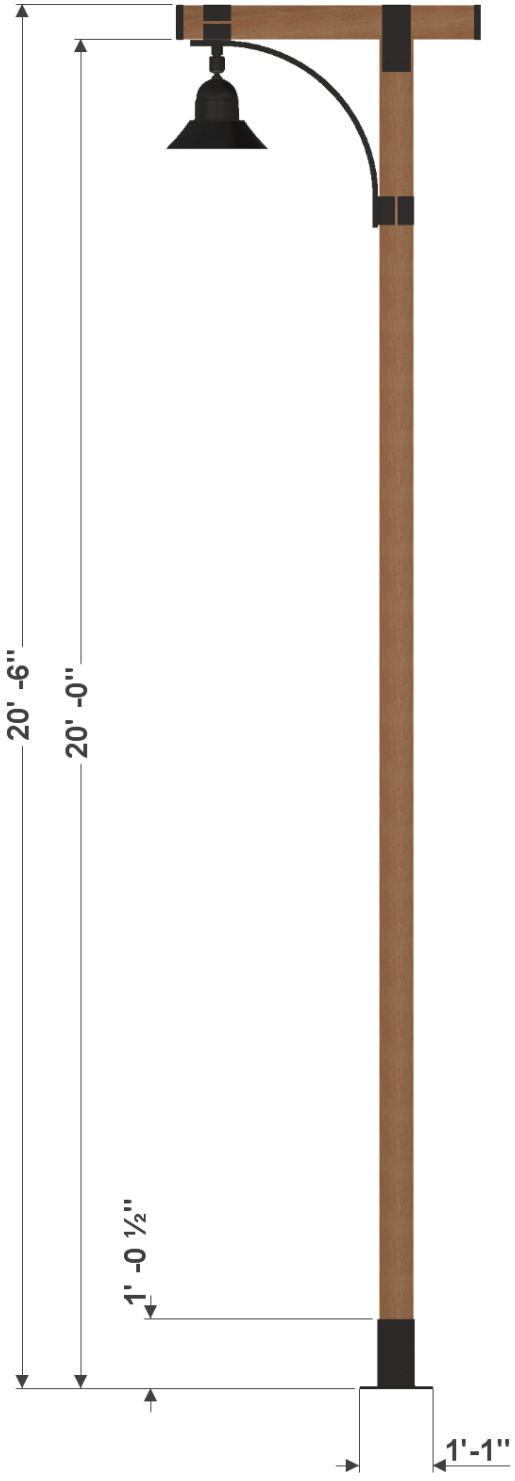
Catalog Number:	Type:
1A-GL1960-24L30T3-MDL010-CA-EZ/PH1/20/PV/R/46/BK	

Customer Approval:

Signature

Date

Conceptual assembly drawing, subject to Engineering verification by factory.



NUMBER OF ARMS: 1

ARM ARM MOUNTED FIXTURE: GL1960

The GL1960 Gallery Series is a large scale, decorative downlight fixture with a spun aluminum shade. The dome is available with six types of shades: straight (S), flared (F), bell (B), round rim (RR), round with flared rim (RF), and round with square rim (RS) styles. The luminaire measures 17-1/2" in diameter and 13-1/2" overall height. The Luminaire shall be UL listed in US and Canada.

LIGHT SOURCE: -24L30T3-MDL010

Array:	24 LEDS, 62W for MD_010, 88W for MD_014 (24L)
Color Temp:	3000K (30)
Distribution:	Type 3 (T3)
Driver:	Multi-Volt Dimmable Low-Range Driver,120-277V (MDL010)

OPTIONS: -CA-EZ

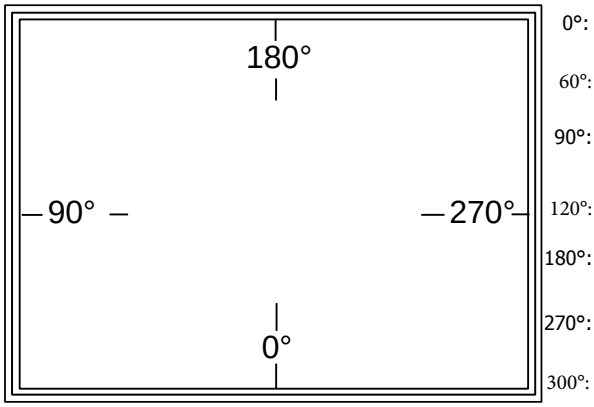
Lens:	Clear Acrylic (CA)
Hangstraight:	EZ Vertical (EZ)

POLE: PH1/20/PV/R/

This architectural laminated wood light pole measures 6-3/4" x 6" in cross section and is used with the one-way or two-way pronghorn crossarms.

FINISH: BK

Assembly shall be powder coated to Black Smooth finish. Prior to coating, the assembly shall be chemically cleaned and etched in a 5-stage washing system which includes alkaline cleaning, rinsing, phosphoric etching, reverse osmosis water rinsing, and non-chrome sealing to ensure corrosion resistance.

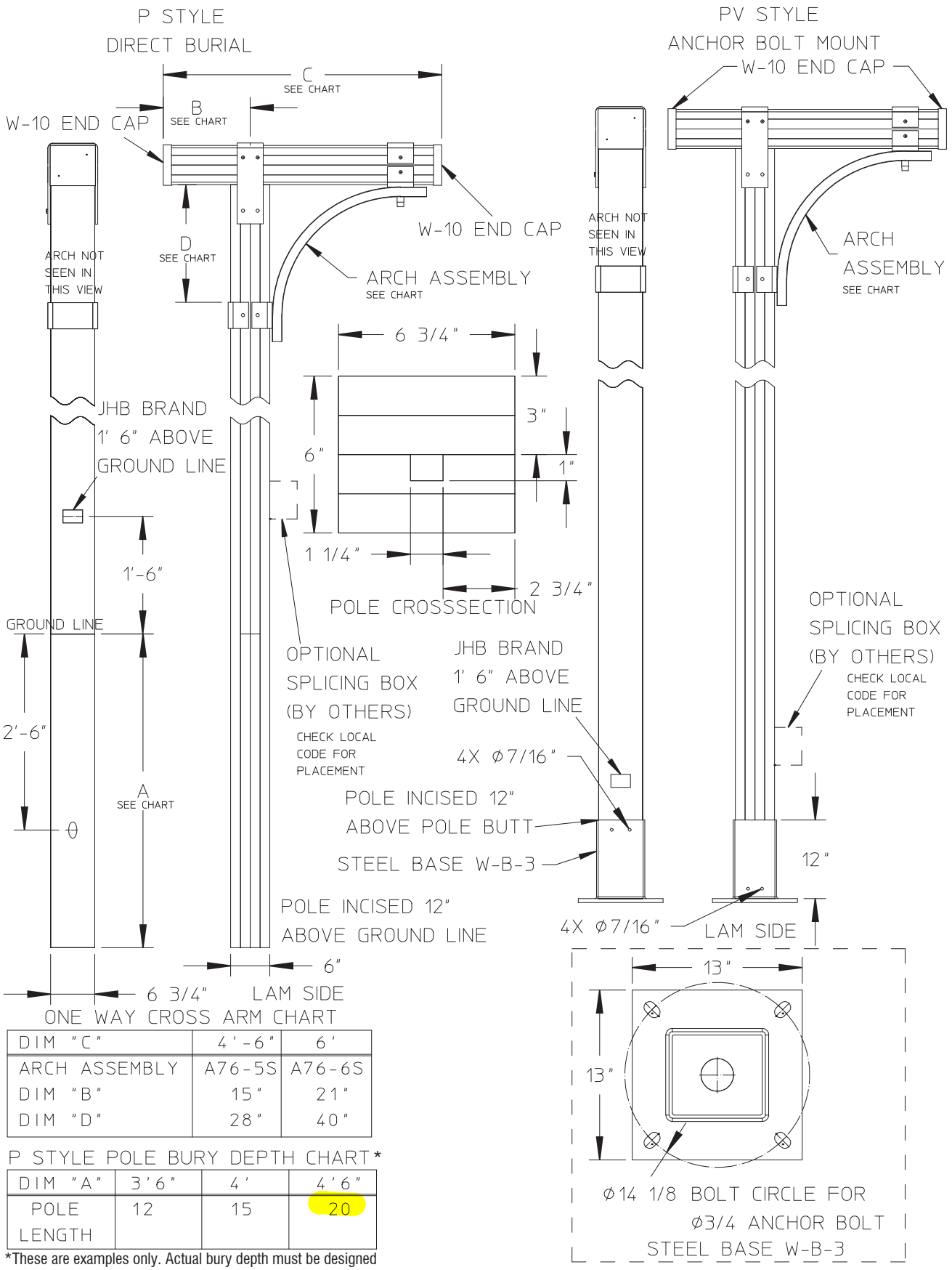


Bolt Info:

Access Door Orientation:
Street Side Orientation:

Rev	Description	By	Date
A			
B			
C			
D			
E			

Job Name:			
Job Location:			Drawing No. 43185
Drawn By:	Drawn Date:	Checked By:	Checked Date:



ONE WAY CROSS ARM CHART

DIM "C"	4'-6"	6'
ARCH ASSEMBLY	A76-5S	A76-6S
DIM "B"	15"	21"
DIM "D"	28"	40"

P STYLE POLE BURY DEPTH CHART*

DIM "A"	3'6"	4'	4'6"
POLE LENGTH	12	15	20

*These are examples only. Actual bury depth must be designed according to local codes and soil conditions.

6-3/4" X 6" P AND PV PRONGHORN STRAIGHT POLE SPECIFICATION WITH ONE WAY CROSS ARM

TimberWood PRODUCTS

6-3/4" x 6" P AND PV PRONGHORN STRAIGHT POLE WITH ONE WAY CROSS ARM

BUILDING A PART NUMBER

MODEL	HEIGHT	TYPE	TEXTURE	ONE WAY CROSS ARM	FINISH*
PH1	15	PV	R	46	BKT**

MODEL	HEIGHT	TYPE	TEXTURE	ONE WAY CROSS ARM
PH1 – 6-3/4"x 6"	12 15 20	**P** – DIRECT BURIAL **PV** – ANCHOR BOLT	**R** – ROUGH **S** – SMOOTH	4'6" 6'

STANDARD FINISHES[1]

- **BKT** Black Textured
- **WHT** White Textured
- **PGT** Park Green Textured
- **ABZT** Architectural Medium Bronze Textured
- **DBT** Dark Bronze Textured

[1]Smooth finishes are available upon request

CUSTOM FINISHES

- **OI** Old Iron
- **RT** Rust
- **WBR** Weathered Brown
- **CD** Cedar
- **WBK** Weathered Black
- **TT** Two Tone

STERNBERG SELECT FINISHES

- **VG** Verde Green
- **SI** Swedish Iron
- **OWGT** Old World Gray Textured

*Base and metal parts (non-fixture)
**Default color if none is chosen

Specifications – For TimberWood Architectural Laminated Wood Light Poles

1.0 General: TimberWood Architectural Laminated Wood Light Poles shall be of materials, size, shapes, styles, patterns and fabrication as specified herein and as shown on JH Baxter detail drawings.

2.0 Lumber: Coast region Douglas Fir only for direct bury, (Port Orford Cedar or Alaskan Yellow Cedar for above ground use only). L1 laminating grade for strength and appearance is used on all exposed wide faces. L2 or L2 dense is used for interior laminations. Grades are described in current WCLIB Grading Rules.

3.0 Laminating Requirements: Architectural Laminated Wood Light Poles shall be laminated with adhesives meeting or exceeding the exterior durability performance requirements of the most recent revision of American National Standard ANSI / AITC A190.1-2007.

4.0 Surface Finish, Appearance & Tolerance: Open defects such as knotholes exceeding ½" in diameter or wane exceeding ¼" x 12" shall be filled with wood filler for surfaced four faces with edges eased to 3/8" radius. For rough, textured four sides, knots will be exposed. Tolerances shall be from +0 to -1/4" in width and depth.

5.0 Preservative Treatment: Architectural Laminated Wood Light Poles will be treated with 6% pentachlorophenol borne in light hydrocarbon solvent in conformance with AWPA Standards to a minimum net retention of 0.60 pounds per cubic foot of penta.

6.0 Trademark: Each Architectural Laminated Wood Light Poles shall be branded to indicate Manufacture-Month-Year at 18" above intended ground line.

7.0 Wrapping: Architectural Laminated Wood Light Poles will be individually wrapped.

8.0 Embedment: As required by local codes and soil conditions. Designed by others.

9.0 Top Protection: Metal cap must be installed unless fixture is top mounted.

10.0 Incising: All Architectural Laminated Wood Light Poles will be incised on all four sides to 1/2" in depth from butt to 16" above indicated ground mark (P poles) or 12" from butt if mounted in steel base (PV). Incising adds durability to treated Douglas Fir.

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GL1960 GALLERY SERIES

Type 2S4
Type S3
Type S5

LED

EPA .50 (ft²)
WEIGHT 28 LBS

7 YEAR WARRANTY

LUMEN RANGE 2,710 to 11,435 @4000K

LUMEN MAINTENANCE L70 MINIMUM 100,000 HOURS

CLICK FOR FAQ's

RATED IP66

JOB NAME

FIXTURE TYPE

MEMO

BUILD A PART NUMBER

ORDERING EXAMPLE: 2A-GL1960-S-SRS-24L40T5-MDL014-CA-R7-PE-HSHN/CA6/5218P5/UBKT

Mounting Config.	Luminaire	Shade Style	Housing	LED	CCT	Type	Driver	Lens	Optional Control Receptacle	Optional Control	Option Fuse	Option Hang-straight	Option House Side Shield	Arm See Arm Spec Sheets	Pole See Pole Spec Sheets	Finish

Mounting Configuration

(Click here to link to mounting configuration specification page)

- 1W
- 1A
- 2A
- 2A90
- 3A
- 3A90
- 4A
- 1AM
- 2AM
- SH44[1]
- CH44[1]
- CAT

W = Wall Mount **A** = Arm Mount **AM** = Arm Mid-Mount
SH = Stem Hung **CH** = Chain Hung **CAT** = Catenary

[1] Include overall drop length in inches after designation for Stem/Chain application (IE: CH44-48").

Luminaire

- GL1960

Shade Style

- **S** (Straight Edge)
- **F** (Flared Edge)
- **B** (Bell Edge)
- **RR** (Round with Round Rim)
- **RF** (Round with Flared Rim)
- **RS** (Round with Square Rim)

Housing

- **BFR** (Base Fixture Round)
- **BFS** (Base Fixture Stepped)
- **GRR** (Glow Rings Round)
- **GRS** (Glow Rings Stepped)
- **SRR** (Solid Rings Round)
- **SRS** (Solid Rings Stepped)
- **GWR** (Glow Window Round)
- **GWS** (Glow Window Stepped)

LED

- 12L[2]
- 16L[3]
- 24L[4]

[2] Only available with MD_006, MD_008 and MD_012.
[3] Only available with MD_012.
[4] Only available with MD_010 and MD_014.

CCT - Color Temperature (K)

- 27(00)
- 30(00)
- 35(00)
- 40(00)
- 50(00)

Type

- T2
- T3
- T4
- T5

Driver

- **MDL006** (120V-277V, 60mA)
- **MDH006** (347V-480V, 60mA)
- **MDL008** (120V-277V, 80mA)
- **MDH008** (347V-480V, 80mA)
- **MDL010** (120V-277V, 100mA)
- **MDH010** (347V-480V, 100mA)
- **MDL012** (120V-277V, 120mA)
- **MDH012** (347V-480V, 120mA)
- **MDL014** (120V-277V, 140mA)
- **MDH014** (347V-480V, 140mA)

Lens

- **CA** (Clear Acrylic)
- **SA** (Sag Acrylic)
- **SV1** (Flat Soft Vue Light Diffused Acrylic Lens)
- **SV2** (Flat Soft Vue Moderate Diffused Acrylic Lens)
- **SV4** (Flat Soft Vue Maximum Diffused Acrylic)
- **SV1SA** (Soft Vue Light Diffused Sag Acrylic)
- **SV2SA** (Soft Vue Moderate Diffused Sag Acrylic)
- **SV4SA** (Soft Vue Maximum Diffused Sag Acrylic)

Options (Click here to view accessories sheet)

- **R7**[5] 7-Pin control receptacle only
- **PE**[6] Twist-Lock Photocontrol (120v-277V)
- **PE3**[6] Twist-Lock Photocontrol (347V)
- **PE4**[6] Twist-Lock Photocontrol (480V)
- **SC**[6] Shorting Cap
- **PEC** Electronic Button Photocontrol (120V-277V)
- **PEC4** Electronic Button Photocontrol (480V)
- **FHD**[7] Double Fuse and Holder
- **HSHS** Standard Horizontal Hangstraight, Spike Finial
- **HSHN** Standard Horizontal Hangstraight, No Finial
- **HSHB** Standard Horizontal Hangstraight, Ball Finial
- **EZ** Vertical Hangstraight, "EZ" Mount
- **HSS** 120° House Side Shield
- **BLOC**[8] Back Light Optical Control

[5] Only available with HSH_.
[6] Requires R7 control receptacle.
[7] Ships loose for installation in base.
[8] Only available with T2, T3 and T4.

Arm (Click here to link to arm specification page)

See Arms & Wall Brackets specification sheets.

- CA
- DAG
- CSA
- RA
- FFA
- CAS
- R2[9]
- R3[9]

[9] Luminaires above grade height to be 2' higher than pole height, REQUIRES "EZ" hangstraight.

Pole (Click here to link to pole specification page)

See Pole specification sheets.

Finish

Standard Urban Finishes (Click here to view paint finish sheet)

- **UGMT** Urban Gun Metal Textured
- **UGM** Urban Gun Metal Matte
- **UBT** Urban Bronze Textured
- **UB** Urban Bronze Matte
- **USLT** Urban Silver Textured
- **USL** Urban Silver Matte
- **UWHT** Urban White Textured
- **UWH** Urban White Matte
- **BKT** Black Textured

Custom Urban Finishes[10]

- **CM** Custom Match

[10] Smooth finishes are available upon request.

Specifications

Luminaire

The Gallery GL1960 series is a medium scale, decorative pendant luminaire with a cast aluminum driver housing and spun aluminum shades. The housing is available in two styles (Stepped and Round), each with 4 variations (BF_, GR_, SR_ and GW_). The shades are available in six styles: Straight (S), Flared (F), Bell (B), Round with Round rim (RR), Round with Flared rim (RF), and Round with Square rim (RS). The luminaire dimensions vary depending on shade/housing options selected (see page 3 of specification sheet for details). The Luminaire shall be UL listed in US and Canada.

LEDs

The luminaire shall use high output, high brightness LEDs. The LEDs are mounted to maximize thermal transfer to the heat sink surface. The LEDs shall be 100% recyclable; not contain lead, mercury or any other hazardous substances and shall be RoHS compliant. Lumen maintenance shall be determined in accordance with IESNA TM-21, based on LED manufacturer LM-80 test data of no less than 6,000 hours and in-situ testing of the luminaire by an NVLAP accredited Energy Efficient Lighting Products lab. The high-performance white LEDs will have a predicted lumen depreciation of approximately 100,000 hours with

See next page

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GL1960 GALLERY SERIES

LED

greater than 70% of initial output at 25°C. The high-brightness, high-output white LEDs shall be 4000K nominal (2700K, 3000K, 3500K or 5000K optional) correlated color temperature (CCT) with a 70 (minimum) color rendering index (CRI). Consult factory for custom CCT or CRI. The luminaire shall have a minimum _____ (see table) delivered initial lumens when operated at steady state with an average ambient temperature of 25°C (77°F).

Optics

The luminaire shall be provided with individual, refractor type optics applied to each LED. The luminaire shall provide Type ___ (2, 3, 4 or 5) light distribution per the IESNA classifications. Testing shall be done in accordance with IESNA LM-79.

Electronic Drivers

The LED driver shall be U.L. Recognized. It shall be securely mounted inside the fixture, for optimized performance and longevity. It shall be supplied with a quick-disconnect electrical connector on the power supply, providing easy power connections and fixture installation. It shall have overload, overheat and short circuit protection, and have a DC voltage output, constant current design, 50/60HZ. It shall be supplied with line-ground, line-neutral and neutral-ground electrical surge protection in accordance with IEEE/ANSI C62.41.2 guidelines. It shall be a high efficiency driver with a THD less than 20% and a high power factor greater than .9. It shall be dimming capable using a 0-10v signal, consult factory for more information.

Photocontrols

Button Style: The photocontrol shall be mounted on the fixture and pre-wired to driver. The electronic button type photocontrol is instant on with a 5-10 second turn off, and shall turn on at 1.5 footcandles with a turn-off at 2-3 footcandles. See pole spec sheet for pole mounted version.

Twist-Lock Style: The photocontrol shall be mounted externally on the hangstraight and pre-wired to driver. The twist lock type photocontrol is instant on with a 3-6 second turn off, and shall turn on at 1.5 footcandles with a turn-off at 2-3 footcandles.

Warranty

Seven-year limited warranty. See product and finish warranty guide for details.

Finish

Refer to website for details.

Performance

MODEL #	T2 LUMENS	BUG	EFFICACY (LPW)	T3 LUMENS	BUG	EFFICACY (LPW)	T4 LUMENS	BUG	EFFICACY (LPW)	T5 LUMENS	BUG	EFFICACY (LPW)	WATTS
24L40T_-MDL014	11325	B2U0G2	128.7	11060	B2U0G2	125.7	11075	B2U0G2	125.9	11435	B3U0G1	129.9	88
24L30T_-MDL014	10800	B2U0G2	122.7	10545	B2U0G2	119.8	10560	B2U0G2	120.0	10905	B3U0G1	123.9	88
24L27T_-MDL014	9765	B2U0G2	111.0	9535	B2U0G2	108.4	9545	B2U0G2	108.5	9860	B3U0G1	112.0	88
24L40T_-MDL010	8520	B2U0G2	137.4	8350	B2U0G2	134.7	8335	B1U0G2	134.4	8590	B3U0G1	138.5	62
24L30T_-MDL010	8125	B2U0G2	131.0	7960	B2U0G2	128.4	7945	B1U0G2	128.1	8190	B3U0G1	132.1	62
24L27T_-MDL010	7345	B2U0G2	118.5	7200	B2U0G2	116.1	7185	B1U0G2	115.9	7405	B3U0G1	119.4	62
16L40T_-MDL012	6825	B1U0G1	133.8	6610	B2U0G2	129.6	6660	B1U0G2	130.6	6875	B3U0G1	134.8	51
16L30T_-MDL012	6505	B1U0G1	127.5	6300	B2U0G2	123.5	6350	B1U0G2	124.5	6555	B3U0G1	128.5	51
16L27T_-MDL012	5885	B1U0G1	115.4	5700	B2U0G2	111.8	5740	B1U0G1	112.5	5925	B3U0G1	116.2	51
12L40T_-MDL012	5045	B1U0G1	129.4	4925	B1U0G1	126.3	4935	B1U0G1	126.5	5105	B2U0G1	130.9	39
12L30T_-MDL012	4810	B1U0G1	123.3	4695	B1U0G1	120.4	4705	B1U0G1	120.6	4865	B2U0G1	124.7	39
12L27T_-MDL012	4350	B1U0G1	111.5	4245	B1U0G1	108.8	4255	B1U0G1	109.1	4400	B2U0G1	112.8	39
12L40T_-MDL008	3570	B1U0G1	137.3	3485	B1U0G1	134.0	3475	B1U0G1	133.7	3590	B2U0G0	138.1	26
12L30T_-MDL008	3405	B1U0G1	131.0	3325	B1U0G1	127.9	3315	B1U0G1	127.5	3425	B2U0G0	131.7	26
12L27T_-MDL008	3080	B1U0G1	118.5	3005	B1U0G1	115.6	2995	B1U0G1	115.2	3095	B2U0G0	119.0	26
12L40T_-MDL006	2780	B1U0G1	139.0	2715	B1U0G1	135.8	2710	B1U0G1	135.5	2815	B1U0G0	140.8	20
12L30T_-MDL006	2650	B1U0G1	132.5	2590	B1U0G1	129.5	2585	B1U0G1	129.3	2685	B1U0G0	134.3	20
12L27T_-MDL006	2395	B1U0G1	119.8	2340	B1U0G1	117.0	2335	B1U0G1	116.8	2425	B1U0G0	121.3	20

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GL1960 GALLERY SERIES

LED

Shade Style

Straight Edge (S)

Flared Edge (F)

Bell Edge (B)

Round with Round Rim (RR)

Round with Flared Rim (RF)

Round with Square Rim (RS)

Dimensions

GL1960	SHADE	S	F	B	RF	RR	RS
HOUSING	Diameter	17.9”	18”	19.5”	18.7”	18.4”	19.2”
BF_	Height	13.5”	12.6”	13.7”	14.8”	14.4”	14.1”
GR_	Height	13.5”	12.6”	13.7”	14.8”	14.4”	14.1”
GW_	Height	13.5”	12.6”	13.7”	14.8”	14.4”	14.1”
SR_	Height	13.5”	12.6”	13.7”	14.8”	14.4”	14.1”

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Housing - Stepped

Base Fixture Stepped (BFS)

Glow Window Stepped (GWS)

Solid Rings Stepped (SRS)

Glow Rings Stepped (GRS)

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Housing - Round

Base Fixture Round (BFR)

Glow Window Round (GWR)

Solid Rings Round (SRR)

Glow Rings Round (GRR)

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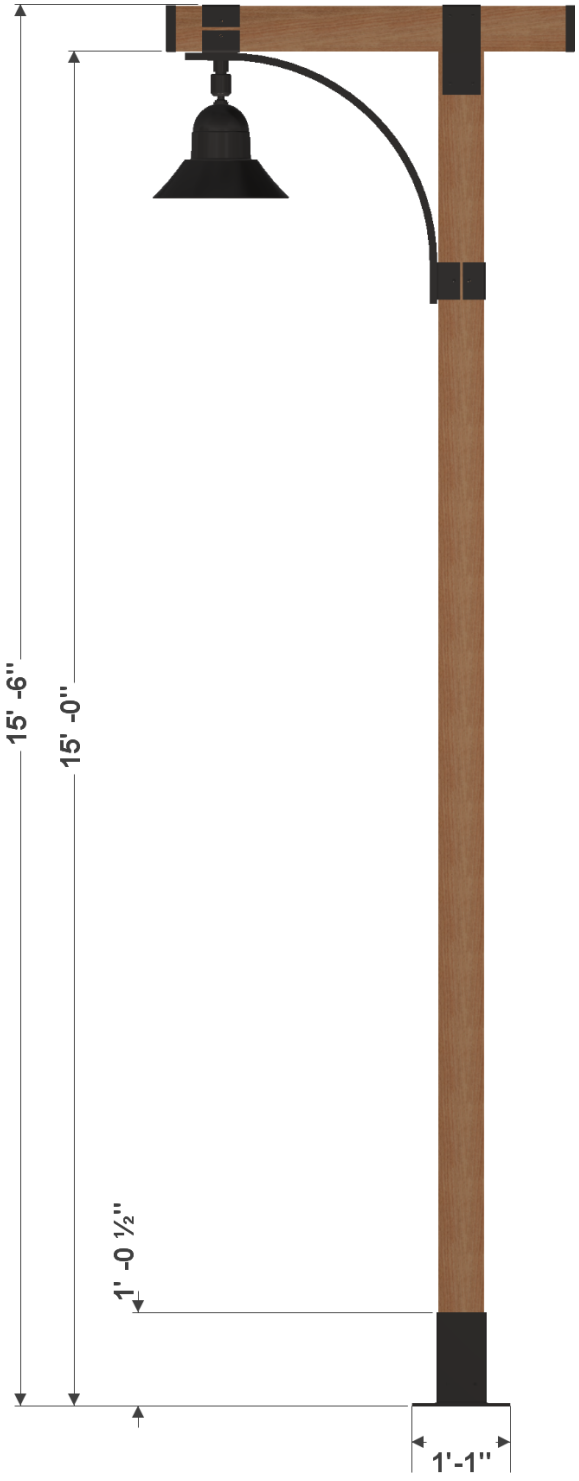
GENESIS 3D Product Configurator

Catalog Number:	Type:
1A-GL1960-24L30T5-MDL010-CA-EZ/PH1/15/PV/R/46/BK	

Customer Approval:

Signature _____ Date _____

Conceptual assembly drawing, subject to Engineering verification by factory.



NUMBER OF ARMS: 1

ARM ARM MOUNTED FIXTURE: GL1960

The GL1960 Gallery Series is a large scale, decorative downlight fixture with a spun aluminum shade. The dome is available with six types of shades: straight (S), flared (F), bell (B), round rim (RR), round with flared rim (RF), and round with square rim (RS) styles. The luminaire measures 17-1/2" in diameter and 13-1/2" overall height. The Luminaire shall be UL listed in US and Canada.

LIGHT SOURCE: -24L30T5-MDL010

Array:	24 LEDS, 62W for MD_010, 88W for MD_014 (24L)
Color Temp:	3000K (30)
Distribution:	Type 5 (T5)
Driver:	Multi-Volt Dimmable Low-Range Driver,120-277V (MDL010)

OPTIONS: -CA-EZ

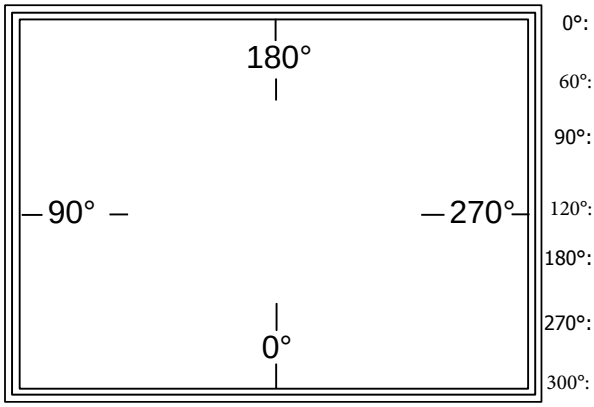
Lens:	Clear Acrylic (CA)
Hangstraight:	EZ Vertical (EZ)

POLE: PH1/15/PV/R/

This architectural laminated wood light pole measures 6-3/4" x 6" in cross section and is used with the one-way or two-way pronghorn crossarms.

FINISH: BK

Assembly shall be powder coated to Black Smooth finish. Prior to coating, the assembly shall be chemically cleaned and etched in a 5-stage washing system which includes alkaline cleaning, rinsing, phosphoric etching, reverse osmosis water rinsing, and non-chrome sealing to ensure corrosion resistance.

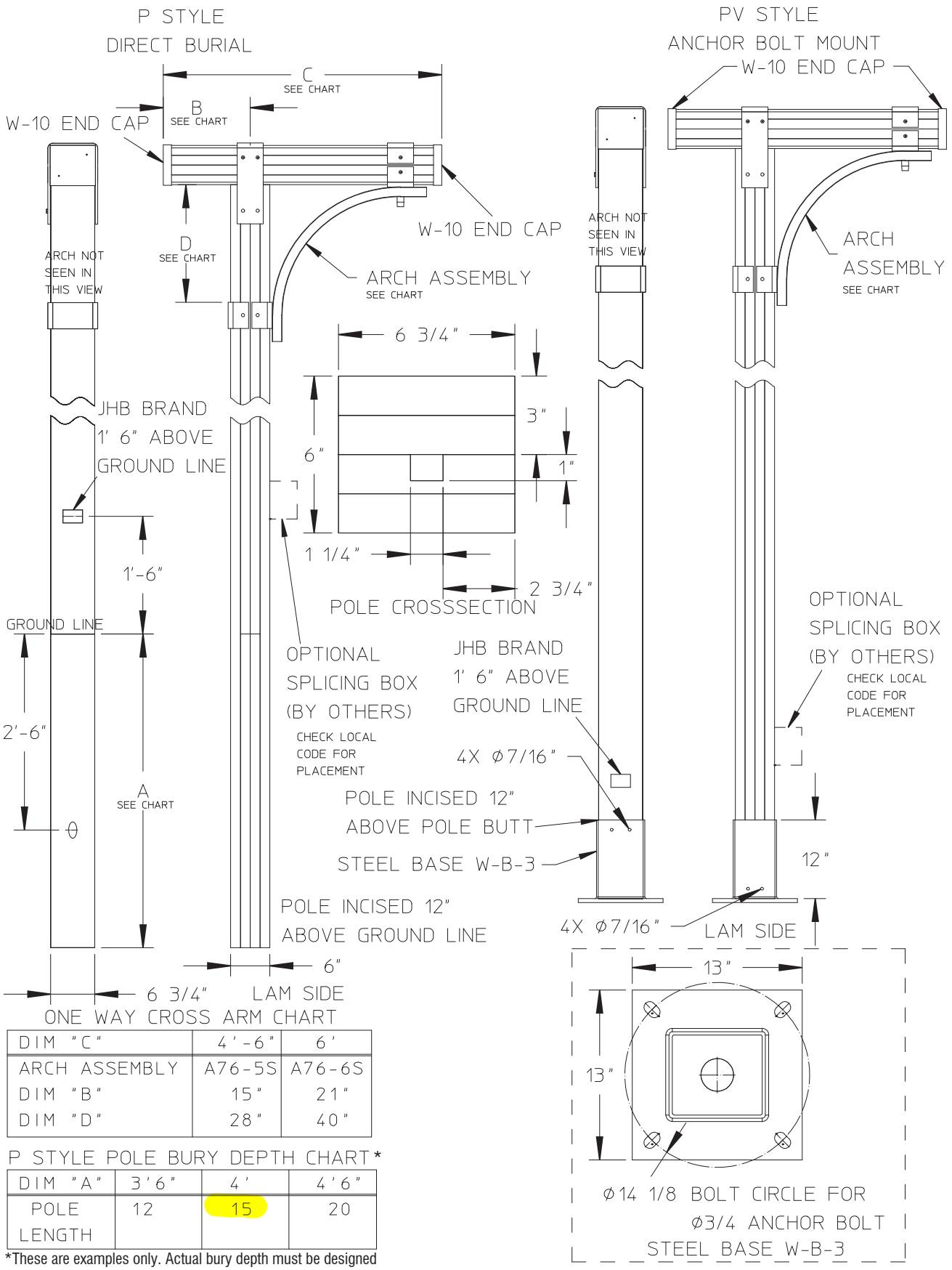


Bolt Info:

Access Door Orientation:
Street Side Orientation:

Rev	Description	By	Date
A			
B			
C			
D			
E			

Job Name:			
Job Location:			Drawing No. 43184
Drawn By:	Drawn Date:	Checked By:	Checked Date:



ONE WAY CROSS ARM CHART

DIM "C"	4'-6"	6'
ARCH ASSEMBLY	A76-5S	A76-6S
DIM "B"	15"	21"
DIM "D"	28"	40"

P STYLE POLE BURY DEPTH CHART*

DIM "A"	3'6"	4'	4'6"
POLE LENGTH	12	15	20

*These are examples only. Actual bury depth must be designed according to local codes and soil conditions.

6-3/4" X 6" P AND PV PRONGHORN STRAIGHT POLE SPECIFICATION WITH ONE WAY CROSS ARM

TimberWood PRODUCTS

6-3/4" x 6" P AND PV PRONGHORN STRAIGHT POLE WITH ONE WAY CROSS ARM

BUILDING A PART NUMBER

MODEL	HEIGHT	TYPE	TEXTURE	ONE WAY CROSS ARM	FINISH*
PH1	15	PV	R	46	BKT**

MODEL	HEIGHT	TYPE	TEXTURE	ONE WAY CROSS ARM
PH1 – 6-3/4"x 6"	12 15 20	**P** – DIRECT BURIAL **PV** – ANCHOR BOLT	**R** – ROUGH **S** – SMOOTH	4'6" 6'

STANDARD FINISHES[1]

- **BKT** Black Textured
- **WHT** White Textured
- **PGT** Park Green Textured
- **ABZT** Architectural Medium Bronze Textured
- **DBT** Dark Bronze Textured

[1]Smooth finishes are available upon request

CUSTOM FINISHES

- **OI** Old Iron
- **RT** Rust
- **WBR** Weathered Brown
- **CD** Cedar
- **WBK** Weathered Black
- **TT** Two Tone

STERNBERG SELECT FINISHES

- **VG** Verde Green
- **SI** Swedish Iron
- **OWGT** Old World Gray Textured

*Base and metal parts (non-fixture)
**Default color if none is chosen

Specifications – For TimberWood Architectural Laminated Wood Light Poles

1.0 General: TimberWood Architectural Laminated Wood Light Poles shall be of materials, size, shapes, styles, patterns and fabrication as specified herein and as shown on JH Baxter detail drawings.

2.0 Lumber: Coast region Douglas Fir only for direct bury, (Port Orford Cedar or Alaskan Yellow Cedar for above ground use only). L1 laminating grade for strength and appearance is used on all exposed wide faces. L2 or L2 dense is used for interior laminations. Grades are described in current WCLIB Grading Rules.

3.0 Laminating Requirements: Architectural Laminated Wood Light Poles shall be laminated with adhesives meeting or exceeding the exterior durability performance requirements of the most recent revision of American National Standard ANSI / AITC A190.1-2007.

4.0 Surface Finish, Appearance & Tolerance: Open defects such as knotholes exceeding ½" in diameter or wane exceeding ¼" x 12" shall be filled with wood filler for surfaced four faces with edges eased to 3/8" radius. For rough, textured four sides, knots will be exposed. Tolerances shall be from +0 to -1/4" in width and depth.

5.0 Preservative Treatment: Architectural Laminated Wood Light Poles will be treated with 6% pentachlorophenol borne in light hydrocarbon solvent in conformance with AWPA Standards to a minimum net retention of 0.60 pounds per cubic foot of penta.

6.0 Trademark: Each Architectural Laminated Wood Light Poles shall be branded to indicate Manufacture-Month-Year at 18" above intended ground line.

7.0 Wrapping: Architectural Laminated Wood Light Poles will be individually wrapped.

8.0 Embedment: As required by local codes and soil conditions. Designed by others.

9.0 Top Protection: Metal cap must be installed unless fixture is top mounted.

10.0 Incising: All Architectural Laminated Wood Light Poles will be incised on all four sides to 1/2" in depth from butt to 16" above indicated ground mark (P poles) or 12" from butt if mounted in steel base (PV). Incising adds durability to treated Douglas Fir.

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Flindt Bollard

Type S-B

Project name:

Project type:

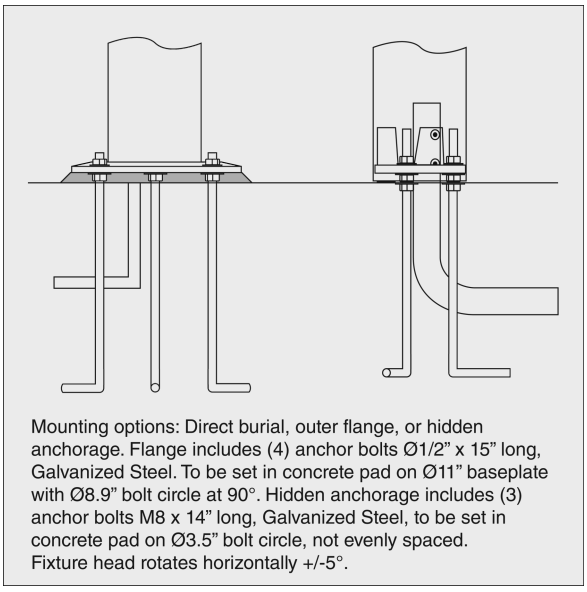
Notes:

Design

Christian Flindt

Product description

Beautifully crafted slender post with a carved surface that is gently illuminated. Top section conceals downward facing LEDs that are positioned for wide distribution. Two horizontal connection lines underline the three parts of the bollard. A facet increases the visibility of the connection lines. Available in two heights, 43.3 IN and 31.5 IN. Available in three different mounting methods: with an 11 inch base plate and visible anchor bolts, with internally hidden anchor bolts, or direct burial in soil or gravel. Part of a family.



Mounting options: Direct burial, outer flange, or hidden anchorage. Flange includes (4) anchor bolts Ø1/2" x 15" long, Galvanized Steel. To be set in concrete pad on Ø11" baseplate with Ø8.9" bolt circle at 90°. Hidden anchorage includes (3) anchor bolts M8 x 14" long, Galvanized Steel, to be set in concrete pad on Ø3.5" bolt circle, not evenly spaced. Fixture head rotates horizontally +/-5°.

Variant options

Dimension	Color	Mounting	Light source	Lumen	Voltage frequency
31.5 IN	Corten color	Post w/anchorage unit	15W LED/3000K	536	120-277V/60HZ
43.3 IN	Natural paint aluminum	Post w/base plate	15W LED/4000K	548	
		Post w/direct burial		578	
				591	

Specification notes

a. Direct burial mounting only available with 43.3" size.

Light description

The luminaire provides a non-glaring wide characteristic asymmetrical and functional illumination. The design of the cut-out creates a reflector part which is gradually illuminated to emphasize the depth in the luminaire. The cut-out reflector and precise location of the LED's provides an wing-shaped light pattern on the ground. A white highly reflective material around the LED's ensure a wide distribution of light and high efficacy. The cut-out reflector part can be adjusted ± 10° after installation to fine tune alignment of several luminaires and light distribution. Standard CCT in 3000K or 4000K, controlled by electronic dimmable driver.

Mounting

Top section housing holds driver and LED's connected with quick-disconnect plug for easy servicing. Terminal block is located in the reflector section. Thru wiring approved. Supplied with IP68 (water-tight) glands to seal mid-section for pass thru wiring. Mounted to a concrete base with (4) anchor bolts on a bolt circle of 8.9 inches.

Information

Electrical:
System Wattage: 15W
LED Wattage: 14W
Delivered lumens: 536-591 lm
Efficacy: 35.7-39.4 lm/W
Certifications:
cULus, Wet Location
Protection class IP65
IK class 10
BUG Rating: B0-U2-G1
Controllability: 0-10V Dimming
Min.-Max. Ambient Temp: -40°C to +70°C
Color Rendering: Ra≥80

Other functions

Alternative mounting options include an 11" base plate, a hidden anchor base or for direct burial. LED in 2700K or 3500K. Amber LED available for sea turtle nesting areas. Custom finishes. Custom pole heights. Alternative dimming controls, including wireless systems.

Voltage

120-277V/60HZ

Material

Top and reflector part: Cast aluminum. Post: Extruded aluminum 0. 14" thick. Diffuser: Injection molded U. V. stabilized clear polycarbonate. Internal structure bolts: Galvanized steel 0. 23" thick. Internal rotational plate: Cast aluminum 0. 23" thick. Anchor bolts: Hot-dipped galvanized steel anchor bolts ½"dia. X15". Standard finish are matte, textured surface powder coat with minimum 2 mils thickness in corten color or natural painted aluminum.

Weight

Min: 15.712 lbs Max: 23.018 lbs

Dimensions

31.5 IN, 43.3 IN

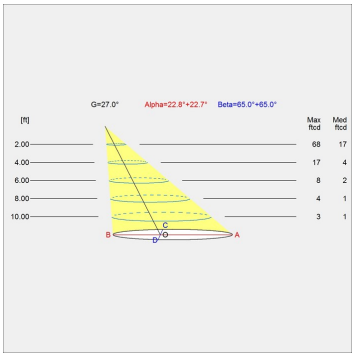
Finish

Corten color, Natural paint aluminum

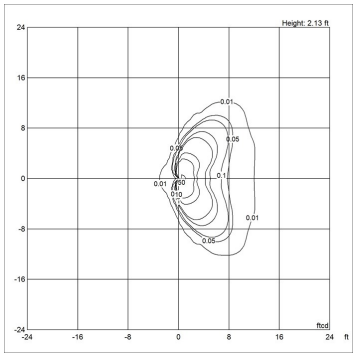
Light distribution diagrams

For the full data set on all variants, see louispoulsen.com.

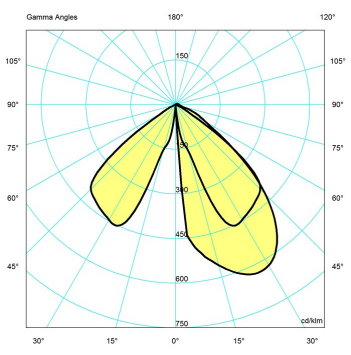
Cartesian



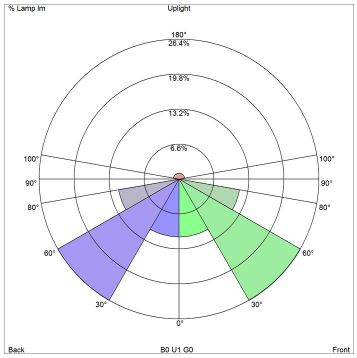
Isolux



Polar



Bug



Variant options

Dimension	Color	Mounting	Light source	Lumen	Voltage frequency	Variant number
43.3 IN	Natural paint aluminum	Post w/anchorage unit	15W LED/3000K	591	120-277V/60HZ	10000139074
43.3 IN	Natural paint aluminum	Post w/base plate	15W LED/3000K	578	120-277V/60HZ	10000126945
43.3 IN	Natural paint aluminum	Post w/base plate	15W LED/4000K	591	120-277V/60HZ	10000126946
43.3 IN	Natural paint aluminum	Post w/direct burial	15W LED/3000K	578	120-277V/60HZ	10000126947
43.3 IN	Natural paint aluminum	Post w/direct burial	15W LED/4000K	591	120-277V/60HZ	10000126948
43.3 IN	Corten color	Post w/base plate	15W LED/3000K	536	120-277V/60HZ	10000135834
43.3 IN	Corten color	Post w/direct burial	15W LED/3000K	536	120-277V/60HZ	10000135835
43.3 IN	Corten color	Post w/base plate	15W LED/4000K	548	120-277V/60HZ	10000135836
43.3 IN	Corten color	Post w/direct burial	15W LED/4000K	548	120-277V/60HZ	10000135837
31.5 IN	Corten color	Post w/base plate	15W LED/3000K	536	120-277V/60HZ	10000139024
31.5 IN	Natural paint aluminum	Post w/base plate	15W LED/3000K	578	120-277V/60HZ	10000139067
31.5 IN	Corten color	Post w/anchorage unit	15W LED/3000K	536	120-277V/60HZ	10000139066
31.5 IN	Natural paint aluminum	Post w/anchorage unit	15W LED/3000K	578	120-277V/60HZ	10000139068
31.5 IN	Corten color	Post w/base plate	15W LED/4000K	548	120-277V/60HZ	10000139069
31.5 IN	Natural paint aluminum	Post w/base plate	15W LED/4000K	591	120-277V/60HZ	10000139071
31.5 IN	Corten color	Post w/anchorage unit	15W LED/4000K	548	120-277V/60HZ	10000139070
31.5 IN	Natural paint aluminum	Post w/anchorage unit	15W LED/4000K	591	120-277V/60HZ	10000139072
43.3 IN	Corten color	Post w/anchorage unit	15W LED/3000K	548	120-277V/60HZ	10000139073
43.3 IN	Corten color	Post w/anchorage unit	15W LED/4000K	548	120-277V/60HZ	10000139075
43.3 IN	Natural paint aluminum	Post w/anchorage unit	15W LED/4000K	591	120-277V/60HZ	10000139076

ATTACHMENT 8

CONSERVATION EASEMENT

SME
SEVEE & MAHER
ENGINEERS

AGRICULTURAL CONSERVATION EASEMENT
Cumberland, Maine

THIS AGRICULTURAL CONSERVATION EASEMENT is made this 4th day of MAY, 2022, by and between **SYNERGOSITY LLC**, a Maine limited liability company with a mailing address of 173 Spurwink Road, Scarborough, ME 04074 (hereinafter referred to as the **"Landowner,"** which word is intended to include, unless the context clearly indicates otherwise, the above-named above-named entity, its successors and assigns), and **MAINE FARMLAND TRUST, INC.**, a non-profit corporation organized under the laws of the State of Maine with its principal place of business in Belfast, Maine and having a mailing address of 97 Main Street, Belfast, ME 04915 (hereinafter referred to as **"Holder"**, which word is intended to include, unless the context clearly indicates otherwise the above-named Holder, its successors and assigns). The Landowner and Holder are collectively referred to as the "Parties".

1. PROJECT NAME. Longwoods Farm

2. RECITALS.

WHEREAS, Landowner is the owner in fee simple of certain agricultural real property comprising approximately fifty-four (54) acres in the **Town of Cumberland**, County of Cumberland, State of Maine, more particularly described in Exhibit A and depicted on Exhibit B, both attached hereto and made a part hereof by reference, and referred to in this document as the "Property."

WHEREAS, Holder is an organization described in Section 501(c)(3) of the Internal Revenue Code of 1986, as amended (hereinafter the "Code"), and meets the requirements of Section 509(a)(2) of the Code. Holder is a "qualified organization," as such term is defined in Section 170(h)(3) of the Code, and is qualified to hold conservation easements under the laws of the State of Maine.

WHEREAS, the Property has the following **Agricultural Conservation Values**:

1) Approximately fifty (50) percent of the soils have been identified by the Natural Resources Conservation Service ("NRCS") as "prime soils," "soils of statewide importance," "soils of local importance," or "unique soils" **("Agricultural Soils")**.
2) Approximately fourteen (14) acres of the Property are currently maintained as open fields and available for cultivation and forage crops, and said open fields are currently being used for hay production.

3) Approximately thirty-four (34) acres of the Property are maintained as productive forest vegetation and are currently being used for personal use.
4) The Property has access to adequate groundwater through a single functioning drilled well. The Property also has access to surface water in the form of the East Branch of the Piscataqua River, which flows along the Property for approximately one thousand seven hundred (1,700) feet.
5) The Property is a farm in the State of Maine, many of which have ceased to exist in Maine and throughout New England due to increased development pressures and a variety of other social, economic, and global forces, the protection of which shall conserve productive agricultural land in Maine and prevent the conversion of said land to non-agricultural development. The Property has been operated continuously as a farm for approximately 50 years alternately raising beef cattle and various crops.

WHEREAS, the Property has the following **Additional Conservation Values:**

1) The Property includes a public recreational trail within the Trail Corridor, designated by this conservation easement, that provides opportunity for low-impact outdoor recreation, including but not limited, to nature study, snowshoeing, cross country skiing, and hiking;
2) The Property includes approximately one thousand seven hundred (1,700) feet of frontage along the East Branch of the Piscataqua River and approximately six (6) acres of ecologically important riparian floodplain adjacent to the East Branch of the Piscataqua River

WHEREAS, the Comprehensive Plan of the Town of Cumberland, adopted in 2009 and updated in 2014, outlines as a planning goal "To encourage the preservation of land that is suitable for agricultural and forestry uses", and the statement "No longer is agricultural/farmland preservation just about keeping open space for visual enjoyment and for limiting the impact of development on the town's budget; it may be that communities will one day need these lands to produce food once again. This combined with the desirability of growing food close to where it will be consumed, is a key tenet of the sustainability movement."

WHEREAS, the grant of this Agricultural Conservation Easement (the "Easement") will provide a significant public benefit by serving the following conservation purposes:

1) As set forth in Section 170(h)(4)(A) of the Code, the preservation of open space, including farmland, pursuant to the following clearly-delineated governmental conservation policies:

   a. The Farmland Protection Policy Act, 7 U.S.C. §§ 4201-09, the purpose of which is "to minimize the extent to which Federal programs and policies contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to assure that Federal programs are administered in a manner that, to the extent practicable, will be compatible with State, unit of local government, and private programs and policies to protect farmland";

   b. The Maine Conservation Easement Act, 33 M.R.S. §§ 476-9-B (the "Maine Conservation Easement Act") which provides for permanent protection of real

property, the purposes of which include ensuring its availability for agricultural and forest use;

c. The Maine Farm and Open Space Tax Law, 36 M.R.S. §§ 1101-21, which confers preferential property tax treatment for property that owners keep undeveloped and in productive farm use or as important open space;

d. Section 153 of the Maine Agricultural Protection Act, 7 M.R.S. § 153, which declares that farm operations are not a common law nuisance when operated in compliance with state and federal laws;

e. The Maine Tree Growth Tax Law, 36 M.R.S. §§ 571-84-A, which confers a partial property tax exemption for land which owners manage for timber harvesting; and

2) Preserving the traditional farming and forestry heritage and rural character of the Town of Cumberland.

3) Preventing the conversion of farmland to nonagricultural uses that would reduce or destroy the Property's agricultural and forest productivity; and

4) Ensuring that the Property remain available for commercial agriculture and forest management consistent with conserving the agricultural productivity, Agricultural Soils, and other Conservation Values of the Property.

WHEREAS, the current use of the Property and its existing improvements are consistent with the foregoing conservation purposes;

WHEREAS, the Agricultural Conservation Values and Additional Conservation Values of the Property (said Agricultural Conservation Values and Additional Conservation Values are referred to jointly herein as the **Conservation Values**) are documented in a **Baseline Documentation Report**, signed and acknowledged by the Landowner and Holder, establishing the baseline condition of the Property at the time of this grant and including maps, photographs and other documentation; and

WHEREAS, the Landowner and Holder have the common purpose of conserving the above-described Conservation Values of the Property, as more fully set forth herein, in perpetuity, by voluntarily placing restrictions upon the use of the Property and by providing for the transfer from the Landowner to the Holder of affirmative rights for its protection in perpetuity, with the intention that the grant of such restrictions qualify as a "qualified conservation contribution" as that term is defined under Section 170(h)(2)(c) of the Code and qualify as a "Conservation Easement" under the Maine Conservation Easement Act.

3. WORDS OF CONVEYANCE.

NOW, THEREFORE, in consideration of the foregoing recitals and conservation purposes, the Landowner does hereby GRANT partly for consideration paid and partly as a gift to the Holder,

with QUITCLAIM COVENANT, this Easement on, over, under and across the Property, consisting of the following terms, covenants, restrictions and affirmative rights, including an option to purchase at agricultural value, granted to Holder, which shall run with and bind the Property in perpetuity.

TOGETHER WITH a right of way for vehicular, pedestrian, and aerial access to the Property as necessary or appropriate to exercise Holder's rights hereunder, over any and all rights-of-way and roads owned by Landowner or over which Landowner has or shall have rights of access to the Property, as may be more particularly described in Exhibit A.

4. CONSERVATION PURPOSES.

The primary purposes (**"Primary Conservation Purposes"**) of this Easement are to enable the Property to remain in agricultural use by preserving and protecting its Agricultural Soils, other Conservation Values, and agricultural viability and productivity. Except as specifically permitted herein, no activity which shall significantly diminish or impair the actual or potential agricultural use of the Property shall be permitted.

5. DEFINITIONS

The terms set forth in this Section 5 shall have the following meanings for the purposes of this Easement:

5.1. Agriculture and Agricultural Activities – "Agriculture" and "Agricultural Activities" shall mean:

5.1.1. The raising, keeping, production, and harvest of crops, livestock, and livestock products, together with the processing, storage or on-farm marketing of those crops and livestock products. For purposes hereof, crops, livestock and livestock products include, but are not limited to:

(a) pastureland;
(b) field crops;
(c) fruits, nuts and berries;
(d) vegetables;
(e) horticultural specialties (including but not limited to seeds, nursery stock, ornamental shrubs, ornamental trees, Christmas trees and flowers);
(f) livestock and livestock products (including but not limited to, horses, cattle, chickens, alpaca, sheep, swine, goats and other animals that produce meat, dairy, fibers or other products or that are used to work the farm);
(g) timber, wood, maple sap and other wood products derived from trees;
(h) hydroponics and hydroponic crops; and
(i) aquatic plants and animals and their byproducts.

The terms Agriculture and Agricultural Activities are intended to be broadly interpreted to include most endeavors that produce materials useful to mankind from biological processes involving soil, water, and sunshine in a way that will not compromise the opportunities of future

generations to continue producing such materials on a sustained basis. As new practices come into being over the years, they are to be permitted as long as they fit the broad definition of Agriculture and Agricultural Activities set forth above.

5.1.2. Agriculture and Agricultural Activities shall also include the following associated uses which are customary, supportive, and agriculturally compatible in Maine:

A. Structures associated with the production of energy for use principally on the Property and abutting land of Landowner, including Renewable Energy, wood and fossil fuel systems;

B. Structures and surface alterations for the storage and treatment of animal waste;

C. The operation, management, conservation, improvement or maintenance of a farm and its buildings, tools and equipment;

D. Structures and facilities associated with irrigation, farm pond impoundment and soil and water conservation and the construction, operation or maintenance of ditches, canals, reservoirs or waterways used exclusively for agricultural purposes;

E. Composting and other soil enhancement activities; and

F. The lawful onsite disposal of animals and agricultural products raised or housed on the Property pursuant to activities permitted herein.

5.1.3. Agricultural Activities shall include Forest Management, as defined below. However, Forest Management shall be undertaken in accord with Section 6.2.3 below.

5.2. Additional Conservation Values. The public recreational access within the Trail Corridor, the approximately one thousand seven hundred (1,700) feet of frontage along the East Branch of the Piscataqua River, and approximately six (6) acres of ecologically important riparian floodplain adjacent to the East Branch of the Piscataqua River, as set forth in Section 2 above.

5.3. Agricultural Conservation Values – The Agricultural Soils, open fields, productive forest vegetation, and water sources, as set forth in Section 2 above, that make the Property suitable for Agricultural Activities.

5.4. Agricultural Soils – soils identified by the Natural Resources Conservation Service ("NRCS") as "prime soils," "soils of statewide importance," "soils of local importance," or "unique soils."

5.5. Agritourism – Agricultural Activities carried out on the Property that members of the general public are allowed to view or participate in for enjoyment or educational purposes. Agritourism includes, but is not limited to, "harvest-your-own" activities, hay rides, farm tours, and attractions related to Agricultural Activity.

5.6. Access - A private driveway, private road, or right-of-way from public roadways to the permitted Farmstead Area and the structures located therein.

5.7. Accessory Structures - "Accessory Structures" for a new or existing Dwelling means structures such as sheds, garages, and studios, that are customarily incidental and subordinate to the Dwelling. Such structures may include or contain integrated or separate guest housing; studios; workshops; flagpoles; gazebos; generator sheds; improvements for fresh water supply outbuildings; garages; outdoor furniture; recreational structures such as swimming pools, hot tubs, and basketball hoops; and ornaments.

5.8. Agricultural Structures– Permanent structures used primarily for the support of Agricultural Activities and not to be used for human habitation except as provided in Section 6.2.12.C(iv) below.

5.9. Approval or Approval of Holder—Holder's official agreement or acceptance that meets the requirements set forth in Section 8.2.

5.10. Area Square Footage – The total floor area on all stories of a structure (except as limited below) as measured from the exterior of the exterior walls. The Area Square Footage shall include the floor area of any attached garages or sheds or other enclosed structures, but shall not include un-enclosed porches or decks. Area Square Footage shall not include floor area at the basement level or any unfinished crawl spaces.

5.11. Baseline Documentation Report – The report prepared pursuant to Section 10 below that documents the use and state of improvement of the Property at the time of execution of this Easement.

5.12. Best Management Practices - Guidelines or minimum standards recommended by federal, state or county resource management agencies and universities for proper farming and forestry operations, with the goal of limiting non-point pollution of water resources and other disturbances of soil, water, and vegetative resources and to protect wildlife habitats.

5.13. Clear (for Forest Management purposes)- The removal of all or substantially all trees and shrubs with an average diameter at breast height of 2 inches or larger, where the length or width of the cleared area generally exceeds the average height of mature trees in the immediate vicinity.

5.14. Conservation Values – The Agricultural Soils, open fields, productive forest vegetation, and water sources that make the Property suitable for Agricultural Activities as well as the public recreational trail within the Trail Corridor, the approximately one thousand seven hundred (1,700) feet of frontage along the East Branch of the Piscataqua River, and approximately six (6) acres of ecologically important riparian floodplain adjacent to the East Branch of the Piscataqua River, as set forth in Section 2 above.

5.15. Customary Rural Enterprises - Commercial enterprises that are ancillary to and compatible with Agriculture, including, but not limited to farm machinery repair, small-scale farm wineries, cafes, and shops.

5.16. Customary Rural Enterprise Structures – Non-dwelling structures used primarily for Customary Rural Enterprise.

5.17. Dwelling - A structure or self-contained portion thereof designed or used for human habitation (including associated wells and subsurface wastewater disposal systems) including accessory apartments for household guests or employees and a home occupation or professional office for the occupant as allowed by law.

5.18. Farm Road – A passable roadway, surfaced in accordance with the limitations set forth in Section 6.2.9, that is suitable for Agriculture and Forest Management equipment and uses reasonably related to the activities permitted to Landowner hereunder.

5.19. Farmstead Area - That approximately three (3) acre portion of the Property within which the current Dwelling and Agricultural Structures are situated and where new structures may be built as permitted in Section 6.2.12.C and which is depicted on the map attached hereto as Exhibit B and identified in the Baseline Documentation Report.

5.20. Farm Support Housing – Dwellings used to house farm guests, tenants and farm workers.

5.21. Footprint - The ground surface space occupied by a structure, including, but not limited to, garages and closed and unenclosed porches and decks, as measured as a product of the outermost width and length dimensions.

5.22. Forest Management - The planting, growing, cultivation, stocking, and cutting of trees and other forest products, including the following: timber cruising; resource evaluation; herbicide, pesticide and fertilizer application; timber stand improvement; pruning; forest harvesting; forest products transportation; natural and artificial regeneration of forest stands; maple sugaring; other substantially similar and associated activities; the processing and production of firewood and forest products harvested primarily on the Property; and the construction, creation, use and maintenance of Farm Roads, skid trails and winter haul roads, turnouts, timber landings and crossings of flowing waters for such purposes.

5.23. Forest Management Plan – A written plan meeting the requirements set forth in Section 6.2.3. below.

5.24. Holder – Maine Farmland Trust, Inc., its successors and assigns.

5.25. Home-Based Enterprises - Business activities that are ancillary to and compatible with Agriculture and are carried out by or at the direction of Landowner primarily from Dwellings located on the Property and within the Farmstead Area, such as a home office, an arts and crafts studio, a bed and breakfast operation, or a home day care facility.

5.26. Impermeable Materials – Materials that do not allow the percolation of water through them into the soil.

5.27. Landowner – The original grantor of this Easement, referred to herein as Landowner, and all successors-in-interest in the property, including personal representatives, heirs and assigns.

5.28. Landowner Family – Landowner Family shall include (a) any spouse of Landowner and any persons related to Landowner by blood or by adoption to the 4th degree of kinship, together with spouses of family members, (b) a corporation, partnership or other entity which is wholly-owned and controlled by Landowner or Landowner's family, (c) any estate of Landowner or Landowner's family, and (d) all owners of a Landowner corporation, partnership, trust, or other entity who are related to each other by blood or adoption to the 4th degree of kinship together with spouses of family members.

5.29. Low Impact Recreational Activities – Low-impact uses that do not involve permanent Structures or threaten the Conservation Values of the Property, and are consistent with the Primary Conservation Purposes of the Easement, such as: exercise, sporting, and non-motorized recreational activities that are predominantly outdoor in nature, including but not necessarily limited to hunting, trapping, bird watching, biking with non-motorized bicycles, fishing, walking, hiking, running, cross-country skiing, snow shoeing, shooting, camping, horseback riding, and similar activities, and the operation of snowmobiles on lands sufficiently covered with snow or on sufficiently frozen ground. With the exception of snowmobiling as set forth above, Low Impact Recreational Activities do not include operation of dune buggies, motorcycles, all-terrain vehicles, or any other types of motorized recreational vehicles.

5.30. Non-Essential Services – Services, such as cable and satellite television service, provided to structures as permitted herein that are not essential for the uses of the Property permitted by this Easement.

5.31. Permeable Materials – Materials that allow the percolation of water through them into the soil.

5.32. Primary Conservation Purposes – See Section 4.

5.33. Renewable Energy – Energy generated from a source that is replaced on a human timescale by natural processes. Renewable Energy sources include, but are not limited to, sunlight, wind, geothermal heat, and biological processes.

5.34. Structure – Anything constructed or erected, the use of which requires a fixed location on or in the ground, or an attachment to something having a fixed location on the ground.

5.35. Temporary Events - Temporary or seasonal activities or events that do not harm the agricultural use, future agricultural viability, and Conservation Values of the Property.

5.36. Temporary or Minor Agricultural Structure - A non-habitable structure to be used for Agricultural Activities, including without limitation, hoop houses, pole sheds and run-in sheds, and which may be constructed on poles or posts, but is without full footings, a foundation, or any facilities requiring a subsurface wastewater disposal system, and construction of which only requires minor grading, but not excavation, of the land.

5.37. Temporary or Minor Recreational Structure – A non-habitable structure used for Low Impact Recreational Activities, including without limitation temporary hunting blinds, tree-stands, docks, tent platforms, trail improvements such as steps, foot bridges, water bars, and railings, and which may be constructed on poles, or posts, but is without full footings, a foundation, or any facilities requiring utilities or a subsurface wastewater disposal system, and construction of which only requires minor grading, but not excavation of the land.

5.38. Trail Corridor – As depicted on Exhibit B, a designated portion of the Property to inclue a public recreational trail to provide opportunities for low-impact outdoor recreation, including but not limited to, nature study, snowshoeing, cross country skiing, and hiking.

5.39. Utilities – Services, such as electricity, telephone, sewer, and water, to structures as allowed herein, which are essential for the uses of the Property permitted by this Easement.

5.40. Water Rights – Water and water rights, ditches and ditch rights, springs and spring rights, reservoir and storage rights, wells and groundwater rights, and other rights in and to the use of water historically used on or otherwise appurtenant to the Property.

6. RESTRICTIONS AND RESERVED RIGHTS.

6.1. Prohibited Uses. Except as permitted in Landowner's Reserved Rights, any activity on, or use of, the Property that is inconsistent with the Primary Conservation Purposes of this Easement is prohibited. In addition, the following activities, acts, or uses are expressly prohibited on, over, or under the Property:

6.1.1. Division. The Property is currently comprised of one or more legal parcels as described in Exhibit A, which for purposes of this Easement shall be treated as one (1) undivided lot or parcel of land. Landowner may own the Property by joint tenancy or tenancy in common, however, except as specifically set forth in Section 6.1.1.A-C below, the division or partition of

the Property, including the recording of a subdivision plan, division, partition, partition-in-kind or any other attempt to divide the said parcel into additional legal parcels is prohibited.

A. Lease of a portion of the Property for use for Agricultural Activities shall not be considered a division of the Property for purposes of this Easement.

B. The construction of any structures on the Property as permitted herein shall not be considered a division of the Property, provided that title to said structures remains in the Landowner except as set forth in Section 6.2.1.B.

C. With prior written Approval of Holder, Landowner may record a subdivision plan for the Property or divide the Property if it is required by state or local law or regulation for the purposes of constructing the structures permitted herein, provided however, that no lot or parcel of the Property depicted on said subdivision plan or lot or parcel of the Property that resulted from its division may be conveyed separately from the rest of the Property, the title thereto must remain in Landowner, and the said depicted lots or parcels shall remain subject to the terms of this Easement.

6.1.2. Use for Development. The Property and any portion thereof shall not be included as part of the gross area of other property not subject to this Easement for the purposes of determining density, lot coverage, or open space requirements under otherwise applicable laws, regulations, or ordinances controlling land use and building density. No development rights that have been encumbered or extinguished by this grant shall be transferred to any other lands pursuant to a transferable development rights scheme or cluster development arrangement or otherwise.

6.1.3. Prohibited Structures. The construction or placement of any structure, including buildings, tennis or recreational courts, swimming pools, landing strips, mobile homes, asphalt or concrete pavement, towers, telecommunication tower, energy generation structures, satellite dishes, billboard or advertising displays, subsurface wastewater disposal systems or any other temporary or permanent structures on, under, or above the Property is prohibited, except as may be permitted in Landowner's Reserved Rights set forth in Section 6.2 below.

6.1.4. Surface Alteration, Mining. Ditching, draining, diking, filling, excavating, dredging, mining, or drilling, removal of topsoil, sand, gravel, rock, stonewalls, minerals, natural gas, fuel, or any other materials, placing of soil or other substance or material, such as land fill or dredging spoils, or any building of roads or change in the topography of the Property in any manner is prohibited, except as may be permitted in Landowner's Reserved Rights set forth in Section 6.2 below. Landowner shall not transfer, encumber, sell, lease, or otherwise separate the mineral rights from the Property.

6.1.5. Divesting of Water Rights. The Property subject to this Easement includes all Water Rights, and other rights in and to the use of water historically used on or otherwise appurtenant to the Property. Landowner shall not transfer, encumber, sell, lease, or otherwise separate the Water Rights from the Property or change the historic use of the Water Rights without the prior written Approval of Holder except as may be permitted in Landowner's Reserved Rights. Landowner shall not abandon or allow the abandonment, by action or inaction, of any of the Water Rights without the prior written Approval of Holder.

6.1.6. Dumping. No trash, refuse, vehicle bodies or parts, rubbish, debris, junk, waste, sludge, or hazardous waste, shall be placed, stored, dumped, buried or abandoned on the Property in a manner that is, or may potentially be, detrimental to the Conservation Values of the Property, except as may be permitted in Landowner's Reserved Rights set forth in Section 6.2 below.

6.1.7. Commercial and Industrial Uses. Any commercial or industrial use of the Property, is prohibited, except as may be permitted in Landowner's Reserved Rights set forth in Section 6.2. below.

6.1.8. Changes to Vegetation. Removal, destruction, or cutting of trees over 3" in diameter at breast height, is prohibited, except as may be permitted in Landowner's Reserved Rights set forth in Section 6.2 below.

6.1.9. Alteration of Water Resources. Pollution, alteration, depletion or extraction of surface water, natural water courses, lakes, ponds, marshes, subsurface water or any other water bodies, or activities on the Property that would be detrimental to water purity, or that materially alter natural water level and/or flow in or over the Property are prohibited except as may be permitted in Landowner's Reserved Rights set forth in Section 6.2 below.

6.1.10. Recreational Vehicles. Recreational use of dune buggies, motorcycles, all-terrain vehicles, or any other types of motorized recreational vehicles, is prohibited, except as may be permitted in Landowner's Reserved Rights set forth in Section 6.2 below.

6.1.11. Subsequent Encumbrances Contrary to Purpose. Except as provided in Section 6.2.12.C(v) below, Landowner may not grant additional easements, rights of way, licenses or permits over the Property, nor increase the scope of existing easements, rights of way, licenses or permits without the prior written Approval of Holder, based on Holder's determination that said right or interest does not materially detract from the Conservation Values of the Property or impair the Primary Conservation Purposes of this Easement. The grant of any conservation easements or use restrictions that are inconsistent with the Primary Conservation Purposes of this Easement is prohibited. Placement of the Property in any current-use property tax program or classification that limits use of the Property in a way that conflicts with the Primary Conservation Purposes of this Easement is prohibited.

6.2. Landowner's Reserved Rights. Except as set forth in any provision of this Easement to the contrary, Landowner reserves all customary rights and privileges of ownership, including the right of quiet enjoyment of the Property, as well as any other rights not inconsistent with the Primary Conservation Purposes of this Easement and not specifically prohibited or limited by this Easement.

Without limiting the generality of the foregoing, the following activities and uses are hereby deemed by the Landowner and Holder to be consistent with the Primary Conservation Purposes

of this Easement, and are expressly permitted to be carried out on the Property in a manner that minimizes negative impact on the productivity of the Agricultural Soils and the other Conservation Values protected by this Easement.

6.2.1. Mortgage and Convey.

A. The right to sell, give, mortgage, lease, devise, or otherwise convey the Property, provided such conveyance is subject to the terms of this Easement and Notice is provided to Holder as described in Section 8.2.

B. The right to grant a security interest in any removable structure located on the Property, provided that the foreclosure and removal of said removable structure shall not materially damage the Property.

6.2.2. Agricultural Activities. The right to use the Property for Agriculture and Agricultural Activities or to permit others to use the Property for Agriculture and Agricultural Activities. Agriculture and Agricultural Activities, including Forest Management and the clearing of presently forested land for pasture or crop production, shall be conducted in a manner consistent with generally accepted Best Management Practices as those practices may be identified from time to time by appropriate governmental or educational institutions and in a manner not wasteful of soil resources or detrimental to water quality or conservation. Nothing in the foregoing shall be interpreted as relieving Landowner from conducting all Agricultural Activities in accordance with applicable law.

Notwithstanding the foregoing, activities related to Forest Management shall be subject to Section 6.2.3. below. Structures related to Agriculture and Agricultural Activities are limited and governed by Section 6.2.12 below. See Section 7.4 for the Landowner's obligation to maintain the existing fields.

6.2.3. Forest Management.

A. The right, subject to the requirements of Sections B, C, and D below, to conduct Forest Management on the Property. All Forest Management shall be conducted, to the extent reasonably practicable, in accordance with the following goals and in a manner not detrimental to the Primary Conservation Purposes of this Easement:

(i) Maintaining and improving soil productivity;

(ii) Protecting water quality, wetlands, and riparian zones; and

(iii) Conducting harvest on a sustained-yield basis.

B. Except as specifically set forth in Section 6.2.3.D below, Forest Management shall be conducted in accordance with a Forest Management Plan prepared by a licensed professional forester or by another qualified person approved in advance by Holder, and all Forest Management that requires a Forest Management Plan shall, unless otherwise approved in advance by Holder, be supervised by a licensed professional forester to ensure compliance with the Forest Management Plan. The Forest Management Plan shall have been prepared not more than ten (10) years prior to the date any harvesting is expected to commence, and a copy shall be provided to Holder. The Forest Management Plan shall include the following:

(i) A statement of Landowner objectives;

(ii) Forest type map showing stands related to the prescriptions provided in the Forest Management Plan;
(iii) A map showing soil types as determined by the USDA Natural Resource Conservation Service or its successor agency, Access roads and Farm Roads, wetlands, and surface waters;
(iv) Prescriptions for each described stand, including commercial and non-commercial treatments;
(v) Explanation of how wetlands, riparian areas, and soils will be protected during road construction and other soil-disturbing activities and the implementation of stand prescriptions.

C. At least thirty (30) days prior to the commencement of any Forest Management that must be conducted according to a Forest Management Plan as provided above, the Landowner shall provide written Notice to Holder of Landowner's intent to commence Forest Management activities, and shall provide the name and contact information for the licensed professional forester overseeing those Forest Management activities.
D. Forest Management activities are permitted without a Forest Management Plan for the following purposes:
(i) To clear land as necessary for the location or construction of structures and surface alterations permitted herein;
(ii) To control unusually damaging insects, invasive species, and diseases and to restore forested areas damaged by natural disasters, upon written recommendation of a licensed professional forester;
(iii) To prevent personal injury and property damage;
(iv) To create Farm Roads as permitted pursuant to Section 6.2.9. below;
(v) To maintain the perimeter of open fields as depicted on Exhibit B or established pursuant to Section 6.2.3.D.vi below;
(vi) To clear forested land for pasture or crop production in accordance with a Conservation Plan prepared by the USDA Natural Resources Conservation Service, or its successor, or other plan approved in advance by Holder;
(vii) To harvest annually an amount of wood equal to the number of forested acres on the Property multiplied by 0.5 cords (or equivalent board footage), up to a maximum of fifteen (15) cords (not including any wood harvested pursuant to the exemptions listed in subsection D(i)-(vi) above), unless Holder has provided prior written approval of an amount in excess of this maximum.

6.2.4. Low Impact Recreational Activities and Recreational Motor Vehicle Use. The right to conduct outdoor Low Impact Recreational Activities compatible with the Primary Conservation Purposes of this Easement. Landowner shall also retain the right to use and operate motorized vehicles on the Property for private, non-commercial recreational purposes, provided however, that such use shall be limited in extent and location so as minimize negative impact on productivity of the Agricultural Soils, on the public recreational use within the Trail Corridor, and on other Conservation Values of the Property.

6.2.5. Commercial Renewable Energy Generation and Communication Systems. The right to produce Renewable Energy for commercial use or sale, together

with the right to allow use of the Property for commercial communication systems such as cellular and radio towers provided that said uses are ancillary to, and compatible with, the use of the Property for Agriculture. **However,** said uses shall be subject to the restrictions on associated structures set forth in Section 6.2.12.C(vii). All leases or sales agreements related to said uses shall be subordinate to this Easement.

6.2.6. Customary Rural Enterprises, Home-Based Enterprises, Agritourism, and Temporary Events. The right to operate and undertake Customary Rural Enterprises, Home-Based Enterprises, Agritourism, and Temporary Events provided that such activities shall have minimized negative impacts on Conservation Values protected by this Easement.

6.2.7. Necessary Vehicles. As reasonably necessary in connection with permitted uses, activities, management, and protection of the Property, the right to use and operate vehicles including, but not limited to, cars, trucks, off-road vehicles, Forest Management equipment, emergency and rescue vehicles, maintenance equipment, and other equipment.

6.2.8. Access and Paving. The right to construct, relocate on site, repair, maintain, and use Access roads and parking areas. Said Access roads and parking areas within the Farmstead Area for permitted vehicular use and parking may be paved. Said Access roads and parking areas shall, to the extent possible, be sited and constructed so as to have minimized negative impact on the Conservation Values of the Property. Paving of locations outside the Access roads, Farmstead Area may only be undertaken with prior written Approval of Holder, based on Holder's determination that said paving will have minimized negative impact on the public recreational uses within the Trail Corridor and on the productivity of the Agricultural Soils and the other Conservation Values protected by this Easement or on the agricultural viability of the Property.

6.2.9. Farm Roads and Trails. The right to construct, relocate on site, repair, maintain, and use unpaved paths, trails, Farm Roads, bridges, culverts, and gates in furtherance of the activities permitted herein only. All such paths, trails, and Farm Roads shall be constructed with Permeable Materials, including but not limited to sand, gravel, shell, rock, or crushed stone and subsurface synthetic stabilization materials and located and constructed to minimize negative impact on Agricultural Soils and other Conservation Values of the Property. With prior written Approval of Holder, Impermeable Materials may be used where necessary for erosion control in accordance with Section 6.2.10 below. Notwithstanding the foregoing, any such Farm Roads, paths, and trails within the Trail Corridor shall be limited to direct crossings of the Trail Corridor, and shall not interfere with Holder's exclusive right in Section 7.6 to establish and maintain trails within the Trail Corridor.

6.2.10. Water Resources and Erosion Control. The right to use, maintain, establish, construct, and improve wells and other water sources, water courses and water bodies within the Property solely for the uses permitted by this Easement, or for the benefit of abutting land of Landowner. Landowner may alter the natural flow of water over the Property in order to improve drainage of fields, reduce soil erosion, or improve the agricultural or forest management potential of the Property, provided such alterations are

sited and constructed to have minimized negative impact on the Conservation Values protected by this Easement, and are undertaken in accordance with any applicable Forest Management Plan or other conservation plan.

Landowner shall provide Holder with prior written Notice before undertaking any construction, reconstruction, or other improvements permitted under this Section that causes more than four-hundred (400) square feet of surface area to be disturbed. Use of Impermeable Materials (including but not limited to concrete and asphalt) other than impermeable fabrics (such as rubber pond liners) for development and maintenance of water resources and for erosion control may only be undertaken with prior written Approval of Holder, based on Holder's determination that use of said Impermeable Materials will have minimized negative impact on the productivity of the Agricultural Soils and the other Conservation Values protected by this Easement or on the agricultural viability of the Property.

6.2.11. Surface Alteration and Extraction of Sand and Gravel. The right to alter or disturb the surface of the Property, including but not limited to excavation and filling, as may be reasonably necessary to exercise the rights reserved in this Section 6.2. Landowner may extract sand and gravel from the Property, provided said extraction is: (a) only for use upon the Property; (b) limited and localized in impact, affecting no more than two (2) acres of the Property in the aggregate at any time; (c) not irremediably destructive of the Conservation Values of the Property; and (d) only when reasonably necessary for, and incidental to, carrying out the permitted uses of the Property under this Easement. Landowner shall use all practical means to mitigate any negative impact of the extraction permitted herein on the Conservation Values of the Property.

6.2.12. Permitted Structures. The right to undertake construction, reconstruction, repair or replacement of structures on the Property *only* as provided below. All location, construction and reconstruction of structures shall be sited and constructed so as to minimize negative impact on the Conservation Values protected by this Easement. Nothing in the foregoing shall be construed to relieve the Landowner of Landowner's obligation to conduct all such construction in accordance with applicable law.

A. ***Fences and Walls.*** Existing fences and stone walls may be removed, repaired, and replaced and new fences and stone walls may be built on the Property for Agricultural Activities, to control unauthorized uses, for the security of structures on the Property, and to define boundaries, without Notice or Approval of the Holder.

B. ***Existing Structures.*** Any existing structures on the Property as of the date of the grant of this Easement are documented in the Baseline Documentation Report. Said existing structures may be repaired and replaced on their current Footprints at their current location or at a new location within the Farmstead Area without Notice or Approval of Holder. Landowner may enlarge an existing structure beyond thirty percent (30%) of said existing structure's footprint only upon Notice to Holder, and where this Easement specifies a maximum footprint for a structure, the Landowner may not enlarge said structure beyond the stated maximum footprint. Notwithstanding the forgoing, the Dwelling existing on the Property as of the date of the grant of this Easement may not be expanded beyond a maximum Footprint of 3,500 square feet Once structures are constructed pursuant to

subsection 6.2.12.C below, they shall thereafter be considered existing structures and shall be governed by this Section 6.2.12.B.

C. ***New Structures.***

(i) ***Temporary or Minor Agricultural and Temporary or Minor Recreational Structures.*** Anywhere on the Property, without prior Notice to Holder, Landowner may place or construct Temporary or Minor Agricultural Structures and Temporary or Minor Recreational Structures. Such new Temporary or Minor Agricultureal Structures and Temproary or Minor Recreational Structures shall not interfere with public recreational uses within the Trail Corridor.

(ii) ***New Agricultural Structures.***

(a) Within the Farmstead Area. Within the Farmstead Area, upon Notice to Holder, Landowner may construct new Agricultural Structures.

(b) Outside Farmstead Area. Landowner may construct new Agricultural Structures outside the Farmstead Area only with prior written Approval of Holder. Such new Agricultural Structures shall not interfere with public recreational uses within the Trail Corridor. Landowner shall submit a request for Approval to Holder to construct any new Agricultural Structures outside the Farmstead Area, which request shall include the reasons why locating the proposed structure within the Farmstead Area is impossible or impractical.

(iii)*Accessory Structures.* Within the Farmstead Area, upon Notice to Holder, Landowner may construct Accessory Structures that are appurtenant to the existing Dwelling.

(iv)*Farm Support Housing.* Within the Farmstead Area, upon Notice to Holder, Landowner may construct or locate new Farm Support Housing within an existing structure, including Agricultural Structures, or as a separate structure. Structures constructed for Farm Support Housing shall not exceed seven hundred fifty (750) square feet in Footprint without prior written Approval of Holder. New Farm Support Housing proposed for locations outside of the Farmstead Area may be constructed only with prior written Approval of Holder.

(v) ***Utilities, Non-Essential Services and Subsurface Wastewater Disposal Systems.*** Wires, lines, pipes, cables, or other facilities providing Utilities, Non-Essential Services, and subsurface wastewater disposal systems necessary to serve the uses and structures permitted herein may be installed, maintained, repaired, removed, relocated, or replaced, and Landowner may grant easements over and under the Property as necessary for installation of said Utilities and Non-Essential Services. Notwithstanding the foregoing, subsurface wastewater disposal systems and Non-Essential Services may not be installed to serve Temporary or Minor Agricultural Structures or Temporary or Minor Recreational Structures. To the extent possible, Utilities, Non-Essential Services and subsurface wastewater disposal systems shall be limited to the Farmstead Area and the existing Access roads on the Property.

(vi) ***Customary Rural Enterprise Structures.*** Within the Farmstead Area and with prior written Approval of Holder, Landowner may construct Customary Rural Enterprise Structures.

(vii) ***Commercial Renewable Energy and Communications Systems Structures.*** Within the Farmstead Area, upon Notice to Holder, Landowner may construct new structures for production of commercial Renewable Energy, and for communications systems as provided in Section 6.2.5. above. With prior written Approval of Holder, which shall evaluate any such request against its then-current policy for Energy Siting and Approvals, Landowner may construct such commercial Renewable Energy or communications structures outside the Farmstead Area.

(viii) Other New Structures. No other structures may be built on the Property except with prior written Approval of Holder. Holder shall require any Approved structures to be located so as to have minimal negative impact on the agricultural productivity and Conservation Values of the Property.

6.2.13 Public Recreational Uses.

A. No General Right of Public Access. Except as provided in Paragraph 6.2.13.B below, Landowner has no obligation to grant public access across the Property.

B. Limited Right of Public Access Within Trail Corridor. Within the Trail Corridor, as depicted on Exhibit B, Landowner agrees to permit, and will refrain from prohibiting or discouraging, use of the Property by the general public for daytime Low-Impact Recreational Activities, exercised in a manner that is consistent with the protection of the Conservation Values. Landowner has the right to prohibit or limit camping, night use, fires, and vehicular uses. The Trail Corridor may be adjusted upon the mutual agreement of Landowner and Holder.

Landowner shall have an obligation to establish and maintain an unpaved recreational trail for public use within the Trail Corridor. In the event that Landowner fails to meet this obligation, Holder may exercise its rights under Section 7.6 to establish and maintain the trail.

C. Recreational Immunity. Landowner and Holder claim all of the rights and protections against liability for injury to the public to the fullest extent of the law under Title 14 M.R.S. Section 159-A, et seq. as amended and successor provision thereof (the Maine Recreational Use Statute), and under any other applicable provision of law and equity.

7. HOLDER'S AFFIRMATIVE RIGHTS.

To accomplish the Primary Conservation Purposes of this Easement, the following rights are conveyed to Holder, which rights shall be in addition to, and not in limitation of, any other rights and remedies available to Holder.

7.1. The right to preserve and protect the Conservation Values of the Property.

7.2. The right to prevent the Landowner or third persons (whether or not claiming by, through, or under the Landowner) from conducting any activity on or use of the Property that is inconsistent with the Primary Conservation Purposes of this Easement and to require Landowner or third persons to restore such areas or features of the Property that may be damaged by any inconsistent activity or use in violation of this Easement to a condition substantially similar to that which existed prior to such violation, including the removal of offending structures or vegetation.

7.3. The right to enforce this Easement in the case of violation of its terms by Landowner or by third persons (whether or not claiming by, through, or under Landowner) by appropriate legal and equitable proceedings, as follows:

7.3.1. Right of Entry. Holder shall have the right to enter upon the Property, including use of aircraft and unmanned aerial vehicles over the Property, at reasonable times and upon reasonable notice for the purpose of: (1) monitoring the Property and inspecting for compliance with the terms of this Easement; (2) documenting Landowner's compliance with this easement and the condition of the Property through photographs and other forms of visual media; and (3) taking any and all actions with respect to the Property as may be necessary or appropriate, with or without order of court, to document, remedy, or abate violations hereof.

7.3.2. Right of Action. In the event that Holder becomes aware of a violation of the terms of this Easement, Holder shall give written notice, together with a description of the violation, to Landowner and request corrective action sufficient to abate such violation and restore the Property to a condition substantially similar to that which existed prior thereto. Failure by Landowner to: (1) discontinue or cure such violation within the time period reasonably specified in such notice; (2) promptly begin good faith efforts to discontinue, abate, or cure such violation where completion of such action cannot be reasonably accomplished within the specified time period and to diligently continue such efforts until completion; or (3) initiate and continue such other corrective action as may be reasonably requested by Holder, shall entitle Holder to bring an action at law or in equity in a court of competent jurisdiction to enforce the terms of this Easement seeking to:

A. Require the restoration of the Property to a condition substantially similar to that which existed prior thereto, including the removal of offending structures;

B. Enjoin any noncompliance by temporary or permanent injunction without the need for demonstrating irreparable harm or injury to the interests of the Holder, it being agreed that Holder will have no adequate remedy at law;

C. Recover any damages arising from such violation or noncompliance, including damages for the loss of the Conservation Values protected by this Easement; and

D. Recover costs as provided in Section 7.3.7 below.

Such damages, when recovered, may be applied by the Holder in its sole discretion, to corrective action on the Property.

7.3.3. Emergency Enforcement. Notwithstanding the foregoing, if Holder, reasonably and in good faith, determines that circumstances require immediate action to prevent or mitigate significant damage to the Conservation Values of the Property, Holder may pursue its remedies, including an action to enjoin the violation, *ex parte* if necessary,

through temporary or permanent injunction, without prior notice to Landowner or without waiting or the period for cure to expire. Holder shall provide Landowner with such notice as is reasonably possible under the circumstances, of all actions undertaken or to be undertaken pursuant to this subsection.

7.3.4. Forbearance Not a Waiver. Any forbearance by Holder in the exercise of its rights under this Easement or its rights arising from breach of any term hereof shall not be deemed or construed to be a waiver by Holder of such term or of any subsequent breach of the same or any other term of this Easement or of any of Holder's rights hereunder. No failure, delay or omission by Holder in the exercise of any right or remedy upon any breach shall impair such right or remedy or be construed as a waiver, and the Landowner hereby waives any defense of laches, prescription or estoppel.

7.3.5. Multiple Owners. Where the Property is owned by more than one Landowner, all such Landowners of the Property or portion thereof are jointly and severally liable for the violation of the terms of this Easement regardless of the form of ownership.

7.3.6. Acts Beyond Landowner's Control/Acts of Third Parties.

A. **Acts Beyond Landowner's Control.** Nothing contained in this Easement shall be construed to entitle Holder to bring any action against Landowner for any injury to or change in the Property resulting from causes beyond Landowner's control, including, without limitation, natural catastrophes, such as disease, pest, fire, flood, storm, and earth movement, or from any prudent action taken by Landowner under emergency conditions to prevent, abate, or mitigate significant injury to any person or the Property resulting from such causes.

B. **Acts of Third Parties.**

(i) **Acts with Landowner's Authority.** Landowner shall be responsible for any injury to or change in the Property resulting from acts or omissions of persons acting on behalf of Landowner, at Landowner's direction or with Landowner's permission or license, and Holder shall be entitled to proceed under Section 7.3 against Landowner for events or circumstances of non-compliance with any covenant, term, condition or restriction of this Easement resulting from such acts or omissions.

(ii) **Acts without Landowner's Authority.**

(a) Landowner shall not be responsible for injury to or change in the Property resulting from acts or omissions of third parties not covered by Subsection (i) above.

(b) Both Landowner and Holder shall have all rights and remedies existing at law or in equity to proceed against any third party damaging the Property. Landowner shall undertake all reasonable actions to prevent the unlawful entry and trespass by persons whose activities may degrade or harm the Property or that are otherwise inconsistent with the Primary Conservation Purposes of this Easement.

(c) *Restoration Damages.* As to any claims for money damages against such third parties, Landowner shall have the primary right to proceed against third party wrongdoers for damages based on costs to restore the Property to its condition before the wrongful acts or omissions caused damage to the Property, and any damages recovered based on such costs to restore the Property shall be used, net of all legal

fees and other litigation costs attributable to the claim for damages based on restoration costs, entirely for restoration of the Property to the maximum extent possible. If Landowner elects not to proceed with any such claim against any such third party or if Landowner pursues a claim but elects not to seek money damages based on restoration costs, Holder shall be entitled to pursue such claim and to seek such damages against such third parties, and if Holder so requests, Landowner shall assign to Holder its rights to seek such money damages based on restoration costs. Any recovery of damages from such third parties based on restoration costs, after deducting all legal fees and other litigation costs attributable to the claim for damages based on restoration costs, shall be applied by Landowner to remediation of the damage to the Property. Holder shall not be entitled to carry out any such restoration, but if Holder has recovered money damages attributable to restoration costs, Holder shall pay over to Landowner the damages received net of litigation expense and Landowner shall use such funds for restoration. Holder may require Landowner to provide, at least annually, complete accountings for use of such funds.

(d) *Other Damages*. If a third party's wrongful act or omission damages the Property in ways that cannot be remedied by restoration of the Property to its condition prior to the wrongful acts or omissions, each of the Parties may pursue its own claim for damage to its adversely affected property rights and shall be entitled to whatever damages are awarded on account of that damage. In the event of an award in such a proceeding for damages to the fee interest and to the property interest represented by this Easement which award does not specify how the award is to be allocated between Landowner and Holder, the total proceeds, after deduction of each Party's litigation expenses, shall be divided in accordance with the proportionate values of Landowner's and Holder's interests on the same bases as specified in Section 11.3.3 below.

7.3.7. Costs. Recognizing that Holder is a charitable organization with limited resources and that Holder has a duty to protect the Property and property rights it holds in the public interest, in the event of a violation Landowner agrees to reimburse Holder for all reasonable costs incurred by Holder in enforcing this Easement or in taking reasonable measures to remedy or abate any violation hereof by Landowner or by a third-party acting with Landowner's authority, including without limitation the costs of investigation, negotiation, mediation, arbitration, settlement, and suit (including reasonable expert, consultant, and attorneys' fees) together with all fees and costs, including reasonable expert, consultant, and attorneys' fees related to restoration, remediation or other damage correction. Any such costs and fees reimbursements shall apply whether any formal action is filed, whether Holder is a plaintiff or defendant in a judicial or administratie action or proceeding, and regardless of wwhether the action is styled as a declaratory action or some other kind of action. Provided, however, that Holder agrees to reimburse Landowner for all such costs incurred by Landowner in defense of any claim or action brought by Holder in connection with any alleged violation hereof by Landowner, provided that Holder acknowledges in writing that such claim or action was, in its entirety, without merit or if an arbitrator or court of competent jurisdiction, as the case may be, affirmatively determines that Holder was acting unreasonably or frivolously in initiating a legal action to enforce this Easement.

7.4. Fields.

A. Unless otherwise agreed in writing by Holder, Landowner shall maintain the fields on the Property, as depicted on Exhibit B and described in the Baseline Documentation Report, such that they are kept open and not permitted to become forestland. Where planted with fruit or nut bearing trees, Christmas trees, other ornamental trees or shrubs, the fields shall be considered to be maintained so long as Landowner is actively managing said trees or shrubs. Indications of active management shall include, but are not limited to: mulching; fertilizing; trimming or pruning; mowing between and around trees and shrubs; culling diseased, unproductive, or unmarketable trees or shrubs; and harvesting fruits, nuts, trees or shrubs.

B. In the event that Landowner fails to maintain the fields on the Property Holder has the right to enter the Property and maintain the fields, either by periodic mowing, haying, bush hogging, or by other means mutually agreed to by Landowner and Holder. Holder may dispose of the byproducts of such operations to defray the expense of undertaking such actions. Income in excess of expenses for such maintenance operations shall be dedicated to Holder's stewardship fund. Holder shall provide Landowner written notice at least sixty (60) days prior to conducting any field management operations, should provide Landowner an opportunity to take action to maintain the fields at Landowner's own expense.

7.5. Boundaries. Holder is hereby granted the right to require Landowner to keep the boundaries of the Property and the Farmstead Area sufficiently marked to permit Holder to accurately identify their location. In the absence of such accurately marked boundaries, Holder has the right to require Landowner to commission, at Landowner's expense, a survey to determine any boundary or boundaries in question. Holder shall have the right to place small markers along the perimeter of the Property, after notice to Landowner, indicating its status as land under the conservation protection of Holder.

7.6. Trail Management Rights. Within the Trail Corridor, Holder has the affirmative right to establish and maintain a recreational trail, as well as trail improvements such as steps, foot bridges, water bars, and railings. Should Holder exercise its rights under this Section 7.6, Holder shall make all contractual arrangement for such trail work at its own cost.

8. NOTICES, APPROVALS, DISCRETIONARY CONSENT.

8.1. Method for Notice. Any notices or requests for approval required by this Easement shall be in writing and shall be personally delivered or sent certified mail, return receipt requested, or by such commercial delivery service as provides proof of delivery, to Landowner and Holder, at the following addresses, unless one has been notified by the other of a change of address or change of ownership:

To Landowner: Synergosity LLC
173 Spurwink Road
Scarborough, ME 04074

At the address of the owner(s) of record as noted hereinabove or as provided by Landowner in writing.

To Holder: Maine Farmland Trust, Inc.
97 Main Street
Belfast, ME 04915

If the notice mailed to Holder, or to Landowner at the last address on file with Holder is returned as undeliverable, the sending party shall provide notice by regular mail to Landowner's last known address on file with the municipality of **Cumberland,** Maine; or in the case of Holder, or in the case of a corporate owner, to the address on file with the Secretary of State, State of Maine, and the mailing of such notice shall be deemed in compliance with the notice provisions of this Easement.

In addition to the methods set forth in this section 8.1, a notice or request for approval or any other communication may be sent by electronic mail or other electronic communication ("email") only if an authorized agent of the receiving party has consented to receiving notice by email at a specific address and the recipient, by an email sent to the email address for the sender or by the same email returned to the originating address for the sender, or by a notice delivered by another method in accordance with this section 8.1, acknowledges having received that email. An automatic "read receipt" shall not constitute acknowledgment of an email for purposes of this section 8.1.

8.2. Notice and Requests for Approval. Any use or activity requiring Notice to or Approval of the Holder shall be subject to the terms and conditions of the applicable subsections under which such notice is required or approval is requested as well as the terms and conditions of this subsection. If Notice to Holder is required, but not Approval, Landowner shall notify Holder in writing at least ten (10) days prior to the date Landowner intends to undertake the activity in question. The Notice shall describe the nature, scope, location, timetable, and any other material aspect of the proposed activity in sufficient detail to permit Holder to determine whether such activity is in conformity with the terms and Primary Conservation Purposes of this Easement and in conformity with the applicable section(s) under which such right is reserved or approval granted. If Approval of Holder is required, such Approval shall in all cases be obtained by Landowner prior to Landowner's taking the proposed action. Failure to request required Approval of Holder prior to commencing an activity shall constitute a material breach of this Easement. Where municipal regulatory approval is required, the Landowner will submit the site and/or plot plan of any proposed new construction to the Holder prior to submitting such documents for regulatory approval(s).

Holder shall only grant Approval to Landowner where Holder, ***in its sole discretion***, determines that the proposed action is not inconsistent with the Primary Conservation Purposes of this Easement, and is consistent with any applicable Best Management Practices. In the event Holder withholds Approval, it shall notify Landowner in writing with reasonable specificity of its reasons for withholding Approval, including a denial because of a need for

additional information, and the conditions, if any, on which Approval might otherwise be given. Holder may impose such conditions on Approvals as Holder determines are reasonably required to protect the Conservation Values of the Property consistent with the Primary Conservation Purposes of this Easement, including that Landowner provide reasonable prior notice of the commencement of any activity approved under this subsection.

Where Approval of Holder is required, Holder shall approve or withhold its approval in writing within sixty (60) days of receipt of Landowner's written request. The failure of Holder to respond in writing within such sixty (60) days of receipt of the written request shall be deemed to constitute a temporary denial of Approval by Holder.

In addition to the foregoing, where Notice or Approval is not otherwise required by this Easement, Landowner agrees to notify Holder before exercising any right that may have an adverse impact on the conservation interests associated with the Property as required by Title 26, Code of Federal Regulations, Sections 1.170A-14(g)(5)(ii).

8.3. Discretionary Consent. Recognizing that Agricultural and Forestry Best Management Practices, agricultural markets and technologies, climate and the ecological state of the region, and scientific knowledge will change over time, Holder's consent for activities otherwise restricted or prohibited may be given if Holder determines, in its sole and absolute discretion, that due to: (1) disease, pests, fire, flood, storm, earth movements or other natural disaster; (2) changes in scientific knowledge, technology, or best agricultural or forestry land management practices; (3) the existence of threatened or endangered species on or abutting the Property; (4) changes in climate affecting the ecological condition of the surrounding area or ecological system; or (5) other unforeseen circumstances, such activities further and are consistent with the Primary Conservation Purposes of this Easement. In addition, Holder may grant consent for activities that have not been foreseen or contemplated by the parties that further and are consistent with the Primary Conservation Purposes of this Easement. Such consent may be (1) revocable at the Holder's discretion and (2) limited in duration. Holder shall have no right or power to approve any proposed activity that would result in the termination of this Easement, be inconsistent with the Primary Conservation Purposes of this Easement or allow additional development rights, other than development rights that are reasonably required for Agricultural Activities, environmental enhancement or related education, to accrue to the benefit of the Property. All requests for such consent shall be in writing and shall describe the proposed activity in sufficient detail to allow Holder to judge the consistency of the proposed activities with the Primary Conservation Purposes of this Easement. Holder shall not be liable for any failure to grant consent to Landowner under this subsection, and the failure of Holder to respond in writing within such sixty (60) days of receipt of the written request shall be deemed to constitute a temporary denial of such consent by Holder.

9. ONGOING RESPONSIBILITIES, COSTS AND LIABILITIES.

9.1 Transfer of Property. The Landowner agrees that the terms, conditions, restrictions and Primary Conservation Purposes of this Easement will either be incorporated by reference or inserted by the Landowner in any subsequent deed or other legal instrument by which the Landowner divests themselves of any interest in the Property or in any portion thereof to the extent permitted by this Easement. Failure of the Landowner to incorporate such terms shall not affect the enforceability of this Easement. Landowner shall provide Notice of said planned conveyance to Holder in writing at least thirty (30) days, before conveying the Property or an interest therein, other than a mortgage, to any third party.

9.2 Taxes. Landowner shall be solely responsible for payment of all taxes and assessments levied against the Property including interest. If Holder is ever required to pay any taxes or assessments on the Property in order to protect its interests, Landowner will reimburse Holder for the same. Such payment shall constitute a lien on the Property of the same priority as the item would have become if not paid.

9.3. Upkeep and Maintenance. Landowner shall be solely responsible for the upkeep and maintenance of the Property. Holder shall have no obligation for the upkeep or maintenance of the Property

9.4. Compliance With Law. Nothing in this Easement relieves Landowner of any obligation with respect to the Property imposed by law, including the obligations and responsibilities to obtain any and all applicable federal, state, and local governmental permits and approvals, if necessary, to exercise Landowner's retained rights and uses of the Property even if consistent with the Primary Conservation Purposes of this Easement.

By its acceptance of this Easement, Holder does not undertake any liability of obligation relating to the Property, including without limitation any responsibility for compliance with laws and regulations concerned with hazardous materials or other environmental laws and regulations.

10. BASELINE DOCUMENTATION REPORT.

The Conservation Values of the Property and its conditions, current use, and state of improvement are described in a Baseline Documentation Report, including maps, photographs, and other documentation prepared by or on behalf of Holder and certified by the Landowner, as required under Treasury Regulations § 1.170A-14. Holder shall maintain the Baseline Documentation Report, a copy of which shall be provided to Landowner at Landowner's request. The Baseline Documentation Report may be used by Holder to establish that a change in the use or character of the Property has occurred, but its existence shall not preclude the use by Holder or Landowner of other evidence to establish the condition of the Property as of the date of this Easement. If after the date of this Easement, the Holder wishes to supplement or amend the Baseline Documentation Report, the Holder may do so and the Landowner may certify the Baseline Documentation Report as supplemented or amended.

11. GENERAL PROVISIONS.

11.1 Assignment. Holder shall have the right to assign this Easement to any public agency or private nonprofit organization that, at the time of transfer, is a "qualified organization"

under Section 170(h) of the Code and under Maine Conservation Easement Act, 33 M.R.S. § 476(2), as amended or successor provisions thereof, provided the transferee expressly agrees to assume the responsibility imposed on Holder by this Easement. If Holder ever ceases to exist or no longer qualifies under Section 170(h) of the Code, or applicable state law, a court of competent jurisdiction shall transfer this Easement to another qualified organization having similar purposes that agrees to assume the responsibilities imposed by this Easement.

11.2 Amendment.

11.2.1 Landowner and Holder recognize that circumstances could arise that warrant modification of certain of the provisions of this Easement. To this end, subject to more restrictive laws and regulations, if any, Landowner and Holder have the right to agree to amendments to this Easement without prior notice to any other party, provided that in the sole and exclusive judgment of Holder, such Amendment does not violate the restrictions in Section 11.2.2. Amendments will become effective upon recording at the Cumberland County Registry of Deeds. Nothing in this Section shall require the Landowner or the Holder to agree to any amendment or to negotiate regarding any amendment.

11.2.2 Notwithstanding the foregoing, except as provided by 33 M.R.S. § 477-A(2) as amended of the Maine Conservation Easement Act, by which a Conservation Easement may be amended by court approval in an action in which the Attorney General is made a party, Holder and Landowner have no right or power to approve any action or agree to any discretionary approval or amendment that would

A. materially detract from the Conservation Values intended for protection under this Easement;

B. limit the term or result in partial or complete termination of this Easement; or

C. adversely affect the qualification of this Easement or the status of the Holder under applicable laws, including the Maine Conservation Easement Act at 33 M.R.S. § 476 et seq. and Sections170(h), 501(c)(3), 2522, and 2031(c) of the Code, successor provisions thereof and regulations issued pursuant thereto.

11.3 Extinguishment and Condemnation.

11.3.1 The Parties agree that the grant of this Easement creates a property right that vests immediately in Holder. The parties further agree that this property right as of the date of its creation has a fair market value that is equal to the percentage by which the fair market value of the unrestricted property as a whole as valued in accordance with Title 26, Code of Federal Regulations, Sections 1.170A-14(g)(6)(ii), is reduced by the terms and conditions imposed by this Easement, as of the date of the execution of this Easement (hereinafter the "Original Percentage Reduction").

11.3.2 If either Holder or Landowner receives notice of the actual or threatened exercise of the power of eminent domain (hereinafter a "Taking") with respect to any interest in or any part of the Property, the party who receives the notice shall promptly notify the other and the parties may proceed jointly or either party may at its discretion take such legal action as it deems necessary to: (a) challenge the Taking; (b) challenge the amount of allocation of any

award tendered by the Taking authority; or (c) otherwise participate in, challenge or appeal such proceedings, findings or awards. Any third party counsel and consultants (including appraisers) hired by either party shall be reasonably acceptable to the other party. Each party shall be responsible for its own costs and legal fees, absent written agreement of the parties.

11.3.3 This Easement may only be extinguished or terminated by judicial order in a court of competent jurisdiction in an action in which the Attorney General is made a party, including a taking in accordance with subsection 11.3.1 above. It is the intention of the parties that an extinguishment or termination be approved by a court only if all of the Primary Conservation Purposes of this Easement are impossible to accomplish, and if both Landowner and Holder agree. Should this Easement be terminated or extinguished as provided in this Section, in whole or in part, Holder shall be entitled to be paid no less than the greater of: (i) a portion of any proceeds of a subsequent sale, involuntary conversion, exchange or lease computed as to the Original Percentage Reduction; or (ii) the increase in value of the Landowner's estate resulting from such extinguishment, as determined by the court, or in the absence of such court determination, by the agreement of the parties or, in the absence of such agreement, by an independent appraiser mutually selected by Landowner and Holder. Holder shall use its share of the proceeds or other moneys received under this paragraph in a manner consistent, as nearly as possible, with the stated, publicly beneficial Primary Conservation Purposes of this Easement. Landowner agrees that Holder may, and authorizes Holder to, record a notice of a lien on the Property which lien will be effective as of the date of such extinguishment, to secure its rights under this Section.

11.4 Applicable Law. This Easement is created pursuant to Title 33, M.R.S., Sections 476 through 479-C, inclusive, as amended, and shall be construed in accordance with the laws of the State of Maine, regardless of any conflict of law provisions.

11.5 Interpretation. This Easement shall be interpreted under the laws of the State of Maine. Any general rule of construction to the contrary notwithstanding, this Easement shall be liberally construed to effect the Primary Conservation Purposes of this Easement. If any provision in this Easement is found to be ambiguous, an interpretation consistent with the Primary Conservation Purposes of this Easement that would render the provision valid shall be favored over any interpretation that would render it invalid. If any provision of this Easement or the application of any provision to a particular person or circumstance is found to be invalid, the remainder of this Easement and the application of such provision to any other person or in any other circumstance, shall remain valid.

11.6 Non-Waiver. The failure or delay of the Holder, for any reason whatsoever, to do any action required or contemplated hereunder, or to discover a violation or initiate an action to enforce this Conservation Easement shall not constitute a waiver, laches, or estoppel of its rights to do so at a later time.

11.7 Compliance. A person or entity's obligations hereunder as Landowner will cease, if and when such person or entity ceases to have any present, partial, contingent, collateral or future interest in the Property, but only to the extent that the Property is then in compliance herewith. Responsibility of Landowner for breaches of this Easement that occur prior to transfer of title will survive such transfer; provided that the new Landowner shall also be responsible for bringing the Property into compliance unless Holder in writing releases the new Landowner.

11.8 Estoppel Certificates. Upon written request of Landowner and at Landowner's expense, Holder shall, within a reasonable time after such request, inspect the Property and shall provide a Compliance/Estoppel Certificate that indicates the extent to which, to the best of Holder's knowledge, the Property is in compliance with the terms of this Easement.

11.9 Severability. If any provision of this Easement or the application of any provision to a particular person or circumstance is found to be invalid, the remainder of this Easement and the application of such provision to any other person or in any other circumstance, shall remain valid.

11.10 Potential Increase in Value Acknowledged. In making this Easement, Landowner has considered the fact that uses prohibited hereby may become more economically valuable than permitted uses, and that neighboring properties may in the future be put entirely to such prohibited uses. It is the intent of both Landowner and Holder that any such changes not be deemed to be changed conditions permitting alteration or termination of this Easement.

11.11 Subsequent Liens On Property, Liens Subordinated. Landowner has the right to use the Property as collateral to secure repayment of debt, provided that any lien or other rights granted for such purpose, regardless of date, are subordinate to Holder's rights under this Easement. Under no circumstances may Holder's rights be extinguished or otherwise affected by the recording, foreclosure or any other action taken concerning any subsequent lien or other interest in the Property.

11.12 Entire Agreement. This instrument, as supplemented by the Baseline Documentation Report, sets forth the entire agreement of the parties and supersedes all prior discussions, negotiations, understandings or agreements relating to this Easement.

11.13 Environmental Warranty. Nothing in this Easement shall be construed as giving rise to any right or ability in Holder to exercise physical or management control over the day-to-day operations of the Property, or any of Landowner's activities on the Property, or otherwise to become an operator with respect to the Property within the meaning of The Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA) or any corresponding state and local statute or ordinance.

Landowner warrants that it has no actual knowledge of a release or threatened release of hazardous substances or wastes on the Property, as such substances and wastes are defined by applicable law, and hereby promises to indemnify Holder against, and hold Holder harmless from, any and all loss, cost, claim (without regard to its merit), liability or expense (including reasonable attorneys' fees) arising from or with respect to any release of hazardous substances or waste or violation of environmental laws.

If at any time after the date of this Easement there occurs a release in, on, or about the Property of any substance now or hereafter defined, listed, or otherwise classified pursuant to any federal, state, or local law, regulation, or requirement as hazardous, toxic, polluting, or otherwise contaminating to the air, water, or soil, or in any way harmful or threatening to human health or the environment, Landowner agrees to take all steps that may be required under federal, state, or local law necessary to assure its containment and remediation, including any cleanup.

11.14 Liability and Indemnification. Landowner acknowledges that Holder has no possessory rights in the Property, nor any responsibility or right to control, maintain, or keep up the Property. Landowner is responsible for all costs and responsibility of ownership, control, operation, maintenance, and upkeep of the Property. If the Holder is ever required by a court to pay damages resulting from personal injury or property damage that occurs on the Property, the Landowner shall indemnify and reimburse the Holder for these payments, as well as for reasonable attorneys' fees and other expenses of defending itself, unless Holder or any of its agents have committed a deliberate act that is determined by a court to be the cause of the injury or damage.

11.15 Standing to Enforce. Only Holder and Landowner may bring an action to enforce this Easement, and nothing herein should be construed to grant any other individual or entity standing to bring an action hereunder, unless otherwise provided by law; nor to grant any rights in the Property by adverse possession or otherwise, provided that nothing in this Easement shall affect any public rights in or to the Property acquired by common law, adverse possession, prescription, or other law, independently of this Easement.

12 OPTION AND RIGHT TO PURCHASE

12.1 Holder shall have an option to purchase the Property at its agricultural value in accordance with terms and provisions of this Section 12 (which option shall be referred to herein as the "Option") and upon the terms expressed in Exhibit C, attached hereto and incorporated herein, entitled "Terms, Conditions and Contingencies for Holder's Purchase of the Property Pursuant to its Option to Purchase". This Option is an integral part of this Easement and constitutes a restriction and a right and interest in real property that runs with the land. This Option shall be perpetual in duration and is given on the following terms and conditions.

12.2 Option Trigger; Exceptions. Landowner shall not sell, transfer or convey the Property, in whole or in part, without first offering the Property for sale to Holder as provided herein, however, the following described transactions shall not trigger Holder's rights under this Option:

12.2.1 Any mortgage, pledge, or other assignment of the Property to a lender as security for indebtedness, provided the Holder's interest under this Option is treated as an interest in real estate such that, in the event of foreclosure, Holder is deemed a necessary party defendant in such foreclosure case and has the right to redeem the Property from the foreclosure action; and

12.2.2 Any conveyance by the Landowner to Landowner's Family (as defined in Section 5 above) by gift, inheritance, sale or other transfer; and

12.2.3 Any conveyance of the Property to a person who presently earns at least one-half of his or her annual gross income from the "business of farming," as that term is defined in Regulation 1.175-3 issued under the Internal Revenue Code of 1986 and who, in connection

with the farming operations of the Property, will continue to earn at least one-half of his or her annual gross income from the business of farming ("a Qualified Farmer"); and

12.2.4 Any lease to a Qualified Farmer or a lease having a term of 15 years or less, including renewal rights; provided, however, that any such lease shall expressly provide that, unless otherwise agreed by Holder, the lease shall terminate and possession shall be delivered free and clear of any rights of the tenant upon a closing of the sale of the Property following exercise of this Option.

This Option shall apply to all other sales and conveyances of the Property, including any sale or conveyance of any interest in the Property including any conveyance by, or conveyance of any interest in a corporation, limited liability company, partnership or other entity Landowner of the Property.

12.3 Notice of Intent to Sell. Whenever Landowner (which for the purposes of this Section 12 shall also refer to the individual holders of an interest in any entity Landowner of the Property) a) receives an offer from a person or persons ("Transferee") to purchase or lease for a term in excess of fifteen (15) years, including renewal rights, all or any part of the Property including an offer involving property other than the Property, and Landowner accepts the Offer subject to this Option; b) otherwise enters into an agreement to convey or transfer ownership of the Property to a Transferee; or c) enters into an agreement to transfer an interest in a corporation, limited liability company, partnership, or other entity Landowner of the Property to a Transferee, Landowner shall deliver to Holder a Notice of Intent to Sell as provided herein, which shall include:

12.3.1 A complete duplicate of the offer, together with such other instruments as may be required to show the bona fides of the offer; and

12.3.2 A written description of the Transferee's training and experience as an agricultural producer and an agricultural business plan for the Property, including a description of the agricultural activities to be conducted or facilitated by Transferee, proposed improvements to the Property, and a statement of anticipated agricultural income and expenses for three-year period following Transferee's acquisition of the Property or, if Transferee has no such training and experience or intention of operating an agricultural business on the Property, a written statement to that effect; and

12.3.3 If the Transferee is purported to be a Qualified Farmer or member of Landowner's Family, the documents necessary to establish the Transferee as such, including the Transferee's most recent federal income tax filing, if applicable; and

12.3.4 The Landowner's current mailing address.

Information delivered to Holder pursuant to this clause shall remain confidential and shall not be released to any person or entity not a party to this Easement, without the prior written approval of Landowner.

12.4 Exercise of Option. This Option may be exercised by Holder as follows.

12.4.1 Holder shall give written Notice of Intent to Exercise not more than thirty (30) days following receipt of the Notice of Intent to Sell described herein; failure by Holder to provide such Notice of Intent to Exercise shall constitute a waiver of its rights under this Option; and

12.4.2 After Holder timely provides Landowner with a Notice of Intent to Exercise, Landowner and Holder shall fix the purchase price for the Property by establishing a Price Agreement in the manner described hereafter.

12.4.3 Holder shall exercise this Option by giving written Notice of Intent to Purchase not more than thirty (30) days following Landowner's and Holder's establishment of the Price Agreement.

12.4.4 After giving Notice of Intent to Purchase, the Holder shall have ninety (90) days to close on the Property. Closing shall be subject to Holder obtaining financing for the purchase and satisfactory investigation and inspection of the Property and other terms and conditions contained in Exhibit C hereto. If such financing is not obtained or investigation or inspection of the Property is not satisfactory, or the terms contained in Exhibit C are not met, Holder may rescind its Notice of Intent to Purchase and will have no further obligation to purchase the Property.

12.4.5 Holder may assign its right to purchase the Property under this Option, subject to the terms set forth in Section 12.4.4 above, to a public agency or private nonprofit organization that, at the time of assignment, is a "qualified organization" under Section 170(h) of the Code and under Maine Conservation Easement Act, Section 476(2). Such an assignment shall only be effective for a single exercise of this Option. In the event that Holder desires to so assign its right to purchase the Property, it shall include notice of said assignment in its Notice of Intent to Purchase.

12.5 Purchase Price (Land). The Purchase Price shall be determined by mutual agreement of Landowner and Holder; provided that if no such agreement can be reached, the purchase price of the land only shall be the full fair market value of all Property land subject to the offer (including the site of any structures) assuming its highest and best use in commercial agricultural production commonly occurring within the market area where the Property is located on the date of the offer (the "Fair Market Value"), as determined by a mutually approved disinterested appraiser selected by Landowner and Holder, with the expense of such appraisal divided equally between Landowner and Holder. Permanently installed land improvements, such as in-ground irrigation systems, farm roads, and drainage tiling shall be considered part of the land. This appraisal shall take into consideration the permitted and restricted uses set forth in, and the impact on value caused by this grant, as ammended.

12.6 Purchase Price (Agricultural and Minor Structures). With respect to any Agricultural Structures or Temporary or Minor Agricultural or Recreational Structures in existence as of the date of the offer, then in addition to the foregoing land value, the Purchase

Price shall also include the value of all such structures on the Property as of the date of the offer excluding all land (which is included in the valuation above). The value of the structures shall be determined using the replacement cost approach to valuation (i.e., the cost to replace the structures and improvements with those of comparable size and utility, less depreciation and functional obsolescence) by a mutually approved disinterested appraiser selected by Landowner and Holder, with the expense of such appraisal divided equally between Landowner and Holder.

12.7 Purchase Price (Dwellings). With respect to any Dwellings(s) in existence as of the date of the offer, then in addition to the foregoing land value, the Purchase Price shall also include the value of the Dwelling and its Accessory Structures as of the date of the offer excluding the value of the land upon which these structures sit (which is included in the valuation above). The value of the Dwelling and Accessory structures shall be determined using the replacement cost approach to valuation (i.e., the cost to replace the structures and improvements with those of comparable size and utility, less depreciation and functional obsolescence) by a mutually approved disinterested appraiser selected by Landowner and Holder, with the expense of such appraisal divided equally between Landowner and Holder.

12.8 Should, for the purposes of Sections 12.5, 12.6, and 12.7 above, Landowner and Holder be unable to mutually agree on a disinterested appraiser, then Landowner shall obtain an appraisal at its own expense. Holder shall have the right to disagree with the appraisal and obtain its own appraisal at Holder's expense. If the two appraisals disagree, then the two appraisers shall choose a third appraiser to prepare a third appraisal, the expense of which shall be equally shared by the parties, which third appraisal shall set the Fair Market Value and, as applicable, the replacement value of any structures. Failure of either party to cooperate in the above process shall constitute acceptance of the other party's appraised value.

12.9 Landowner and Holder shall establish the Purchase Price by either entering into a written agreement fixing the Purchase Price as provided herein, within ten working days of reaching mutual agreement or, if no such agreement is reached, the Purchase Price shall be based upon the appraised values set forth above, which shall be the Purchase Price unless another Purchase Price is mutually agreed upon in writing by the parties within ten working days after the last party's receipt of the appraisals. The passage of said ten working days shall constitute the effective date of establishing the Purchase Price ("Price Agreement").

13 HABENDUM AND SIGNATURES.

TO HAVE AND TO HOLD the said Agricultural Conservation Easement unto the said Holder and its successors and assigns forever.

IN WITNESS WHEREOF, Landowner, Synergosity LLC has caused these presents to be signed and sealed in its corporate name by Alexander Timpson, its "Member", hereunto duly authorized, this 4th day of May , 2022.

SYNERGOSITY LLC

By: Alexander Timpson
Member

14 ACKNOWLEDGMENT.

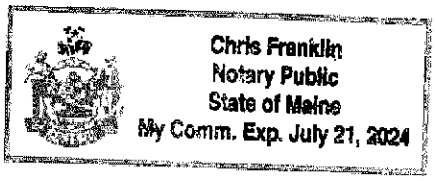
STATE OF MAINE
COUNTY OF CUMBERLAND

Dated: May 4, 2022.

Thence personally appeared the above-named Alexander Timpson, and acknowledged that he is of Synergosity LLC, and that the execution of the foregoing instrument is his free act and deed in said capacity and the free act and deed of Synergosity LLC.

Before me,

Notary Public/Maine Attorney
Printed Name:Christopher Franklin
My Commission expires:_____



15 HOLDER ACCEPTANCE.

The above and foregoing Agricultural Conservation Easement is hereby accepted for and on behalf of the **MAINE FARMLAND TRUST, INC.,** duly authorized this 4th day of May, 2022

MAINE FARMLAND TRUST, INC.
a Maine nonprofit corporation

By:_____
Name: Amy Fisher
Title: President

16 HOLDER ACKNOWLEDGMENT

STATE OF MAINE
COUNTY OF Waldo

Date: 5/4, 2022

Thence personally appeared the above-named Amy Fisher, President of Maine Farmland Trust, Inc., and acknowledged acceptance of the above and foregoing Agricultural Conservation Easement as her free act and deed in said capacity, and the free act and deed of Maine Farmland Trust, Inc.

Before me,

_____
Notary Public/Maine Attorney
Printed Name: ADAM BISHOP
My Commission expires: NOTARY PUBLIC
STATE OF MAINE
MY COMM. EXP. SEPTEMBER 1, 2022

EXHIBIT A
Legal Description of the Property

A certain lot or parcel of land with any improvements thereon, located on the westerly side of Longwoods Road, also known as State Route 9, in the Town of Cumberland, County of Cumberland, State of Maine and more particularly bounded and described as follows:

BEGINNING at a found 5/8-inch iron rebar at the corner of land now or formerly of Stanhope along the westerly sideline of Longwoods Road described in Book 2932 Page 385;
Thence **S 35°50'39" W**, a distance of **1278.39'** along land of Stanhope to a found iron pipe at the land now or formerly of Hansen as described in Book 3029 Page 502;

Thence **N 56°33'06" W**, a distance of **1213.64'** along land of Hansen to a found iron pipe;

Thence **N 55°12'38" W**, a distance of **858.76** along land of Hansen to the center of the East Branch of the Piscataqua River;

Thence Northerly along the center of said river a distance of **1,660'**, more or less, to a point:

Thence **S 55°10'35" E**, a distance of **985'**, more or less, along land now or formerly of Central Maine Power Company as described in Book 2281 Page 494 to a point;

Thence **S 85°43'08" E**, a distance of **1286.21** land now or formerly of Central Maine Power Company described in Book 2310 Page 495 to a point on the westerly side of Longwoods Road;

Thence **S 28°52'05" E**, a distance of **546.85'** along Longwoods Road the **POINT OF BEGINNING.**

The basis of bearings for this description was the State of Maine Grid Plane North American Datum of 1983, located in the West Zone.

Meaning and intending to describe a portion of the premises as described in a deed to Daniel Villaci dated May 13, 2002 and recorded in said Registry in Book 17630, Page 14.

Together with any rights for access from Longwoods Road to the above described parcel as reserved in a deed to Central Main Power Company described in Book 2310, Page 495.

Excepting from the above-described Property a certain lot or parcel of land depicted on Exhibit B attached hereto as "Excepted Parcel" and being more particularly described as follows:

BEGINNING at a point having a Latitude of N 43°46'05.9318" and a Longitude of W 70°15'00.4709" at the land now or formerly of Central Maine Power as described in Deed Book 2310, Page 495 recorded in the Cumberland County Registry of Deeds;

Thence the following courses and distances:

Thence S 34°35'49" W a distance of 298.65';

Thence with a curve turning to the left with an arc length of 78.27', with a radius of 75.00', with a chord bearing of S 04°42'07" W chord distance of 74.76';

Thence S 25°11'35" E a distance of 14.25';

Thence S 54°12'36" E a distance of 736.64';

Thence S 35°47'24" W a distance of 221.29';

Thence N 54°12'36" W a distance of 544.66';

Thence S 35°05'53" W a distance of 463.68';

Thence N 54°54'07" W a distance of 281.63';

Thence N 12°20'23" W a distance of 192.74';

Thence N 36°23'22" E a distance of 180.79';

Thence S 54°11'44" E a distance of 253.46';

Thence N 35°50'50" E a distance of 306.21';

Thence N 25°11'35" W a distance of 74.13';

Thence with a curve turning to the right with an arc length of 130.44', with a radius of 125.00', with a chord bearing of N 04°42'07" E chord distance 124.60';

Thence N 34°35'49" E a distance of 269.41';

Thence S 85°43'08" E a distance of 57.92' to the point of beginning.

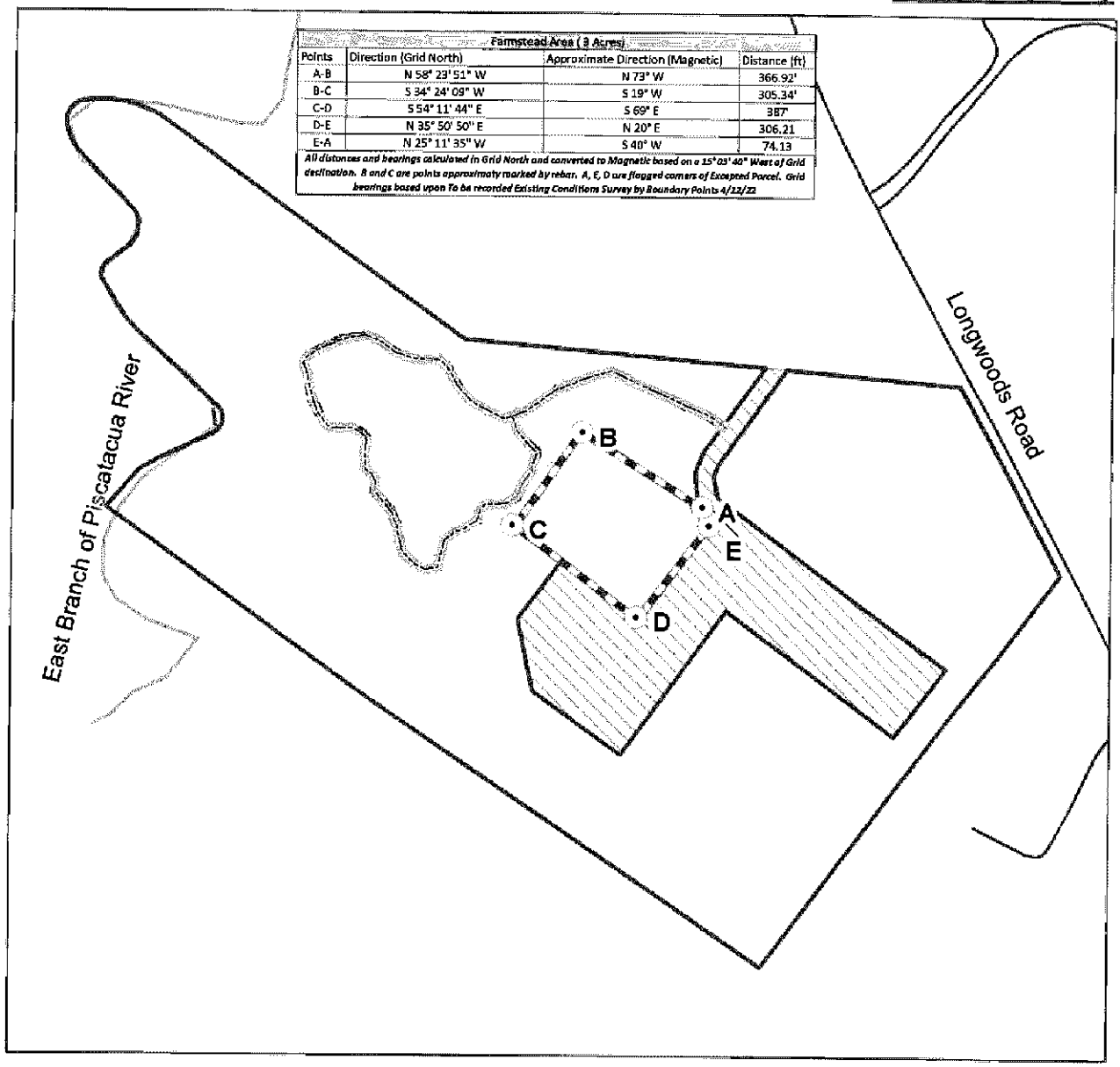
The basis of bearings for this description was the State of Maine Grid Plane North American Datum of 1983, located in the West Zone.

Meaning and intending to describe an approximately 7.5-acre parcel, to be excluded from land encumbered by the foregoing Agricultural Conservation Easement.

MEANING and intending to describe a total of 54.06 acres of land as shown on a plan titled "Existing Conditions Survey for Alexander Timpson by Boundary Points dated April 12, 2022 and to be recorded of even date herewith.

Longwoods Farm (~54 acres)
Property of Synergosity LLC
Cumberland, Cumberland County, Maine

Exhibit B
Map of the Property



Property

Farmstead Area (3 acres)

Excepted Parcel (7.5 acres)

Farmstead Area Corners

Trail Corridor

Open Fields

N

Created by: Chris Franklin, MFT, 04/27/22.
Base data source: Town of Cumberland Tax Maps, GPS Points, To be recorded Existing Conditions Survey by Boundary Points 4/12/22;
Maine Office of GIS; NAD 83 UTM Zone 19NW

0 250 500 1,000 Feet

Note: Boundaries are approximate except where metes and bounds are provided.

EXHIBIT C
To Agricultural Conservation Easement

Terms, Conditions and Contingencies for Holder's Purchase of the Property Pursuant to its Option to Purchase

1. **Fixtures:** The Landowner and Holder agree that all fixtures, including but not limited to existing storm and screen windows, shades and/or blinds, shutters, curtain rods, built-in appliances, heating sources/systems including gas and/or kerosene-fired heaters and wood stoves, and electrical fixtures are included with the sale unless otherwise agreed in a writing signed by both parties.

2. **Title:** Landowner shall convey to Holder a good and marketable title in accordance with the Maine State Bar Association title standards. If Landowner is unable to convey in accordance with the provisions of this Section, then Landowner shall have a reasonable time period, not to exceed 30 days, from the time Landowner is notified of the defect, unless otherwise agreed to by both parties, to remedy the title. If, after this time period, such defect is not corrected so that there is a merchantable title, Holder may, at Holder's option, decline to exercise its Option to purchase the Property. Landowner hereby agrees to make a good-faith effort to cure any title defect during such period.

3. **Deed**: The Property shall be conveyed by Warranty Deed, describing the Property by valid legal description, delivered at closing free and clear of all encumbrances except building and zoning restrictions of record, conditions, easements, restrictions and covenants of record which do not materially and adversely affect the continued use of the Property, and usual public utilities servicing the Property.

4. **Closing Costs, Document Preparation and Title Search:** Preparation of Deed and Declaration of Value form shall be the expense of the Landowner. Title search, certification, and title insurance (if any) shall be the responsibility of the Holder. Landowner and Holder shall each pay the state transfer tax. In the event that Landowner does not provide the closing agent with a State of Maine Residency Affidavit at the time of closing, Holder hereby acknowledges that 2.5% of the purchase price shall be withheld by the closing agent and paid over to Maine Revenue Services.

5. **Prorations and Adjustments at Closing:** Unless otherwise agreed by the parties in a signed writing, the parties shall apportion certain costs as follows:

    a. Current Real Estate Taxes (based on the municipality's fiscal year) shall be prorated as of the date of closing. Landowner is responsible for any unpaid real estate taxes for prior years.
    b. Any fuel value shall be established and any collected rents and water / sewer use charges shall be apportioned as of the date of closing, and the Purchase Price shall be adjusted by the net amount thereof.

c. Any uncollected rents for the current rental period shall be apportioned if and when collected by either party. Landowner will transfer any Security Deposit(s) and notify any Tenant(s) as provided in Section 6035 of Title 14.

d. Any metered utilities such as electricity, water and sewer will be paid through the date of closing by Landowner.

6. **Possession/Occupancy:** Possession/Occupancy of the Property, free of tenants and occupants, shall be given to Holder immediately at closing unless otherwise agreed in writing. In the event that a portion of the Property is subject to a written rent or lease agreement, Landowner shall assign all rights thereunder to Holder. The Property shall be broom clean, free of all possessions and debris, and in substantially the same condition as of the date of Holder's Notice of Intent to Purchase, excepting reasonable wear and tear. Holder shall have the right to view the Property within 24 hours prior to closing for the purpose of determining that the Property is in substantially the same condition as on the date of Holder's Notice of Intent to Purchase.

7. **Contingencies:** The obligations of Holder pursuant to its exercise of its Option to Purchase are subject to the following contingencies. If, after Holder's good faith effort within the time period specified, any of these contingencies have not been met, Holder may revoke its Notice of Intent to Purchase by giving Landowner notice of revocation within the time period specified.

   a. **Hazardous Waste:** Holder's obligations to close pursuant to the Option to Purchase are expressly contingent on Holder's satisfaction that there is not presently and never has been hazardous or toxic waste, as those terms may be defined from time to time by applicable state, local or federal law, stored in, on, or about the Property or on adjacent properties, and that the Property has never been used as a landfill or as a dump to receive refuse or waste. In the event any such hazardous or toxic waste, substance, matter, or material is discovered at the Property at any time prior to the closing, Holder may, at Holder's option, terminate any purchase and sale agreement by written notice to Landowner, whereupon Landowner shall return all sums paid hereunder by Holder, and the parties shall be relieved of all future obligations hereunder.

   b. **Approval of Board of Directors:** Holder's obligations pursuant to its exercise of the Option are contingent upon approval by its Board of Directors within a reasonable time period from Holder's Notice of Intent to Purchase.

   c. **Financing:** Holder agrees to use good faith effort to secure financing for the purchase of the real estate, and within 45 days of providing Notice of Intent to Purchase, will provide Landowner with notice that commitment(s) for financing have been obtained. If Holder fails to provide Landowner with such notice within said time period, Landowner may deliver notice to Holder that Holder's ability to exercise the Option shall be terminated three business days after delivery of such notice.

d. **Inspections.** Holder is purchasing the Property in its existing condition and will, within thirty (30) days of Holder's Notice of Intent to Purchase, make or have resolved all inspections and tests of the Property that Holder believes are necessary to protect its own interest in, and its contemplated uses of, the Property.

Holder and its agents and representatives shall have the right at reasonable times and subject to rights of tenants, to enter upon the Property for the purpose of making such inspections and tests as Holder deems appropriate. Following any such entry or work, unless otherwise directed in writing by Landowner, Holder shall return the Property to the condition it was in prior to such entry or work, including the recompaction or removal of any disrupted soil or material. All such inspections, and tests and any other work conducted or materials furnished with respect to the Property by or for Holder for the purpose of conducting such inspections and tests shall be done by inspectors and testers chosen and paid for by Holder and paid for by Holder as and when due, and Holder shall indemnify, defend, protect and hold harmless Landowner from any and all claims and liabilities for injury to person or property, arising out of or referring to any such work or materials or the acts or omissions of Holder, its agents or employees, in connection therewith.

If the result of any inspection or test or other condition specified herein is unsatisfactory to Holder, Holder may revoke its Notice of Intent to Purchase by notifying Landowner in writing within the thirty (30) days mentioned herein.

If Holder does not notify Landowner that an inspection or test is unsatisfactory within the thirty (30) day time period set forth above, this contingency shall be deemed to have been waived by Holder with respect to that inspection or test.

8. **Risk of Loss:** Until the closing, the risk of loss or damage to the Property or destruction of the Property by fire or otherwise is assumed solely by Landowner. The Property shall at closing be in substantially the same condition as at present, excepting reasonable use and wear. Prior to closing Landowner shall keep the Property insured against fire and other extended casualty risks. If the Property is damaged or destroyed prior to closing, Holder may revoke its Notice of Intent to Purchase or close this transaction and accept the Property "as is" together with the assignment of the insurance proceeds relating thereto.

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

April 12, 2022

Proposed Description For
Alexander Timpson
76 Longwoods Road
Cumberland, Maine 04021

EXHIBIT A 7.5 Acre Development Parcel

A certain lot or parcel of land with any improvements thereon, located on the westerly side of Longwoods Road, also known as State Route 9, in the Town of Cumberland, County of Cumberland, State of Maine and more particularly bounded and described as follows:

BEGINNING at a point having a Latitude of N 43°46'05.9318" and a Longitude of W 70°15'00.4709" at the land now or formerly of Central Maine Power as described in Deed Book 2310, Page 495 recorded in the Cumberland County Registry of Deeds;

Thence the following courses and distances:

thence S 34°35'49" W a distance of 298.65';
thence with a curve turning to the left with an arc length of 78.27', with a radius of 75.00', with a chord bearing of S 04°42'07" W chord distance of 74.76';
thence S 25°11'35" E a distance of 14.25';
thence S 54°12'36" E a distance of 736.64';
thence S 35°47'24" W a distance of 221.29';
thence N 54°12'36" W a distance of 544.66';
thence S 35°05'53" W a distance of 463.68';
thence N 54°54'07" W a distance of 281.63';
thence N 12°20'23" W a distance of 192.74';
thence N 36°23'22" E a distance of 180.79';
thence S 54°11'44" E a distance of 253.46';
thence N 35°50'50" E a distance of 306.21';
thence N 25°11'35" W a distance of 74.13';
thence with a curve turning to the right with an arc length of 130.44', with a radius of 125.00', with a chord bearing of N 04°42'07" E chord distance 124.60';
thence N 34°35'49" E a distance of 269.41';
thence S 85°43'08" E a distance of 57.92';
to the point of beginning,
having an area of 326558.5 square feet, 7.5 acres

Together with any rights for access from Longwoods Road to the above described parcel.

The basis of bearings for this description was the State of Maine Grid Plane North American Datum of 1983, located in the West Zone.

Meaning and intending to describe a portion of the premises as described in a deed to Daniel Villaci dated May 13, 2002 and recorded in said Registry in Book 17630, Page 14.

SURVEYOR'S NOTES

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.

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

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

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

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.

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.

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

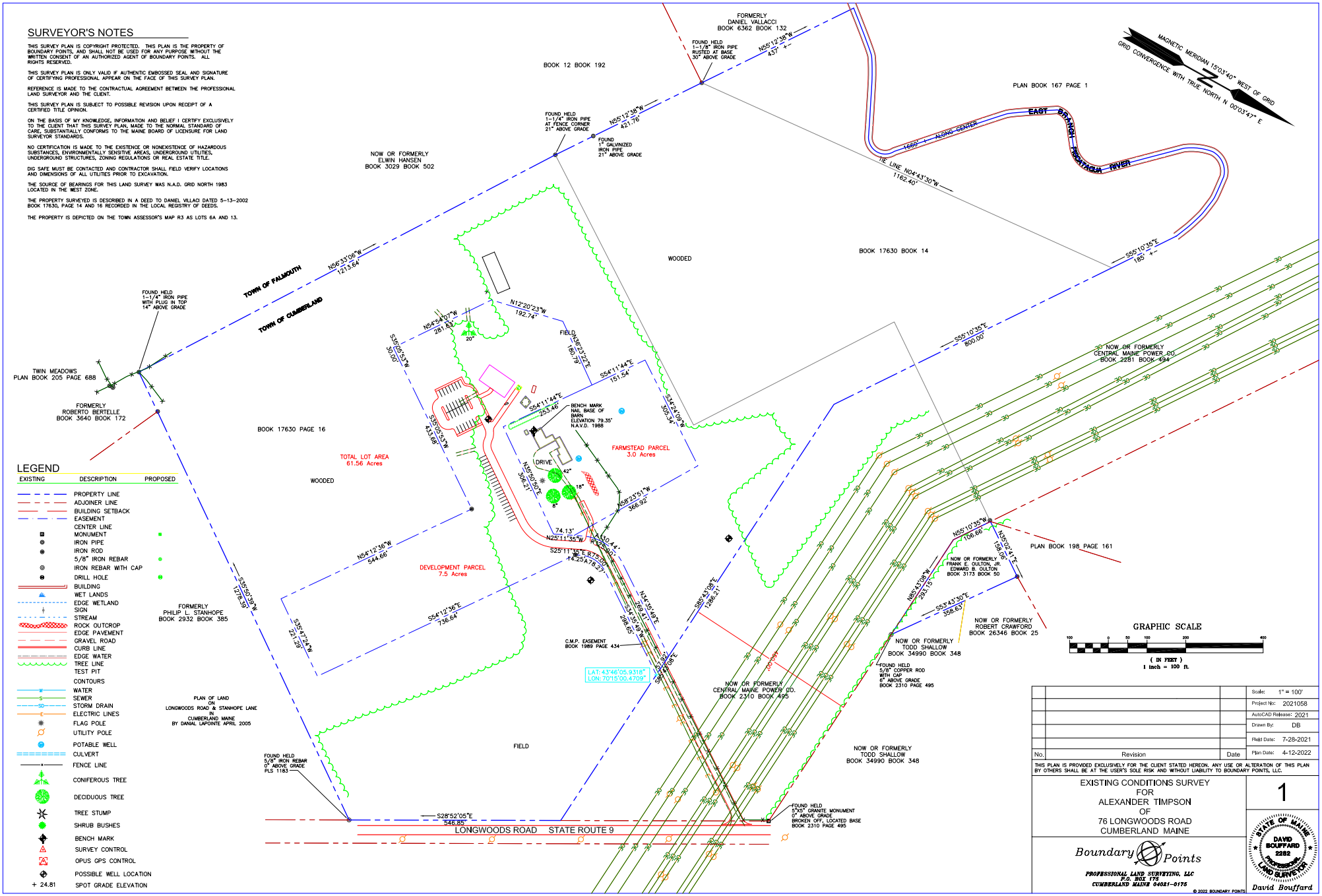
THE SOURCE OF BEARINGS FOR THIS LAND SURVEY WAS N.A.D. GRID NORTH 1983 LOCATED IN THE WEST ZONE.

THE PROPERTY SURVEYED IS DESCRIBED IN A DEED TO DANIEL VILLACI DATED 5-13-2002 BOOK 17630, PAGE 14 AND 16 RECORDED IN THE LOCAL REGISTRY OF DEEDS.

THE PROPERTY IS DEPICTED ON THE TOWN ASSESSOR'S MAP R3 AS LOTS 6A AND 13.

LEGEND

EXISTING	DESCRIPTION	PROPOSED
	PROPERTY LINE	
	ADJOINER LINE	
	BUILDING SETBACK	
	EASEMENT	
	CENTER LINE	
	MONUMENT	
	IRON PIPE	
	IRON ROD	
	5/8" IRON REBAR	
	IRON REBAR WITH CAP	
	DRILL HOLE	
	BUILDING	
	WET LANDS	
	EDGE WETLAND	
	SIGN	
	STREAM	
	ROCK OUTCROP	
	EDGE PAVEMENT	
	GRAVEL ROAD	
	CURB LINE	
	EDGE WATER	
	TREE LINE	
	TEST PIT	
	CONTOURS	
W	WATER	
S	SEWER	
SD	STORM DRAIN	
E	ELECTRIC LINES	
	FLAG POLE	
	UTILITY POLE	
	POTABLE WELL	
	CULVERT	
	FENCE LINE	
	CONIFEROUS TREE	
	DECIDUOUS TREE	
	TREE STUMP	
	SHRUB BUSHES	
	BENCH MARK	
	SURVEY CONTROL	
	OPUS GPS CONTROL	
	POSSIBLE WELL LOCATION	
+ 24.81	SPOT GRADE ELEVATION	



No.	Revision	Date

Scale: 1" = 100'
Project No: 2021058
AutoCAD Release: 2021
Drawn By: DB
Field Date: 7-28-2021
Plan Date: 4-12-2022

EXISTING CONDITIONS SURVEY
FOR
ALEXANDER TIMPSON
OF
76 LONGWOODS ROAD
CUMBERLAND MAINE

1

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

STATE OF MAINE
DAVID BOUFFARD
2282
PROFESSIONAL LAND SURVEYOR
David Bouffard

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

April 11, 2022

Proposed Description For
Alexander Timpson
76 Longwoods Road
Cumberland, Maine 04021

EXHIBIT A

A certain lot or parcel of land with any improvements thereon, located on the westerly side of Longwoods Road, also known as State Route 9, in the Town of Cumberland, County of Cumberland, State of Maine and more particularly bounded and described as follows:

BEGINNING at found granite monument on the westerly side of Longwoods Road at the westerly corner of land now or formerly of Central Maine Power as described in Deed Book 2310, Page 495 recorded in the Cumberland County Registry of Deeds;

Thence **S 28°52'05" E**, a distance of **546.85'** along Longwoods Road to a found 5/8-inch iron rebar at the land now or formerly of Stanhope described in Book 2932 Page 385;

Thence **S 35°50'39" W**, a distance of **1278.39'** along land of Stanhope to a found iron pipe at the land now or formerly of Hansen as described in Book 3029 Page 502;

Thence **N 56°33'06" W**, a distance of **1213.64'** along land of Hansen to a found iron pipe;

Thence **N 55°12'38" W**, a distance of **859.11;** along land of Hansen to the center of the East Branch of the Piscataqua River;

Thence Northerly along the center of said river a distance of **1,660'**, more or less, to a point:

Thence **S 55°10'35" E**, a distance of **985.38'** along land now or formerly of Central Maine Power Company as described in Book 2281 Page 494 to a point;

Thence **S 83°43'08" E**, a distance of **1286.21** land now or formerly of Central Maine Power Company described in Book 2310 Page 495 to the **POINT OF BEGINNING**.

Containing a total area of **61.6 Acres**, more or less.

Of the 61.6 Acres, meaning to Exclude a Development Parcel of **7.5 Acres.**

Of the 61.6 Acres, meaning to include a Farmstead area of 3.0 Acres.

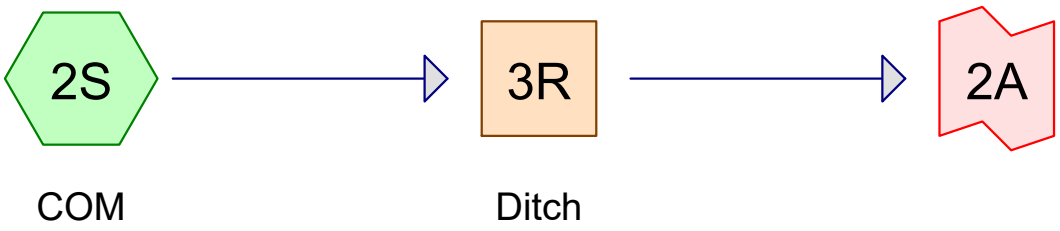
The basis of bearings for this description was the State of Maine Grid Plane North American Datum of 1983, located in the West Zone.

Meaning and intending to describe a portion of the premises as described in a deed to Daniel Villaci dated May 13, 2002 and recorded in said Registry in Book 17630, Page 14.

ATTACHMENT 9

HYDROCAD MODELING

SME
SEVEE & MAHER
ENGINEERS



Subcat Reach Pond Link

Routing Diagram for The Grange Hall_PRE - 07132022-Comments
Prepared by Sevee & Maher Engineers, Inc., Printed 7/14/2022

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

Subcatchment 2S: COM Runoff Area=351,475 sf 4.05% Impervious Runoff Depth=1.39"
Flow Length=1,176' Tc=23.1 min CN=81 Runoff=7.32 cfs 0.935 af

Reach 3R: Ditch Avg. Flow Depth=0.74' Max Vel=4.84 fps Inflow=7.32 cfs 0.935 af
n=0.022 L=415.0' S=0.0157 '/' Capacity=56.35 cfs Outflow=7.28 cfs 0.935 af

Link 2A: Inflow=7.28 cfs 0.935 af
Primary=7.28 cfs 0.935 af

Total Runoff Area = 8.069 ac Runoff Volume = 0.935 af Average Runoff Depth = 1.39"
95.95% Pervious = 7.742 ac 4.05% Impervious = 0.327 ac

Summary for Subcatchment 2S: COM

Runoff = 7.32 cfs @ 12.34 hrs, Volume= 0.935 af, Depth= 1.39"

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

	Area (sf)	CN	Description
	293,237	80	>75% Grass cover, Good, HSG D
	19,957	96	Gravel surface, HSG D
	24,040	77	Woods, Good, HSG D
	14,116	98	Paved roads w/curbs & sewers, HSG D
*	125	98	Ledge, HSG D
	351,475	81	Weighted Average
	337,234		95.95% Pervious Area
	14,241		4.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	100	0.0550	0.25		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
0.3	19	0.0260	1.13		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
0.8	143	0.0210	2.94		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
15.4	914	0.0200	0.99		**Shallow Concentrated Flow, D-E** Short Grass Pasture Kv= 7.0 fps
23.1	1,176	Total			

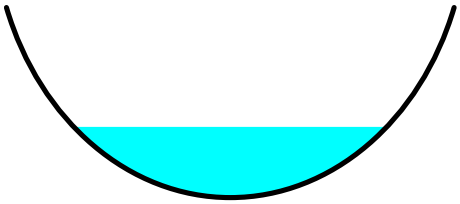
Summary for Reach 3R: Ditch

Inflow Area = 8.069 ac, 4.05% Impervious, Inflow Depth = 1.39" for 2-Year event
Inflow = 7.32 cfs @ 12.34 hrs, Volume= 0.935 af
Outflow = 7.28 cfs @ 12.38 hrs, Volume= 0.935 af, Atten= 1%, Lag= 2.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.84 fps, Min. Travel Time= 1.4 min
Avg. Velocity = 2.00 fps, Avg. Travel Time= 3.5 min

Peak Storage= 625 cf @ 12.35 hrs
Average Depth at Peak Storage= 0.74' , Surface Width= 3.04'
Bank-Full Depth= 2.00' Flow Area= 6.7 sf, Capacity= 56.35 cfs

5.00' x 2.00' deep Parabolic Channel, n= 0.022 Earth, clean & straight
Length= 415.0' Slope= 0.0157 '/'
Inlet Invert= 53.00', Outlet Invert= 46.50'



Summary for Link 2A:

Inflow Area = 8.069 ac, 4.05% Impervious, Inflow Depth = 1.39" for 2-Year event
Inflow = 7.28 cfs @ 12.38 hrs, Volume= 0.935 af
Primary = 7.28 cfs @ 12.38 hrs, Volume= 0.935 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

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

Subcatchment 2S: COM Runoff Area=351,475 sf 4.05% Impervious Runoff Depth=2.63"
Flow Length=1,176' Tc=23.1 min CN=81 Runoff=13.98 cfs 1.772 af

Reach 3R: Ditch Avg. Flow Depth=1.01' Max Vel=5.80 fps Inflow=13.98 cfs 1.772 af
n=0.022 L=415.0' S=0.0157 '/' Capacity=56.35 cfs Outflow=13.94 cfs 1.772 af

Link 2A: Inflow=13.94 cfs 1.772 af
Primary=13.94 cfs 1.772 af

Total Runoff Area = 8.069 ac Runoff Volume = 1.772 af Average Runoff Depth = 2.63"
95.95% Pervious = 7.742 ac 4.05% Impervious = 0.327 ac

Summary for Subcatchment 2S: COM

Runoff = 13.98 cfs @ 12.34 hrs, Volume= 1.772 af, Depth= 2.63"

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

	Area (sf)	CN	Description
	293,237	80	>75% Grass cover, Good, HSG D
	19,957	96	Gravel surface, HSG D
	24,040	77	Woods, Good, HSG D
	14,116	98	Paved roads w/curbs & sewers, HSG D
*	125	98	Ledge, HSG D
	351,475	81	Weighted Average
	337,234		95.95% Pervious Area
	14,241		4.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	100	0.0550	0.25		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
0.3	19	0.0260	1.13		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
0.8	143	0.0210	2.94		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
15.4	914	0.0200	0.99		**Shallow Concentrated Flow, D-E** Short Grass Pasture Kv= 7.0 fps
23.1	1,176	Total			

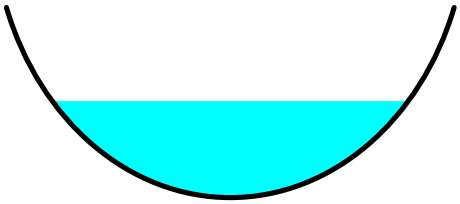
Summary for Reach 3R: Ditch

Inflow Area = 8.069 ac, 4.05% Impervious, Inflow Depth = 2.63" for 10-Year event
Inflow = 13.98 cfs @ 12.34 hrs, Volume= 1.772 af
Outflow = 13.94 cfs @ 12.37 hrs, Volume= 1.772 af, Atten= 0%, Lag= 1.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 5.80 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 2.31 fps, Avg. Travel Time= 3.0 min

Peak Storage= 997 cf @ 12.35 hrs
Average Depth at Peak Storage= 1.01' , Surface Width= 3.56'
Bank-Full Depth= 2.00' Flow Area= 6.7 sf, Capacity= 56.35 cfs

5.00' x 2.00' deep Parabolic Channel, n= 0.022 Earth, clean & straight
Length= 415.0' Slope= 0.0157 '/'
Inlet Invert= 53.00', Outlet Invert= 46.50'



Summary for Link 2A:

Inflow Area = 8.069 ac, 4.05% Impervious, Inflow Depth = 2.63" for 10-Year event
Inflow = 13.94 cfs @ 12.37 hrs, Volume= 1.772 af
Primary = 13.94 cfs @ 12.37 hrs, Volume= 1.772 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

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

Subcatchment 2S: COM Runoff Area=351,475 sf 4.05% Impervious Runoff Depth=3.70"
Flow Length=1,176' Tc=23.1 min CN=81 Runoff=19.53 cfs 2.489 af

Reach 3R: Ditch Avg. Flow Depth=1.19' Max Vel=6.37 fps Inflow=19.53 cfs 2.489 af
n=0.022 L=415.0' S=0.0157 '/' Capacity=56.35 cfs Outflow=19.50 cfs 2.489 af

Link 2A: Inflow=19.50 cfs 2.489 af
Primary=19.50 cfs 2.489 af

Total Runoff Area = 8.069 ac Runoff Volume = 2.489 af Average Runoff Depth = 3.70"
95.95% Pervious = 7.742 ac 4.05% Impervious = 0.327 ac

Summary for Subcatchment 2S: COM

Runoff = 19.53 cfs @ 12.33 hrs, Volume= 2.489 af, Depth= 3.70"

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

	Area (sf)	CN	Description
	293,237	80	>75% Grass cover, Good, HSG D
	19,957	96	Gravel surface, HSG D
	24,040	77	Woods, Good, HSG D
	14,116	98	Paved roads w/curbs & sewers, HSG D
*	125	98	Ledge, HSG D
	351,475	81	Weighted Average
	337,234		95.95% Pervious Area
	14,241		4.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	100	0.0550	0.25		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
0.3	19	0.0260	1.13		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
0.8	143	0.0210	2.94		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
15.4	914	0.0200	0.99		**Shallow Concentrated Flow, D-E** Short Grass Pasture Kv= 7.0 fps
23.1	1,176	Total			

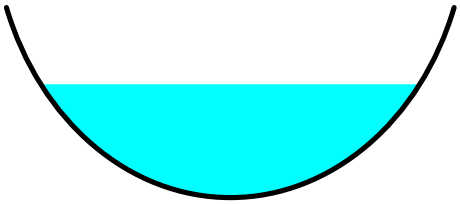
Summary for Reach 3R: Ditch

Inflow Area = 8.069 ac, 4.05% Impervious, Inflow Depth = 3.70" for 25-Year event
Inflow = 19.53 cfs @ 12.33 hrs, Volume= 2.489 af
Outflow = 19.50 cfs @ 12.36 hrs, Volume= 2.489 af, Atten= 0%, Lag= 1.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 6.37 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 2.50 fps, Avg. Travel Time= 2.8 min

Peak Storage= 1,271 cf @ 12.34 hrs
Average Depth at Peak Storage= 1.19' , Surface Width= 3.86'
Bank-Full Depth= 2.00' Flow Area= 6.7 sf, Capacity= 56.35 cfs

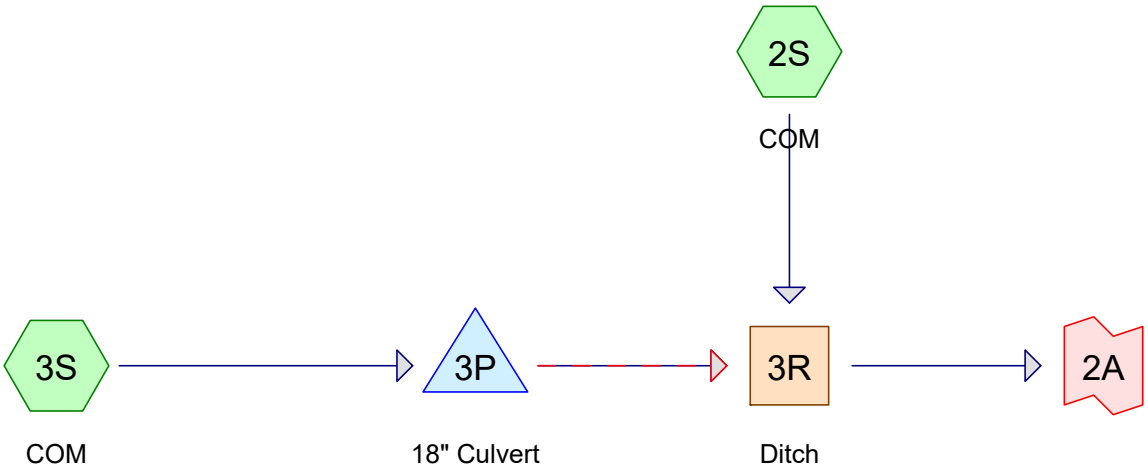
5.00' x 2.00' deep Parabolic Channel, n= 0.022 Earth, clean & straight
Length= 415.0' Slope= 0.0157 '/'
Inlet Invert= 53.00', Outlet Invert= 46.50'



Summary for Link 2A:

Inflow Area = 8.069 ac, 4.05% Impervious, Inflow Depth = 3.70" for 25-Year event
Inflow = 19.50 cfs @ 12.36 hrs, Volume= 2.489 af
Primary = 19.50 cfs @ 12.36 hrs, Volume= 2.489 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs



Subcat Reach Pond Link

Routing Diagram for The Grange Hall_POST_07132022-Comments
Prepared by Sevee & Maher Engineers, Inc., Printed 7/14/2022

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

Subcatchment 2S: COM Runoff Area=118,665 sf 3.46% Impervious Runoff Depth=1.46"
Flow Length=1,012' Tc=19.4 min CN=82 Runoff=2.83 cfs 0.331 af

Subcatchment 3S: COM Runoff Area=228,285 sf 1.35% Impervious Runoff Depth=1.39"
Flow Length=912' Tc=14.5 min CN=81 Runoff=5.92 cfs 0.607 af

Reach 3R: Ditch Avg. Flow Depth=0.80' Max Vel=5.04 fps Inflow=8.60 cfs 0.937 af
n=0.022 L=421.0' S=0.0154 '/' Capacity=55.94 cfs Outflow=8.54 cfs 0.937 af

Pond 3P: 18" Culvert Peak Elev=55.10' Storage=389 cf Inflow=5.92 cfs 0.607 af
Primary=5.83 cfs 0.606 af Secondary=0.00 cfs 0.000 af Outflow=5.83 cfs 0.606 af

Link 2A: Inflow=8.54 cfs 0.937 af
Primary=8.54 cfs 0.937 af

Total Runoff Area = 7.965 ac Runoff Volume = 0.938 af Average Runoff Depth = 1.41"
97.93% Pervious = 7.800 ac 2.07% Impervious = 0.165 ac

Summary for Subcatchment 2S: COM

Runoff = 2.83 cfs @ 12.29 hrs, Volume= 0.331 af, Depth= 1.46"

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

	Area (sf)	CN	Description
	75,299	80	>75% Grass cover, Good, HSG D
	11,245	96	Gravel surface, HSG D
	24,040	77	Woods, Good, HSG D
	7,956	93	Paved roads w/open ditches, 50% imp, HSG D
*	125	98	Ledge, HSG D
	118,665	82	Weighted Average
	114,562		96.54% Pervious Area
	4,103		3.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	100	0.0800	0.29		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
13.7	912	0.0250	1.11		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
19.4	1,012	Total			

Summary for Subcatchment 3S: COM

Runoff = 5.92 cfs @ 12.23 hrs, Volume= 0.607 af, Depth= 1.39"

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

Area (sf)	CN	Description
211,780	80	>75% Grass cover, Good, HSG D
10,345	96	Gravel surface, HSG D
6,160	93	Paved roads w/open ditches, 50% imp, HSG D
228,285	81	Weighted Average
225,205		98.65% Pervious Area
3,080		1.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0400	1.40		**Shallow Concentrated Flow, A-B** Short Grass Pasture Kv= 7.0 fps
13.3	812	0.0210	1.01		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
14.5	912	Total			

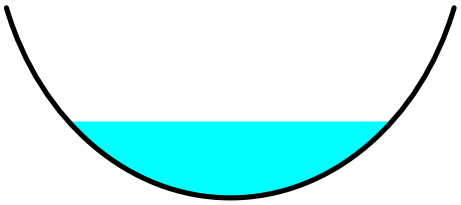
Summary for Reach 3R: Ditch

Inflow Area = 7.965 ac, 2.07% Impervious, Inflow Depth = 1.41" for 2-Year event
Inflow = 8.60 cfs @ 12.26 hrs, Volume= 0.937 af
Outflow = 8.54 cfs @ 12.30 hrs, Volume= 0.937 af, Atten= 1%, Lag= 2.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 5.04 fps, Min. Travel Time= 1.4 min
Avg. Velocity = 1.97 fps, Avg. Travel Time= 3.6 min

Peak Storage= 714 cf @ 12.28 hrs
Average Depth at Peak Storage= 0.80' , Surface Width= 3.17'
Bank-Full Depth= 2.00' Flow Area= 6.7 sf, Capacity= 55.94 cfs

5.00' x 2.00' deep Parabolic Channel, n= 0.022 Earth, clean & straight
Length= 421.0' Slope= 0.0154 '/'
Inlet Invert= 53.00', Outlet Invert= 46.50'



Summary for Pond 3P: 18" Culvert

Inflow Area = 5.241 ac, 1.35% Impervious, Inflow Depth = 1.39" for 2-Year event
Inflow = 5.92 cfs @ 12.23 hrs, Volume= 0.607 af
Outflow = 5.83 cfs @ 12.25 hrs, Volume= 0.606 af, Atten= 2%, Lag= 1.3 min
Primary = 5.83 cfs @ 12.25 hrs, Volume= 0.606 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 55.10' @ 12.25 hrs Surf.Area= 501 sf Storage= 389 cf

Plug-Flow detention time= 3.8 min calculated for 0.606 af (100% of inflow)
Center-of-Mass det. time= 2.3 min (878.6 - 876.3)

Volume	Invert	Avail.Storage	Storage Description
#1	53.00'	13,167 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
53.00	68	0	0
54.00	135	102	102
55.00	358	247	348
56.00	1,850	1,104	1,452
57.00	5,861	3,856	5,308
58.00	9,857	7,859	13,167

Device	Routing	Invert	Outlet Devices
#1	Primary	53.75'	**18.0" Round Culvert** L= 51.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 53.75' / 53.25' S= 0.0098 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf
#2	Secondary	57.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=5.83 cfs @ 12.25 hrs HW=55.10' (Free Discharge)
└**1=Culvert** (Inlet Controls 5.83 cfs @ 3.49 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=53.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link 2A:

Inflow Area = 7.965 ac, 2.07% Impervious, Inflow Depth = 1.41" for 2-Year event
Inflow = 8.54 cfs @ 12.30 hrs, Volume= 0.937 af
Primary = 8.54 cfs @ 12.30 hrs, Volume= 0.937 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

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

Subcatchment 2S: COM Runoff Area=118,665 sf 3.46% Impervious Runoff Depth=2.72"
Flow Length=1,012' Tc=19.4 min CN=82 Runoff=5.30 cfs 0.618 af

Subcatchment 3S: COM Runoff Area=228,285 sf 1.35% Impervious Runoff Depth=2.63"
Flow Length=912' Tc=14.5 min CN=81 Runoff=11.27 cfs 1.151 af

Reach 3R: Ditch Avg. Flow Depth=1.04' Max Vel=5.87 fps Inflow=14.81 cfs 1.767 af
n=0.022 L=421.0' S=0.0154 '/' Capacity=55.94 cfs Outflow=14.77 cfs 1.767 af

Pond 3P: 18" Culvert Peak Elev=56.11' Storage=1,677 cf Inflow=11.27 cfs 1.151 af
Primary=9.52 cfs 1.149 af Secondary=0.00 cfs 0.000 af Outflow=9.52 cfs 1.149 af

Link 2A: Inflow=14.77 cfs 1.767 af
Primary=14.77 cfs 1.767 af

Total Runoff Area = 7.965 ac Runoff Volume = 1.769 af Average Runoff Depth = 2.67"
97.93% Pervious = 7.800 ac 2.07% Impervious = 0.165 ac

Summary for Subcatchment 2S: COM

Runoff = 5.30 cfs @ 12.28 hrs, Volume= 0.618 af, Depth= 2.72"

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

	Area (sf)	CN	Description
	75,299	80	>75% Grass cover, Good, HSG D
	11,245	96	Gravel surface, HSG D
	24,040	77	Woods, Good, HSG D
	7,956	93	Paved roads w/open ditches, 50% imp, HSG D
*	125	98	Ledge, HSG D
	118,665	82	Weighted Average
	114,562		96.54% Pervious Area
	4,103		3.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	100	0.0800	0.29		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
13.7	912	0.0250	1.11		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
19.4	1,012	Total			

Summary for Subcatchment 3S: COM

Runoff = 11.27 cfs @ 12.23 hrs, Volume= 1.151 af, Depth= 2.63"

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

Area (sf)	CN	Description
211,780	80	>75% Grass cover, Good, HSG D
10,345	96	Gravel surface, HSG D
6,160	93	Paved roads w/open ditches, 50% imp, HSG D
228,285	81	Weighted Average
225,205		98.65% Pervious Area
3,080		1.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0400	1.40		**Shallow Concentrated Flow, A-B** Short Grass Pasture Kv= 7.0 fps
13.3	812	0.0210	1.01		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
14.5	912	Total			

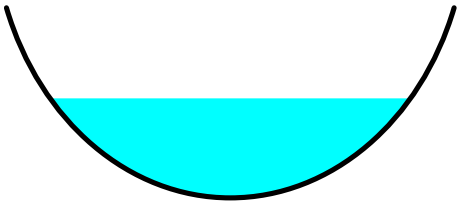
Summary for Reach 3R: Ditch

Inflow Area = 7.965 ac, 2.07% Impervious, Inflow Depth = 2.66" for 10-Year event
Inflow = 14.81 cfs @ 12.29 hrs, Volume= 1.767 af
Outflow = 14.77 cfs @ 12.33 hrs, Volume= 1.767 af, Atten= 0%, Lag= 2.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 5.87 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 2.27 fps, Avg. Travel Time= 3.1 min

Peak Storage= 1,060 cf @ 12.31 hrs
Average Depth at Peak Storage= 1.04' , Surface Width= 3.61'
Bank-Full Depth= 2.00' Flow Area= 6.7 sf, Capacity= 55.94 cfs

5.00' x 2.00' deep Parabolic Channel, n= 0.022 Earth, clean & straight
Length= 421.0' Slope= 0.0154 '/'
Inlet Invert= 53.00', Outlet Invert= 46.50'



Summary for Pond 3P: 18" Culvert

Inflow Area = 5.241 ac, 1.35% Impervious, Inflow Depth = 2.63" for 10-Year event
Inflow = 11.27 cfs @ 12.23 hrs, Volume= 1.151 af
Outflow = 9.52 cfs @ 12.30 hrs, Volume= 1.149 af, Atten= 15%, Lag= 4.7 min
Primary = 9.52 cfs @ 12.30 hrs, Volume= 1.149 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 56.11' @ 12.30 hrs Surf.Area= 2,286 sf Storage= 1,677 cf

Plug-Flow detention time= 3.0 min calculated for 1.149 af (100% of inflow)
Center-of-Mass det. time= 2.1 min (854.7 - 852.6)

Volume	Invert	Avail.Storage	Storage Description
#1	53.00'	13,167 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
53.00	68	0	0
54.00	135	102	102
55.00	358	247	348
56.00	1,850	1,104	1,452
57.00	5,861	3,856	5,308
58.00	9,857	7,859	13,167

Device	Routing	Invert	Outlet Devices
#1	Primary	53.75'	**18.0" Round Culvert** L= 51.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 53.75' / 53.25' S= 0.0098 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf
#2	Secondary	57.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=9.52 cfs @ 12.30 hrs HW=56.11' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 9.52 cfs @ 5.39 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=53.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link 2A:

Inflow Area = 7.965 ac, 2.07% Impervious, Inflow Depth = 2.66" for 10-Year event
Inflow = 14.77 cfs @ 12.33 hrs, Volume= 1.767 af
Primary = 14.77 cfs @ 12.33 hrs, Volume= 1.767 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

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

Subcatchment 2S: COM Runoff Area=118,665 sf 3.46% Impervious Runoff Depth=3.80"
Flow Length=1,012' Tc=19.4 min CN=82 Runoff=7.36 cfs 0.863 af

Subcatchment 3S: COM Runoff Area=228,285 sf 1.35% Impervious Runoff Depth=3.70"
Flow Length=912' Tc=14.5 min CN=81 Runoff=15.73 cfs 1.617 af

Reach 3R: Ditch Avg. Flow Depth=1.16' Max Vel=6.24 fps Inflow=18.47 cfs 2.479 af
n=0.022 L=421.0' S=0.0154 '/' Capacity=55.94 cfs Outflow=18.43 cfs 2.479 af

Pond 3P: 18" Culvert Peak Elev=56.74' Storage=3,941 cf Inflow=15.73 cfs 1.617 af
Primary=11.25 cfs 1.615 af Secondary=0.00 cfs 0.000 af Outflow=11.25 cfs 1.615 af

Link 2A: Inflow=18.43 cfs 2.479 af
Primary=18.43 cfs 2.479 af

Total Runoff Area = 7.965 ac Runoff Volume = 2.480 af Average Runoff Depth = 3.74"
97.93% Pervious = 7.800 ac 2.07% Impervious = 0.165 ac

Summary for Subcatchment 2S: COM

Runoff = 7.36 cfs @ 12.28 hrs, Volume= 0.863 af, Depth= 3.80"

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

	Area (sf)	CN	Description
	75,299	80	>75% Grass cover, Good, HSG D
	11,245	96	Gravel surface, HSG D
	24,040	77	Woods, Good, HSG D
	7,956	93	Paved roads w/open ditches, 50% imp, HSG D
*	125	98	Ledge, HSG D
	118,665	82	Weighted Average
	114,562		96.54% Pervious Area
	4,103		3.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	100	0.0800	0.29		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
13.7	912	0.0250	1.11		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
19.4	1,012	Total			

Summary for Subcatchment 3S: COM

Runoff = 15.73 cfs @ 12.23 hrs, Volume= 1.617 af, Depth= 3.70"

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

Area (sf)	CN	Description
211,780	80	>75% Grass cover, Good, HSG D
10,345	96	Gravel surface, HSG D
6,160	93	Paved roads w/open ditches, 50% imp, HSG D
228,285	81	Weighted Average
225,205		98.65% Pervious Area
3,080		1.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0400	1.40		**Shallow Concentrated Flow, A-B** Short Grass Pasture Kv= 7.0 fps
13.3	812	0.0210	1.01		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
14.5	912	Total			

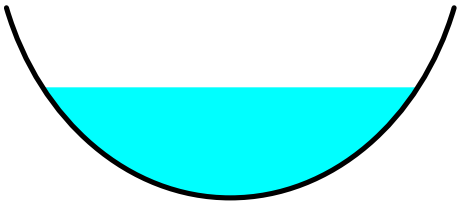
Summary for Reach 3R: Ditch

Inflow Area = 7.965 ac, 2.07% Impervious, Inflow Depth = 3.73" for 25-Year event
Inflow = 18.47 cfs @ 12.30 hrs, Volume= 2.479 af
Outflow = 18.43 cfs @ 12.33 hrs, Volume= 2.479 af, Atten= 0%, Lag= 1.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 6.24 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 2.46 fps, Avg. Travel Time= 2.8 min

Peak Storage= 1,244 cf @ 12.31 hrs
Average Depth at Peak Storage= 1.16' , Surface Width= 3.81'
Bank-Full Depth= 2.00' Flow Area= 6.7 sf, Capacity= 55.94 cfs

5.00' x 2.00' deep Parabolic Channel, n= 0.022 Earth, clean & straight
Length= 421.0' Slope= 0.0154 '/'
Inlet Invert= 53.00', Outlet Invert= 46.50'



Summary for Pond 3P: 18" Culvert

Inflow Area = 5.241 ac, 1.35% Impervious, Inflow Depth = 3.70" for 25-Year event
Inflow = 15.73 cfs @ 12.23 hrs, Volume= 1.617 af
Outflow = 11.25 cfs @ 12.34 hrs, Volume= 1.615 af, Atten= 28%, Lag= 7.1 min
Primary = 11.25 cfs @ 12.34 hrs, Volume= 1.615 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 56.74' @ 12.34 hrs Surf.Area= 4,837 sf Storage= 3,941 cf

Plug-Flow detention time= 3.1 min calculated for 1.615 af (100% of inflow)
Center-of-Mass det. time= 2.5 min (842.4 - 840.0)

Volume	Invert	Avail.Storage	Storage Description
#1	53.00'	13,167 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
53.00	68	0	0
54.00	135	102	102
55.00	358	247	348
56.00	1,850	1,104	1,452
57.00	5,861	3,856	5,308
58.00	9,857	7,859	13,167

Device	Routing	Invert	Outlet Devices
#1	Primary	53.75'	**18.0" Round Culvert** L= 51.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 53.75' / 53.25' S= 0.0098 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf
#2	Secondary	57.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=11.25 cfs @ 12.34 hrs HW=56.74' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 11.25 cfs @ 6.36 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=53.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link 2A:

Inflow Area = 7.965 ac, 2.07% Impervious, Inflow Depth = 3.73" for 25-Year event
Inflow = 18.43 cfs @ 12.33 hrs, Volume= 2.479 af
Primary = 18.43 cfs @ 12.33 hrs, Volume= 2.479 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

ATTACHMENT 10

CONSTRUCTION BUDGET

SME
SEVEE & MAHER
ENGINEERS

FINANCIAL CAPACITY

A. ESTIMATED COSTS

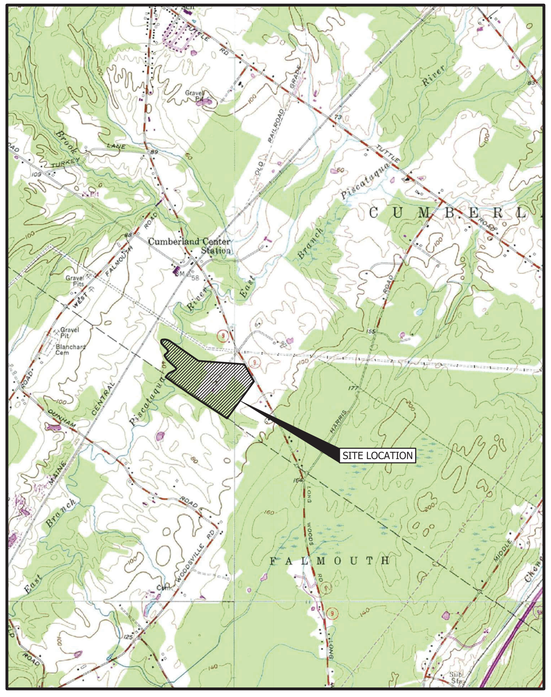
Current construction budget figures for the Grange Hall Pub at Longwoods Preserve project are outlined below:

Roadway Construction	$ 150,000
Utility Installation	$ 50,000
Building Construction	$ 1,200,000
Anticipated Total Construction Cost	$ 1,400,000

SYNERGOSITY, LLC
THE GRANGE HALL PUB AT LONGWOODS PRESERVE
CUMBERLAND, MAINE

TITLE	DWG NO
COVER SHEET	
GENERAL NOTES, LEGEND, AND ABBREVIATIONS	C-100
EXISTING CONDITIONS AND CLEARING PLAN	C-101
SITE OVERVIEW PLAN	C-102
SITE LAYOUT PLAN	C-103
SITE UTILITY PLAN	C-104
SITE GRADING, DRAINAGE, AND EROSION CONTROL PLAN	C-105
ACCESS DRIVE PLAN AND PROFILE	C-200
EROSION CONTROL NOTES AND DETAILS	C-300
SECTIONS AND DETAILS	C-301
SECTIONS AND DETAILS	C-302
SECTIONS AND DETAILS	C-303
STORMWATER MANAGEMENT PLAN PRE-DEVELOPMENT CONDITIONS	D-100
STORMWATER MANAGEMENT PLAN POST DEVELOPMENT CONDITIONS	D-101
EXISTING CONDITIONS SURVEY	1

LOCATION MAP



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STATE OF MAINE
DANIEL P. DUFFIN
11841
LICENSED PROFESSIONAL ENGINEER
6/21/2021

GENERAL SITE NOTES:

1. BASE MAP FROM PLAN TITLED "EXISTING CONDITIONS SURVEY FOR ALEXANDER TIMPSON OF 76 LONGWOODS ROAD CUMBERLAND MAINE" PREPARED BY BOUNDARY POINTS PROFESSIONAL LAND SURVEYING, LLC, DATED 8-31-2021.
2. EXISTING TOPOGRAPHY FROM MAINE GIS DATA CATALOG, BASED OFF OF LIDAR INFORMATION COLLECTED BETWEEN NOVEMBER 10, 2006 AND SEPTEMBER 5TH, 2007. STANDARD PRACTICE DICTATES THAT PLANS COMPILED IN THIS MANNER SHOULD BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
3. EXISTING WETLANDS DELINEATED BY COPPI ENVIRONMENTAL, LLC, DATED 4/11/2022.
4. PORTIONS OF THE PROPERTY, OUTSIDE OF THE DEVELOPMENT AREA, ARE MAPPED WITHIN FLOOD ZONE A (AREAS OF 100-YEAR FLOOD) PER FEMA FLOOD MAP PANEL 23016200015B, EFFECTIVE DATE MAY 19, 1981.
5. STANDARD PRACTICE DICTATES THAT PLANS COMPILED IN THIS MANNER SHOULD BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER. THE ACCURACY AND COMPLETENESS OF SUBSURFACE INFORMATION IS NOT GUARANTEED. VERIFY SITE CONDITIONS INCLUDING TEST PITS FOR LOCATIONS AND INVERTS OF UTILITIES AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING WITH THAT PORTION OF WORK.
6. ALL SITE AND CONSTRUCTION ACTIVITIES SHALL BE IN COMPLIANCE WITH MAINE EROSION AND SEDIMENT CONTROL PRACTICES FIELD GUIDE FOR CONTRACTORS, AND EXISTING FEDERAL, STATE, AND LOCAL PERMITS AND PERMITTING REQUIREMENTS FOR THE SITE.
7. PAVEMENT EDGES SHALL BE TRUE TO LINE. SAWCUT EXISTING PAVEMENT IN SMOOTH STRAIGHT LINE WHERE NEW PAVEMENT JOINS. PROVIDE TACK COAT LAYER IF SPECIFIED.

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 MAIN 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 N.A.D. GRID NORTH 1983 LOCATED IN THE WEST ZONE.
9. THE PROPERTY SURVEYED IS DESCRIBED IN A DEED TO DANIEL VILLACI DATED 5-13-2002 BOOK 17630, PAGE 14 AND 16 RECORDED IN THE LOCAL REGISTRY OF DEEDS.
10. THE PROPERTY IS DEPICTED ON THE TOWN ASSESSOR'S MAP R3 AS LOTS 6A AND 13.

GRADING NOTES:

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

UTILITY NOTES:

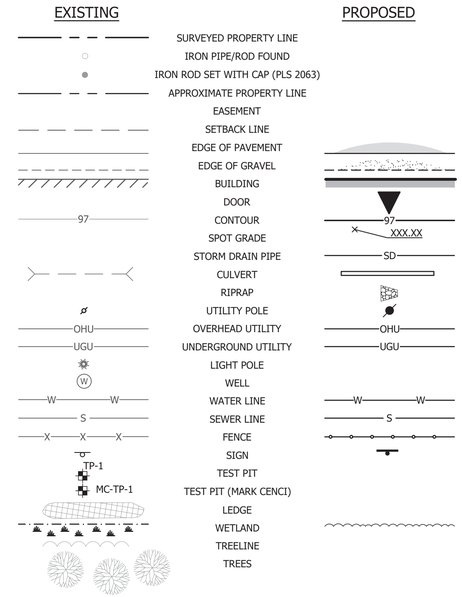
1. THE ACCURACY AND COMPLETENESS OF SUBSURFACE INFORMATION IS NOT GUARANTEED. VERIFY SITE CONDITIONS INCLUDING TEST PITS FOR LOCATIONS AND INVERTS OF UTILITIES AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING WITH THAT PORTION OF THE WORK.
2. COORDINATE WORK ON UTILITY LINES OR WITHIN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

DIG SAFE NOTES:

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

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

LEGEND



EROSION CONTROL LEGEND

TYPICAL ABBREVIATIONS:

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

REV.	BY	DATE	STATUS
	JTR	7/2022	REVISED PER TOWN REVIEW COMMENTS
	JTR	6/2022	ISSUED FOR TOWN REVIEW

STATE OF MAINE — DANIEL P. DUFFIN — 11841 — LICENSED PROFESSIONAL ENGINEER — 2022

SYNERGOSITY, LLC
THE GRANGE HALL PUB AT
LONGWOODS PRESERVE
CUMBERLAND, MAINE

GENERAL NOTES, LEGEND, AND ABBREVIATIONS

SME
SEVEE & MAHER ENGINEERS
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
4 Blanchard Road, PO Box 85A, Cumberland, Maine 04021
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DESIGN BY:	BB
DRAWN BY:	SJM
DATE:	7/2022
CHECKED BY:	DPD
LMN:	NONE
CTB:	SME-STD

JOB NO. 21519 DWG FILE GEN-NOTS-LGND

C-100

N/F
ROBERT CRAWFORD
26346/25

N/F
FRANK E. OULTON, JR.
EDWARD B. OULTON
3173/50
0.83 Acre

N/F
TODD SHALLOW
34990/348

FOUND HELD
5"X5" GRANITE MONUMENT
0" ABOVE GRADE
BROKEN OFF, LOCATED BASE
2310/495

EAST BRANCH PISCATAQUA RIVER

EXISTING 6" DIA
CMP CULVERT

N/F
CENTRAL MAINE POWER CO.
2310/495

FOUND HELD
5/8" COPPER ROD WITH CAP
6" ABOVE GRADE
BOOK 2310 PAGE 495

100-YEAR FLOODPLAIN (TYP)

EXISTING EDGE OF
PAVEMENT (TYP)

EXISTING UTILITY
POLE (TYP)

LONGWOODS ROAD (ME-9)

EXISTING PROPERTY LINE/
450'-WIDE CMP EASEMENT
1989/434

FIELD

N/F
THERIAULT MURIEL C
THERIAULT RUSSELL E
18010/0339

EXISTING 22'-WIDE
GRAVEL DRIVE

15' FRONT BUILDING SETBACK (TYP)

25' MEDEP STREAM SETBACK (TYP)
75' MEDEP STREAM SETBACK (TYP)

EXISTING FENCE (TYP)
EXISTING WELL

EXISTING EDGE OF GRAVEL

LEDGE

LIMIT OF DELINEATED WETLANDS (TYP)
SEE GENERAL NOTE 2, ON DWG C-100

EXISTING TREELINE

WOODED

LIGHT POLE
LEAN TO
EXISTING WELL

APPROXIMATE
LOCATION OF
EXISTING SEPTIC

TP-6

FOUND HELD
5/8" IRON REBAR
0" ABOVE GRADE
PLS 1183

BENCH MARK NAIL BASE OF BARN
ELEVATION 79.35'
N.A.V.D. 1988

REMOVE 183 LF OF
EXISTING FENCE (TYP)

TP-4

POLE SHED

TP-2

MC-TP-1

TP-5

FORMERLY
DANIEL VALLACCI
6362/132

FOUND HELD
1-1/8" IRON PIPE
RUSTED AT BASE
30" ABOVE GRADE

FIELD

EXISTING FARM HOUSE
WITH BARN

TP-1

15' SIDE BUILDING SETBACK (TYP)

LOT AREA
61.56 Acres

PLAN OF LAND
ON
LONGWOODS ROAD &
STANHOPE LANE
IN
CUMBERLAND, MAINE
BY DANIAL LAPOINTE APRIL 2005

FOUND
IRON PIPE
1" GALVINIZED
21" ABOVE GRADE

TP-3

MC-TP-2

REMOVE CONCRETE PAD

WOODED

CLEARING LIMIT LINE (TYP)
(±30,100 SF)

FOUND HELD
1-1/4" IRON PIPE
AT FENCE CORNER
21" ABOVE GRADE

FORMERLY
PHILIP L. STANHOPE
2932/385

N/F
ELWIN HANSEN
3029/502

15' REAR BUILDING SETBACK (TYP)

TOWN OF CUMBERLAND

TOWN OF FALMOUTH

FOUND HELD
1-1/4" IRON PIPE
WITH PLUG IN TOP
14" ABOVE GRADE

FORMERLY
ROBERTO BERTELLE
3640/172

NOTE:
SEE DRAWING C-100 FOR GENERAL SITE NOTES AND PLAN REFERENCES.

50 0 100 200 FEET

REV.	BY	DATE	STATUS
	JTR	7/2022	REVISED PER TOWN REVIEW COMMENTS
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STATE OF MAINE
DANIEL
P
DUPIN
11841
LICENSED
PROFESSIONAL ENGINEER
2022

SYNERGOSITY, LLC
THE GRANGE HALL PUB AT
LONGWOODS PRESERVE
CUMBERLAND, MAINE

EXISTING CONDITIONS AND CLEARING PLAN

SME
SEVEE & MAHER
ENGINEERS
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Phone 207.829.5016 • Fax 207.829.5692 • sme-engineers.com

DESIGN BY:	BB
DRAWN BY:	SJM
DATE:	7/2022
CHECKED BY:	DPD
LMN:	EXCON
CTB:	SME-STD

JOB NO. 21519 DWG FILE BASE

C-101

ZONING NOTES:

1. PROJECT INFORMATION:

   ADDRESS: 76 LONGWOODS ROAD
   CUMBERLAND, MAINE

   APPLICANT/OWNER: SYNERGOSITY, LLC

   PROJECT: THE GRANGE HALL PUB AT LONGWOODS PRESERVE

2. ZONING DISTRICT: RURAL RESIDENTIAL 1 (RR1)
   (CONTRACT ZONE)

3. PROPOSED USE: RESTAURANT, FARM-BASED SPECIAL EVENTS, AND CONSERVATION EASEMENT

4. DIMENSIONAL STANDARDS (CZA ZONE):

	REQUIRED	PROPOSED
MIN LOT SIZE:	2 ACRES	±6.5 ACRES
MIN ROAD LENGTH:	NONE	±1300 FT
SETBACKS:		
FRONT:	15'	>15'
SIDE:	15'	>15'
REAR:	15'	>15'
MIN LOT FRONTAGE:	200'	>200'
MAX BUILDING HEIGHT:	40'	28.5'

5. PARCEL ID: MAP R03/LOTS 6A AND 13

6. PROPOSED IMPERVIOUS AREAS: 41,355 SF (0.95 ACRES)

7. ALL PROJECT WORK LOCATED OUTSIDE OF THE 100-YEAR FLOOD ZONE.

8. PARKING SUMMARY: 1 PARKING SPACE PER 3 SEATS
   120 SEATS/3 = 40 SPACES
   3 ADDITIONAL SPACES FOR UP TO 9 EMPLOYEES
   16 ADDITIONAL SPACES FOR PUBLIC TRAIL USE

REQUIRED	PROPOSED
40 SPACES	43 SPACES

9. WETLANDS WILL BE IMPACTED FOR THE PROPOSED PROJECT: ±350 SF

10. OUTSIDE AGENCY APPROVALS:

    MEDEP: STORMWATER PERMIT-BY-RULE
    MEDOT: DRIVEWAY ENTRANCE PERMIT

11. UTILITIES:

    WATER - PRIMARY WELL
    SEWER - PRIVATE SEPTIC SYSTEM
    POWER - CENTRAL MAINE POWER

NOTES:

1. SEE DRAWING C-100 FOR GENERAL SITE NOTES AND PLAN REFERENCES.
2. AERIAL PHOTO FROM GOOGLE EARTH, DATED 5/4/2018.
2. THE CONCEPTUAL TRAIL SYSTEM WILL BE LOCATED IN THE FIELD BY THE CHEBEAGUE AND CUMBERLAND LAND TRUST, AND MAINE FARM TRUST IN COORDINATION WITH SYNERGOSITY. ALL TRAILS WILL BE FOOT PATHS.

50 0 100 200 FEET

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STATE OF MAINE DANIEL P. DUFFIN 11841 LICENSED PROFESSIONAL ENGINEER 2022

SYNERGOSITY, LLC
THE GRANGE HALL PUB AT
LONGWOODS PRESERVE
CUMBERLAND, MAINE

SITE OVERVIEW PLAN

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LMN:	SITE-OVER
CTB:	SME-STD

JOB NO. 21519 DWG FILE BASE

C-102

N

MC-TP-1

SEPTIC FIELD LOCATION (TYP)

17.85'x20' SEASON BATHROOM AND STORAGE/SEASONAL PRIVY

TERRACE/OUTDOOR PAVER DINING AREA (SEATS 60) SEE ARCHITECTURAL DRAWINGS

R20'

21.1'

R10'

CANOPY (TYP) SEE ARCHITECTURAL DRAWINGS

8.7'

20'

5.8'

BUILDING ENTRANCE

14.5'x2.75' CONCRETE PAD

R5' (TYP)

44.2'

CRUSHED STONE DRIP STRIP (TYP) SEE DWG C-302

8'-WIDE SERVICE PATH

PROPOSED GRANGE HALL 3,419 SF SEATS 60

23.4'

SNOW STORAGE (TYP)

BUILDING ENTRANCE

R18'

10.2'x4.6' CONCRETE PAD

21.5'

18.2'x6.2' CONCRETE PAD WITH BUILDING CANOPY

BIKE RACK

17.9'

21.5'

10.3'

12.9'

R8'

RESERVED PARKING AND VAN ACCESSIBLE PARKING SIGNS SEE DWG C-301 (D)

22.0'

6.0'

11.1'

35.7'

5' (TYP)

12'-WIDE PAVED SERVICE PATH NO PARKING LOADING AREA SIGNS SEE DWG C-301

R3'

3.6'

5.1'

6' (TYP)

ENTER SIGN (F) SEE DWG C-301

RESTAURANT DIRECTION SIGN COORDIATE WITH TOWN PLANNER

LANDSCAPED AREA

11 SPACES (2 ADA)

8' 8' 8'

20'-WIDE RECYCLED ASPHALT PAVEMENT ACCESS DRIVE WITH 2'-WIDE GRAVEL SHOULDERS SEE DWG C-200

30'x12' CONCRETE DUMPSTER AND GREASE DISPOSAL UNIT PAD AND ENCLOSURE SEE DWG C-301

24'

7 SPACES

STOCKADE FENCE SEE DWG C-301

R15'

EXIT SIGN (G) SEE DWG C-301

MC-TP-2

45'

24' 63' 24'

7 SPACES

10' (TYP) 10' (TYP)

5 SPACES

R5' (TYP)

24'

13 SPACES

9' (TYP)

18' (TYP)

117'

TIMBER WHEELSTOP (TYP) SEE DWG C-301

SEPTIC FIELD LOCATION

PROPOSED TREE LINE (TYP)

WALKING TRAIL COORDINATE INSTALLATION WITH CUMBERLAND AND CHEBEAGUE LAND TRUST (CCLT)

DELINEATED WETLANDS (TYP)

APPROXIMATE LOCATION OF EXISTING SEPTIC FIELD

EXISTING WELL

12'-WIDE SERVICE DRIVE FOR FARM HOUSE ACCESS

PLANTED BUFFER COORDINATE PLANTINGS WITH FARM TRUST

PLANTED BUFFER COORDINATE PLANTINGS WITH FARM TRUST

EXISTING WELL

EXISTING TREE LINE (TYP)

TIMBER WHEELSTOP (TYP) SEE DWG C-301

4'-WIDE x 8'-LONG BOARDWALK SEE DWG C-302

8 - 10'x20' GRASSED PARKING SPACES FOR TRAILHEAD USE

TRAIL HEAD PARKING AREA SIGNAGE (TYP) WITH INFORMATION KIOSK COORDINATE WITH CCLT

10 0 20 40 FEET

NOTES:

1. SEE DRAWING C-100 FOR GENERAL SITE NOTES AND PLAN REFERENCES.
2. THE CONCEPTUAL TRAIL SYSTEM WILL BE LOCATED IN THE FIELD BY THE CHEBEAGUE AND CUMBERLAND LAND TRUST, AND MAINE FARM TRUST IN COORDINATION WITH SYNERGOSITY. ALL TRAILS WILL BE FOOT PATHS.

REV.	BY	DATE	STATUS
	JTR	7/2022	REVISED PER TOWN REVIEW COMMENTS
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STATE OF MAINE DANIEL P. DUFFIN 11841 LICENSED PROFESSIONAL ENGINEER 2022

SYNERGOSITY, LLC
THE GRANGE HALL PUB AT LONGWOODS PRESERVE
CUMBERLAND, MAINE

SITE LAYOUT PLAN

SME
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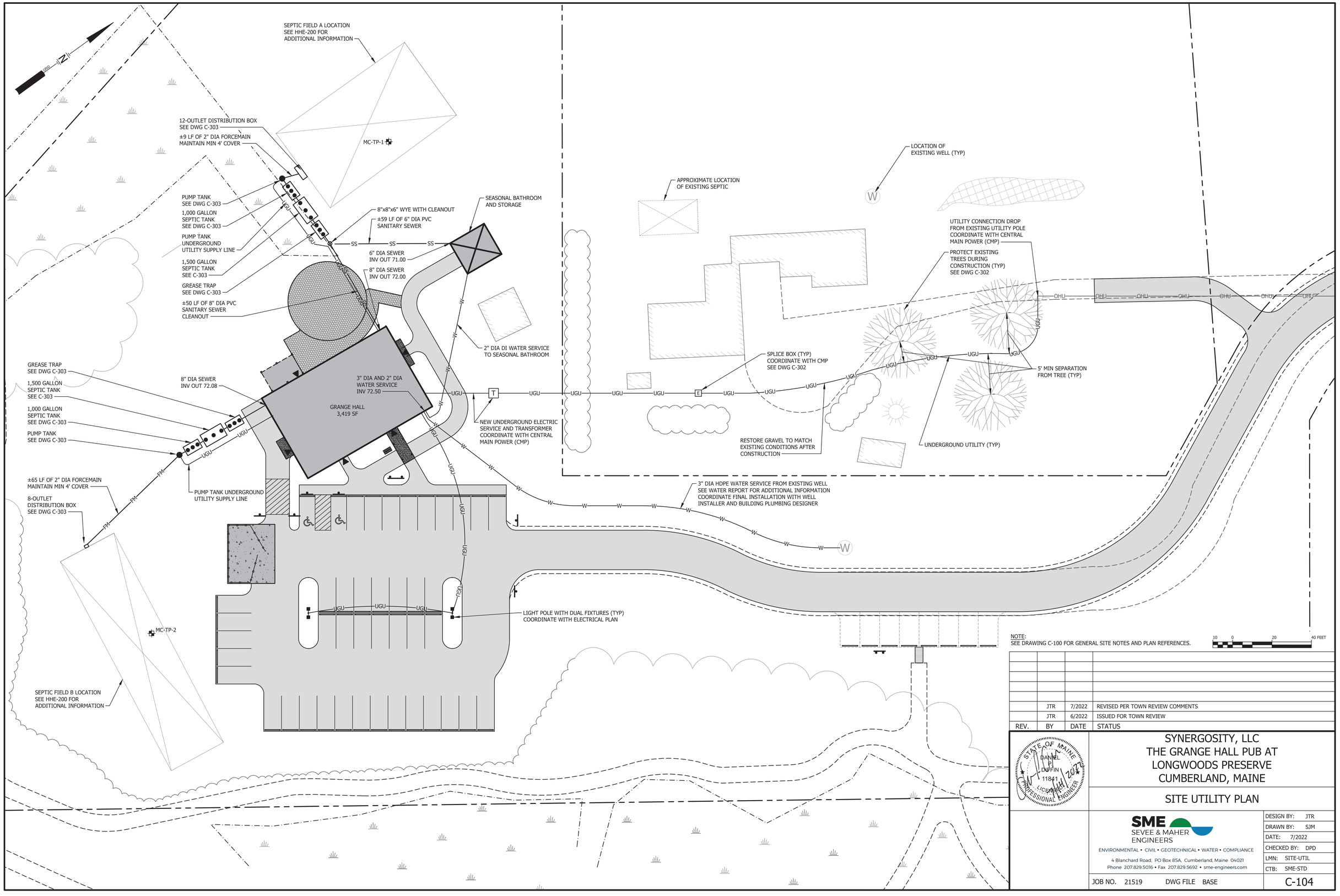
JOB NO. 21519 DWG FILE BASE

C-103



NOTE:
SEE DRAWING C-100 FOR GENERAL SITE NOTES AND PLAN REFERENCES.

10 0 20 40 FEET

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STATE OF MAINE
DANIEL P. DUFFIN
11841
LICENSED
PROFESSIONAL ENGINEER
7/11/22

SYNERGOSITY, LLC
THE GRANGE HALL PUB AT LONGWOODS PRESERVE
CUMBERLAND, MAINE

SITE UTILITY PLAN

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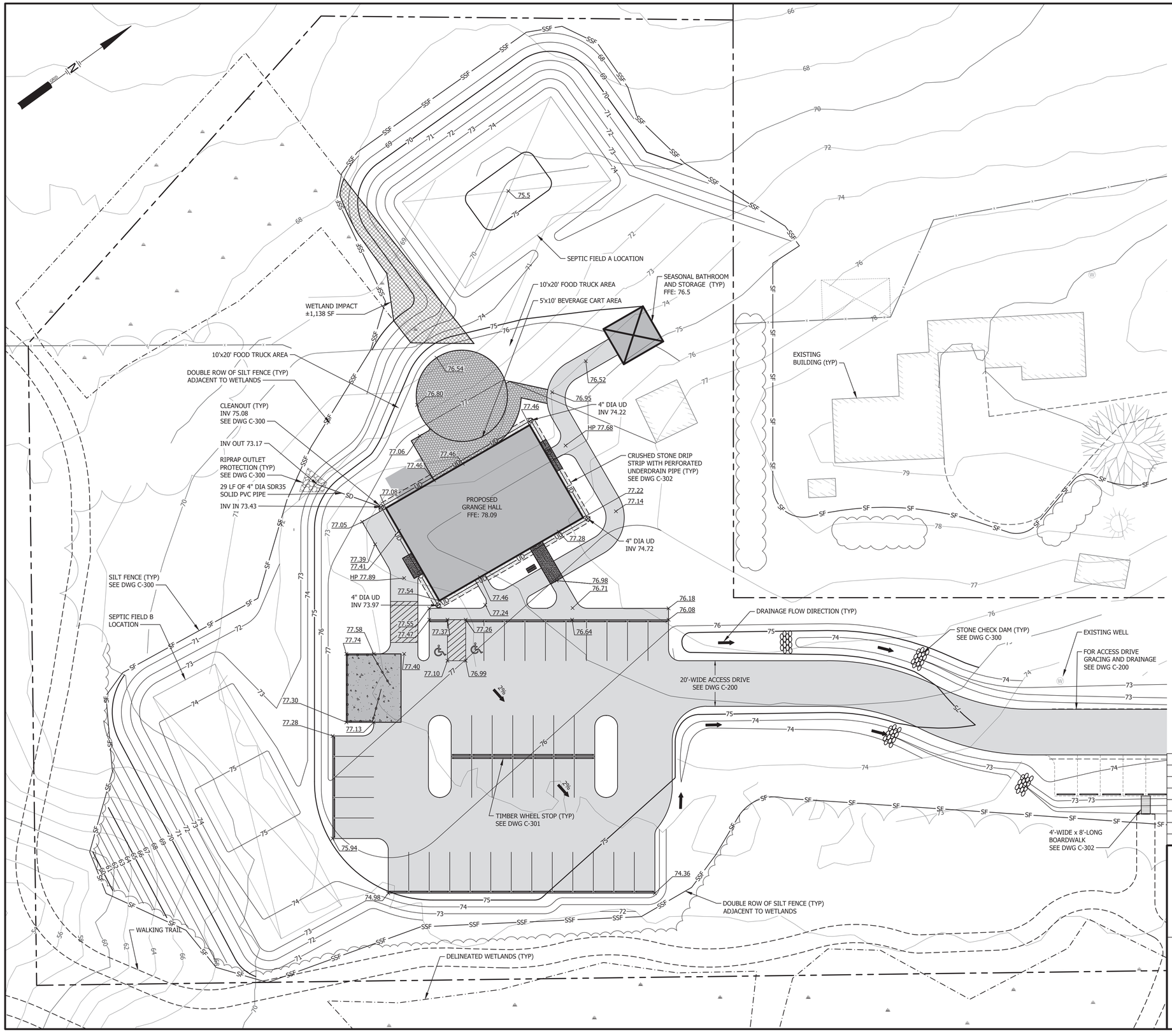
LMN:	SITE-UTIL
CTB:	SME-STD
JOB NO. 21519	DWG FILE BASE
	C-104



NOTES:
1. SEE DRAWING C-100 FOR GENERAL SITE NOTES AND PLAN REFERENCES.
2. TRAIL LOCATIONS ARE CONCEPTUAL AND SUBJECT TO CHANGE.

10 0 20 40 FEET

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STATE OF MAINE — DANIEL P. DUFFIN — 11841 — LICENSED PROFESSIONAL ENGINEER — 7/21/2022

SYNERGOSITY, LLC
THE GRANGE HALL PUB AT LONGWOODS PRESERVE
CUMBERLAND, MAINE
SITE GRADING, DRAINAGE, AND EROSION CONTROL PLAN

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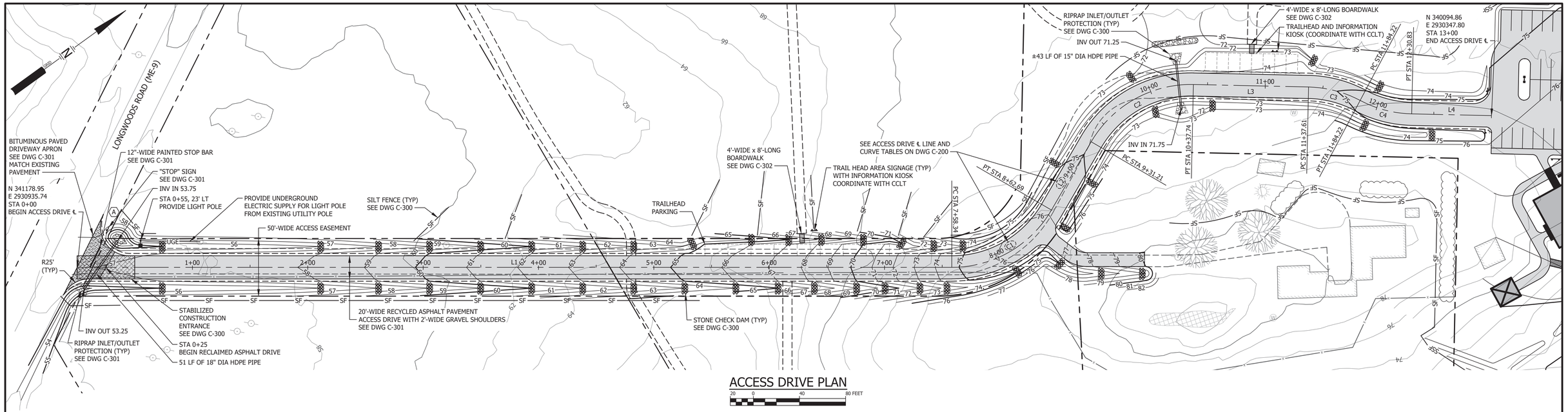
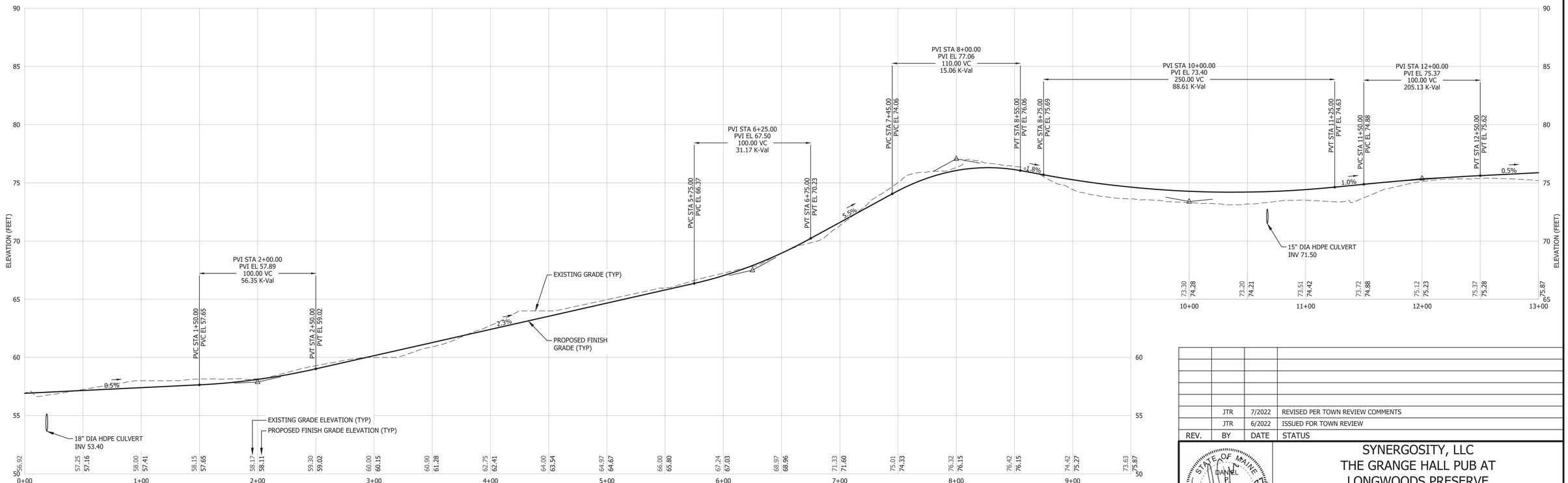
CTB:	SME-STD
JOB NO. 21519	DWG FILE BASE
	C-105



ACCESS DRIVE PLAN

20 0 40 80 FEET



ACCESS DRIVE ℄ LINE AND CURVE TABLES

LINE	BEARING	DISTANCE
L1	N 34°35'49" E	758.34'
L2	N 25°11'35" W	68.52'
L3	N 35°50'50" E	99.87'
L4	N 35°50'50" E	69.17'

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	100.00'	104.35'	99.68'	N 04°42'07" E	59°47'24"
C2	100.00'	106.54'	101.57'	N 05°19'37" E	61°02'25"
C3	100.00'	46.61'	46.19'	S 49°12'00" W	26°42'20"
C4	100.00'	46.61'	46.19'	N 49°12'00" E	26°42'20"

ACCESS DRIVE PLAN

20 0 40 80 FEET (HORZ)
2 0 4 8 FEET (VERT)

NOTES:
1. SEE DRAWING C-100 FOR GENERAL SITE NOTES AND PLAN REFERENCES.
2. TRAIL LOCATIONS ARE CONCEPTUAL AND SUBJECT TO CHANGE.

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STATE OF MAINE DANIEL P. DUFFIN 11841 LICENSED PROFESSIONAL ENGINEER 2022

SYNERGOSITY, LLC
THE GRANGE HALL PUB AT LONGWOODS PRESERVE
CUMBERLAND, MAINE

ACCESS DRIVE PLAN AND PROFILE

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LMN: PLAN-PROF
CTB: SME-STD

JOB NO. 21519 DWG FILE BASE

C-200

EROSION CONTROL NOTES:

A. GENERAL

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

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

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

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

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

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

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

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

B. TEMPORARY MEASURES

1. STABILIZED CONSTRUCTION ENTRANCE/EXIT

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

2. SILT FENCE

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

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

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

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

3. STONE CHECK DAMS

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

4. EROSION CONTROL MIX SEDIMENT BARRIER

   a. It may be necessary to cut, pack down, or remove tall grasses, brush, or woody vegetation to avoid voids and bridges that allow the washing away of fine soil particles.

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

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

5. TEMPORARY SEEDING

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

   TEMPORARY SEEDING SPECIFICATIONS

Mixture:	Application Rate (lbs/acre)
Winter Rye	112
Oats	80
Annual Ryegrass	40
Perennial Ryegrass	40
Perennial Ryegrass	40

6. TEMPORARY MULCHING

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

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

   The following materials may be used for temporary mulch:

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

   b. Erosion Control Mix: It can be used as a stand-alone reinforcement:
      - 2-inches thick for slopes flatter than 3H:1V;
      - 4-inches thick for slopes greater than 3H:1V;
      - on slopes 2 horizontal to 1 vertical or less;
      - on frozen ground or forested areas; and
      - at the edge of gravel parking areas and areas under construction.

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

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

   e. Erosion Control Blankets and Mats: Mats are manufactured combinations of mulch and netting designed to retain soil moisture and modify soil temperature. During the growing season (April 15th to November 1st) use mats indicated on drawings or North American Green (NAG) S75 (or mulch and netting) on:
      - the base of grassed waterways;
      - steep slopes (15 percent or greater); and
      - any disturbed soil within 100 feet of lakes, streams, or wetlands.

   During the late fall and winter (November 1st to April 15th) use heavy grade mats indicated on drawings for NAG SC250 on all areas noted above plus use lighter grade mats NAG S75 (or mulch and netting) on:
      - sideslopes of grassed waterways; and moderate slopes (between 8 and 15 percent).

C. TEMPORARY DUST CONTROL

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

D. CONSTRUCTION DE-WATERING

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

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

E. PERMANENT MEASURES

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

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

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

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

   PERMANENT SEEDING SPECIFICATIONS

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

   b. Mulch in accordance with specifications for temporary mulching.

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

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

F. WINTER CONSTRUCTION AND STABILIZATION

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

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

3. Mulching:

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

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

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

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

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

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

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

G. OVER-WINTER CONSTRUCTION EROSION CONTROL MEASURES

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

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

   a. Stabilize the soil with temporary vegetation and erosion control mesh.
   b. Stabilize the slope with erosion control mix.
   c. Stabilize the slope with stone riprap.
   d. Slopes steeper than 1.5:1 are prohibited.

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

H. MAINTENANCE PLAN

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

I. Housekeeping

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

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

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

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

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

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

   (a) Discharges from firefighting activity;

   (b) Fire hydrant flushings;

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

   (d) Dust control runoff in accordance with permit conditions and section I3;

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

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

   (g) Uncontaminated air conditioning or compressor condensate;

   (h) Uncontaminated groundwater or spring water;

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

   (j) Uncontaminated excavation dewatering (see requirements in section I5);

   (k) Potable water sources including waterline flushings; and

   (l) Landscape irrigation.

7. Unauthorized non-stormwater discharges. The Department's approval under this Chapter does not authorize a discharge that is mixed with a source of non stormwater, other than those discharges in compliance with section 16. Specifically, the Department's approval does not authorize discharges of the following:

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

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

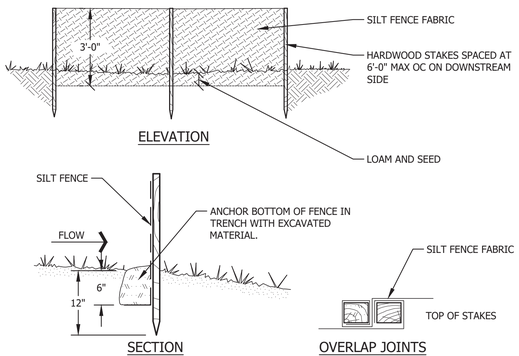
   (c) Soaps, solvents, or detergents used in vehicle and equipment washing; and

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

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

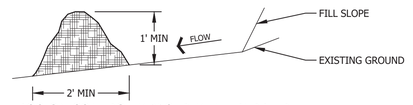
J. CONSTRUCTION SEQUENCE

   In general, the expected sequence of construction for each phase is provided below. Construction is proposed to start in Summer 2022 and end in Spring 2023.
   - Mobilization
   - Install temporary erosion control measures
   - Clearing and grubbing
   - Site Grading
   - Construct buildings
   - Site stabilization, site utilities, construct reclaimed asphalt access road and parking areas, loam and seed, landscaping
   - Remove temporary erosion control measures



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

SILT FENCE



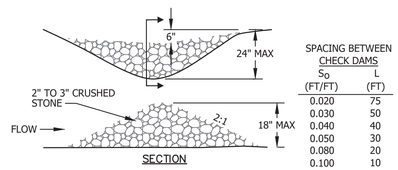
NOTES:

EROSION CONTROL MIX SEDIMENT BARRIER

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

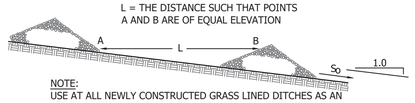
SURFACE DRAINAGE SEDIMENT CONTROL

NTS



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

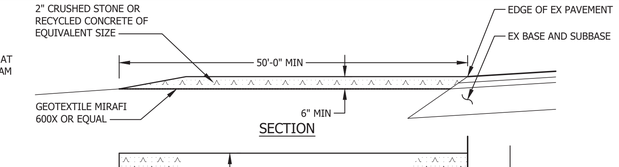
L = THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION



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

STONE CHECK DAM

NTS

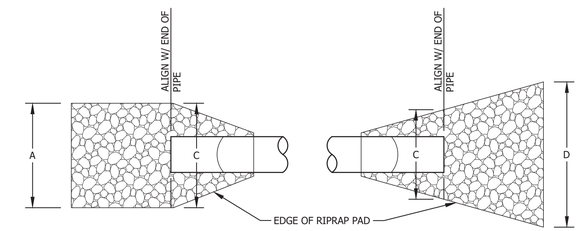


NOTES:

1. MAINTAIN ENTRANCE IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. IF WASHING IS REQUIRED PREVENT SEDIMENT FROM ENTERING WATERWAYS, DITCHES OR STORM DRAINS.
2. REMOVE STABILIZED CONSTRUCTION ENTRANCE TO FINISH ROAD CONSTRUCTION & PAVEMENT.

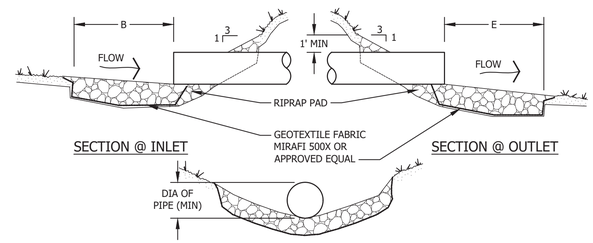
STABILIZED CONSTRUCTION ENTRANCE DETAIL

NTS



PLAN @ INLET

PLAN @ OUTLET



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

PIPE	A	B	C	D	E	PAD DEPTH	D_{50}
12"~	3 FT.	2 FT.	3 FT.	9 FT.	8 FT.	6"	6"
15"~	3.75 FT.	2.5 FT.	3.75 FT.	11.5 FT.	10 FT.	6"	6"

PIPE INLET/OUTLET DETAILS

NTS

REV.	BY	DATE	STATUS
	JTR	7/2022	REVISED PER TOWN REVIEW COMMENTS
	JTR	6/2022	ISSUED FOR TOWN REVIEW

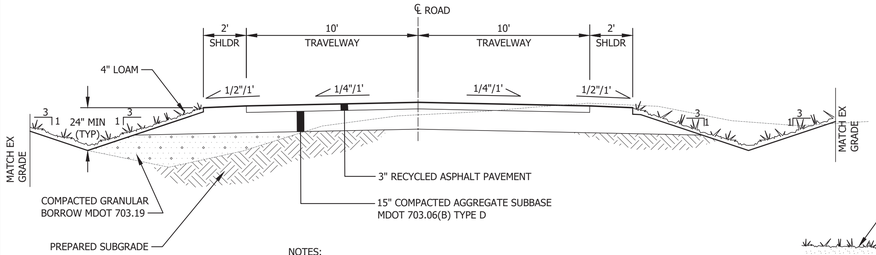
STATE OF MAINE — DANIEL P. DUPIN — 11841 — LICENSED PROFESSIONAL ENGINEER — 7/27/22

SYNERGOSITY, LLC
THE GRANGE HALL PUB AT LONGWOODS PRESERVE
CUMBERLAND, MAINE

EROSION CONTROL NOTES AND DETAILS

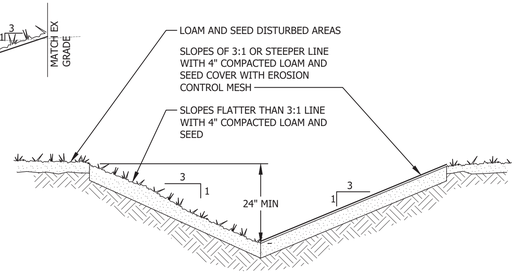
SME
SEVEE & MAHER ENGINEERS
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
4 Blanchard Road, PO Box 85A, Cumberland, Maine 04021
Phone 207.829.5016 • Fax 207.829.5692 • sme-engineers.com

DESIGN BY:	BB
DRAWN BY:	SJM
DATE:	7/2022
CHECKED BY:	DPD
LMN:	NONE
CTB:	SME-STD
JOB NO. 21519	DWG FILE DETAILS
	C-300

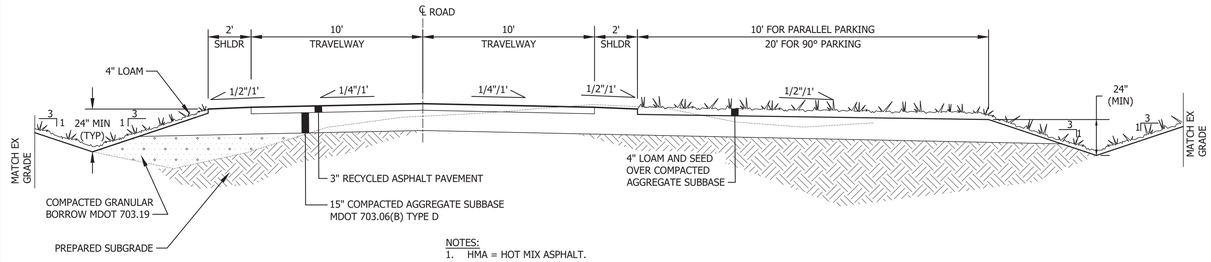


NOTES:
1. HMA = HOT MIX ASPHALT.
2. LOAM ALL SIDE SLOPES WITH 4" OF LOAM. SEED AS SOON AS POSSIBLE. PROTECT SIDE SLOPES FROM EROSION AS NEEDED OR AS DIRECTED BY ENGINEER.
3. BACKSLOPES TO BE 3:1 TO MATCH EXISTING GRADES IN BOTH CUTS AND FILLS UNLESS OTHERWISE INDICATED.
4. BACKSLOPE TO BE 2:1 IN ROCK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

TYPICAL ROAD SECTION
NTS



GRASS DITCH SECTION
NTS



NOTES:
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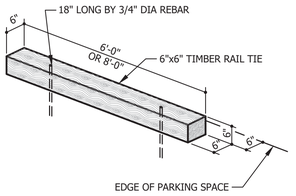
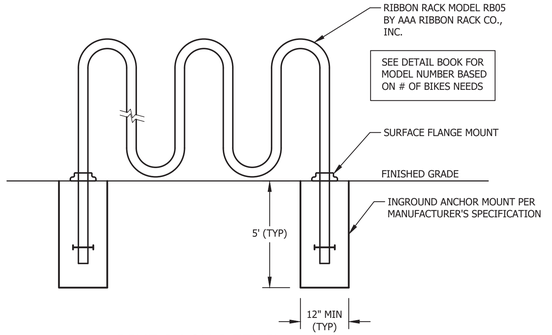
3. BACKSLOPES TO BE 3:1 TO MATCH EXISTING GRADES IN BOTH CUTS AND FILLS UNLESS OTHERWISE INDICATED.
4. BACKSLOPE TO BE 2:1 IN ROCK EXCAVATION PROVIDED ADEQUATE SIGHT DISTANCE IS MAINTAINED.

TYPICAL ROAD SECTION WITH GRASSED PARKING
NTS



TIMBER WHEELSTOP
NTS

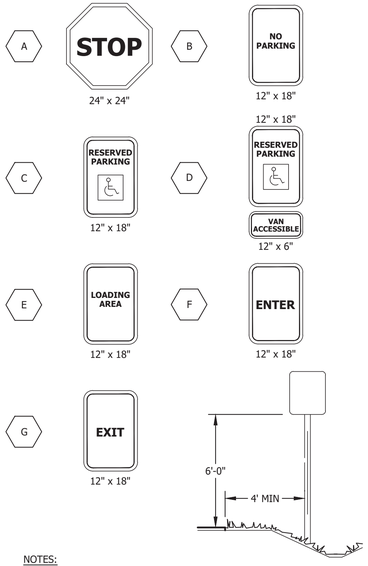


BIKE RACK DETAIL
NTS

CONSTRUCTION	USE
3" RECYCLED ASPHALT PAVEMENT 15" COMPACTED AGGREGATE SUBBASE, MDOT 703.06(b) TYPE D COMPACTED SUBGRADE	RECYCLED ASPHALT PAVEMENT ACCESS DRIVE PARKING LOT SEASONAL BATHROOM PATH
1 1/4" HMA MDOT 9.5mm 2 1/4" HMA MDOT 19.0mm 3" COMPACTED AGGREGATE BASE, MDOT 703.06(a) TYPE A 15" COMPACTED AGGREGATE SUBBASE, MDOT 703.06(b) TYPE D COMPACTED SUBGRADE	BITUMINOUS PAVED APRON
4" TOPSOIL, NO STONES OVER 3/4" DIA SEED WITH NEW ENGLAND MEADOW MIX OR APPROVED EQUAL 15" COMPACTED AGGREGATE SUBBASE, MDOT 703.06(b) TYPE D STRIP EXISTING TOPSOIL AND COMPACT SUBGRADE COMPACTED SUBGRADE	GRASS TRAILHEAD PARKING
4" TOPSOIL, NO STONES OVER 3/4" DIA SEED WITH NEW ENGLAND MEADOW MIX OR APPROVED EQUAL. GRANULAR MATERIAL IN FILL AREAS COMPACTED SUBGRADE	GRASS ALL DISTURBED AREAS
1 - 2" LAYER OF HMA MDOT 9.5mm 12" COMPACTED AGGREGATE BASE, MDOT 703.06(a) TYPE A COMPACTED SUBGRADE	BITUMINOUS SIDEWALKS

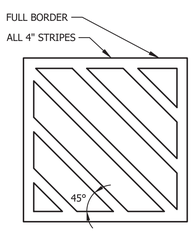
NOTE:
HMA = HOT MIX ASPHALT.
MDOT = MAINE DEPARTMENT OF TRANSPORTATION.

SCHEDULE OF SURFACE FINISHES
NTS

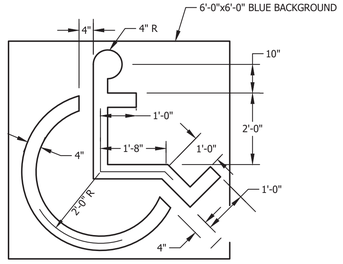


NOTES:
1. SIGNS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, HIGHWAYS AND BRIDGES REVISION OF DECEMBER 2002, SECTION 645.
2. ALL PERMANENT SIGNS ON THIS PROJECT ARE CLASSIFIED UNDER SECTION 645.03(b) TYPE 1 REGULATORY WARNING AND ROUTE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

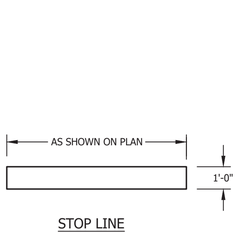
ROAD SIGN LEGEND
NTS



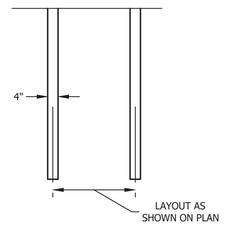
NO PARKING



BARRIER FREE STALL SYMBOL

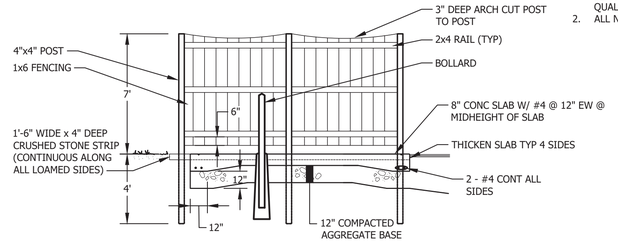


STOP LINE



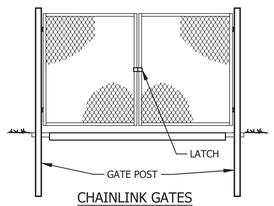
PARKING SPACE

STRIPING DETAILS
NTS

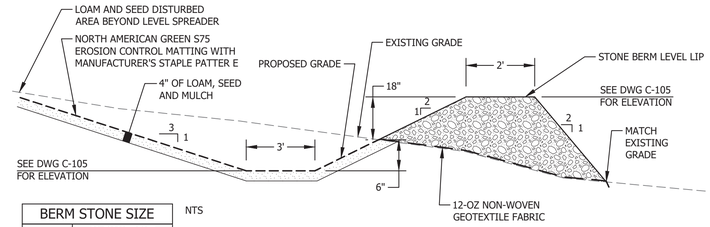


DUMPSTER ENCLOSURE DETAIL
NTS

WOOD NOTES:
1. ALL WOOD TO BE PRESSURE TREATED TO A MIN NET OF .40 lbs. CCA PER CUBIC FOOT OF WOOD AND EACH PIECE SHALL BEAR THE AMERICAN WOOD RESERVER'S ASSOCIATES QUALITY MARK LP-22 "GROUND CONTACT USE"
2. ALL NAILS AND SCREWS TO BE GALVANIZED



CHAINLINK GATES



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

NTS

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

LEVEL SPREADER
NTS

REV.	BY	DATE	STATUS
	JTR	7/2022	REVISED PER TOWN REVIEW COMMENTS
	JTR	6/2022	ISSUED FOR TOWN REVIEW

STATE OF MAINE — DANIEL P. DUPIN — 11841 — LICENSED PROFESSIONAL ENGINEER — 11/14/2022

SYNERGOSITY, LLC
THE GRANGE HALL PUB AT LONGWOODS PRESERVE
CUMBERLAND, MAINE

SECTIONS AND DETAILS

SME
SEVEE & MAHER ENGINEERS
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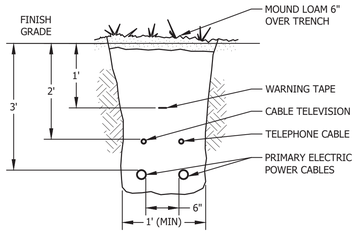
DESIGN BY:	BB
DRAWN BY:	SJM
DATE:	7/2022
CHECKED BY:	DPD
LMN:	NONE
CTB:	SME-STD

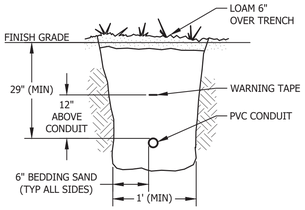
JOB NO. 21519 DWG FILE DETAILS

C-301

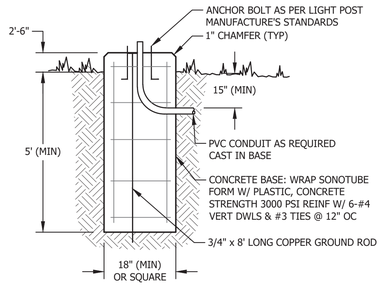


NOTES:
1. SEE CMP CO. STANDARD TRENCH FOR BACKFILL MATERIAL REQUIREMENTS.
2. DIRECT BURY CABLES EXCEPT UNDER PAVED AREAS. PROVIDE SCH. 40 PVC CONDUIT UNDER PAVED AREAS, EXTEND CONDUIT 5' BEYOND EDGE OF PAVEMENT.
3. COORDINATE FINAL CONDUIT SIZING AND QUANTITY WITH ELECTRICAL DRAWINGS.

UNDERGROUND UTILITY TRENCH
NTS

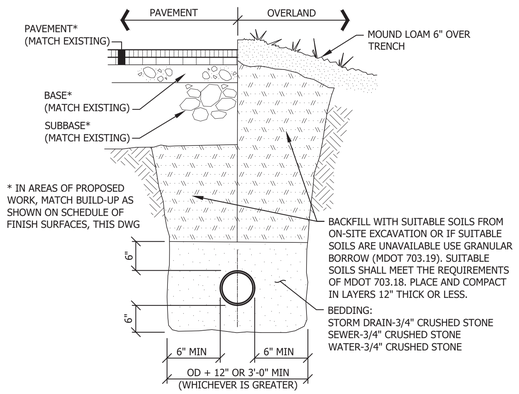


UNDERGROUND LIGHTING CONDUIT
NTS



NOTE:
SEE ELECTRICAL SITE PLAN DETAIL DWG E-002.

LIGHT POLE BASE
NTS

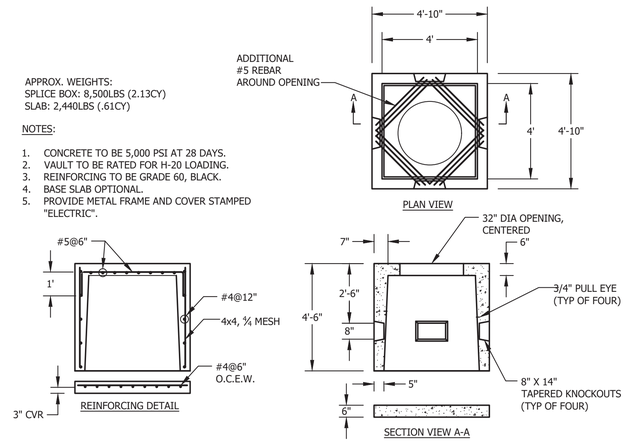


NOTES:
1. ALL JOINTS IN EXISTING PAVEMENT SHALL BE SAWCUT AND TACK-COATED PRIOR TO REPAIR.
2. ALL WORK IN MAIN STREET SHALL MATCH EXISTING PAVEMENT SECTION CONSTRUCTION, INCLUDING MATERIAL TYPES AND THICKNESS. ALL MATERIALS SHALL BE PLACED AND COMPACTED TO CITY SPECIFICATIONS.

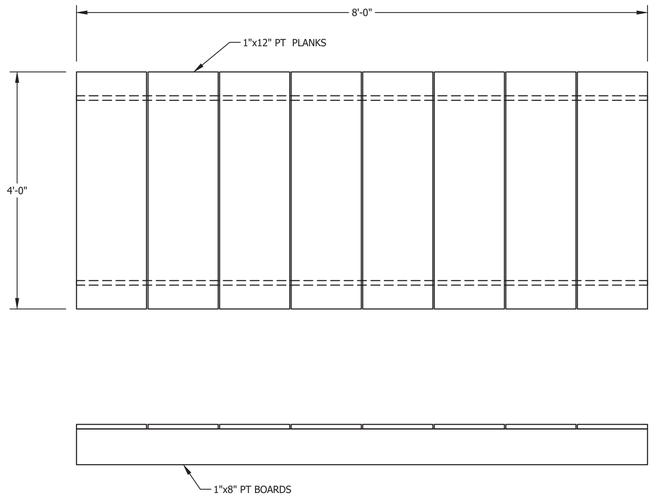
TYPICAL PIPE TRENCH
NTS

APPROX. WEIGHTS:
SPLICE BOX: 8,500LBS (2.13CY)
SLAB: 2,440LBS (.61CY)

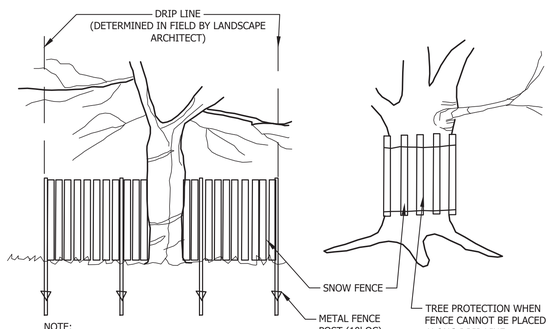
NOTES:
1. CONCRETE TO BE 5,000 PSI AT 28 DAYS.
2. VAULT TO BE RATED FOR H-20 LOADING.
3. REINFORCING TO BE GRADE 60, BLACK.
4. BASE SLAB OPTIONAL.
5. PROVIDE METAL FRAME AND COVER STAMPED "ELECTRIC".



ELECTRICAL SPLICE BOX
NTS

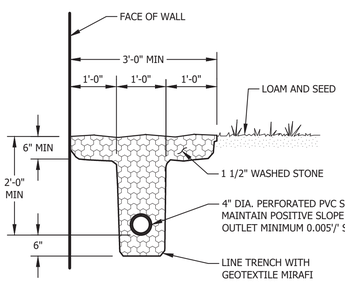


BOARDWALK
NTS



NOTE:
PLACE ON TREES IN DANGER OF DAMAGE FROM CONSTRUCTION EQUIPMENT.

TREE PROTECTION FENCE
NTS



CRUSHED STONE DRIP STRIP
NTS

REV.	BY	DATE	STATUS
	JTR	7/2022	REVISED PER TOWN REVIEW COMMENTS
	JTR	6/2022	ISSUED FOR TOWN REVIEW

STATE OF MAINE — DANIEL P. DUFFIN — 11841 — LICENSED PROFESSIONAL ENGINEER — 7/14/22

SYNERGOSITY, LLC
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SECTIONS AND DETAILS

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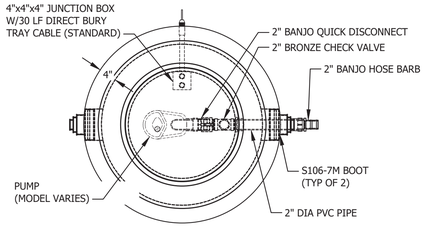
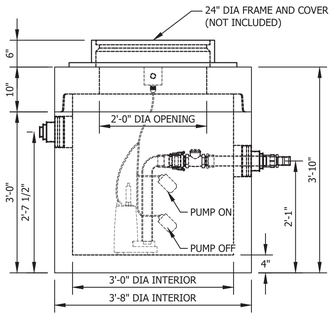
DESIGN BY:	BB
DRAWN BY:	SJM
DATE:	7/2022
CHECKED BY:	DPD
LMN:	NONE
CTB:	SME-STD

JOB NO. 21519 DWG FILE DETAILS

C-302



PLAN VIEW



ELEVATION VIEW

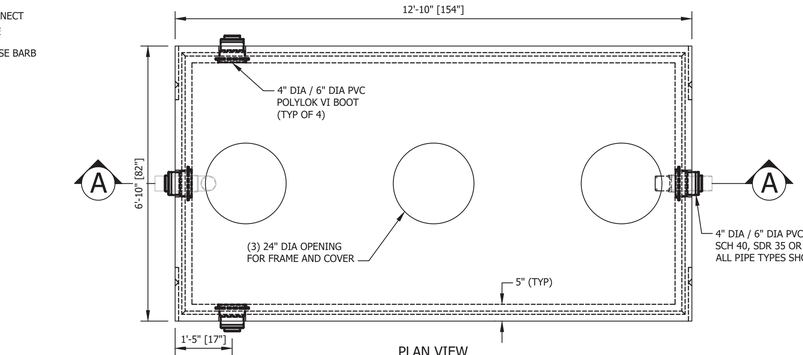
MANUFACTURING NOTES:

1. CONCRETE COMPRESSIVE STRENGTH: 4000PSI @ 28 DAYS
2. AIR ENTRAINMENT: 4-6%
3. GRADE 60 REINFORCEMENT
4. DESIGNED FOR H20 LOAD RATING
5. REQUIRES GRADE RINGS TO GRADE & H20 FRAMES & COVERS
6. ALL TANK PENETRATIONS ARE INTEGRALLY CAST
7. ALL JOINTS SEALED W/ BUTYL RUBBER JOINT SEALANT

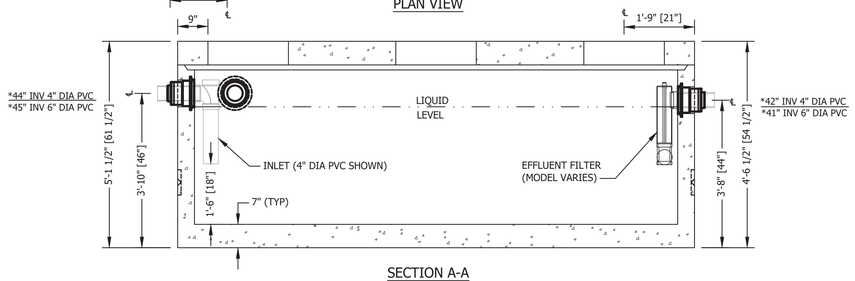
PHYSICAL SPECIFICATIONS:
COVER WEIGHT: 645 lbs
BASE WEIGHT: 1,980 lbs
TOTAL WEIGHT: 2,650 lbs
CAPACITY: 52.95 Gal/VF

PUMP TANK

NTS



PLAN VIEW



SECTION A-A

*DIMENSION IS TAKEN FROM BOTTOM OF TANK

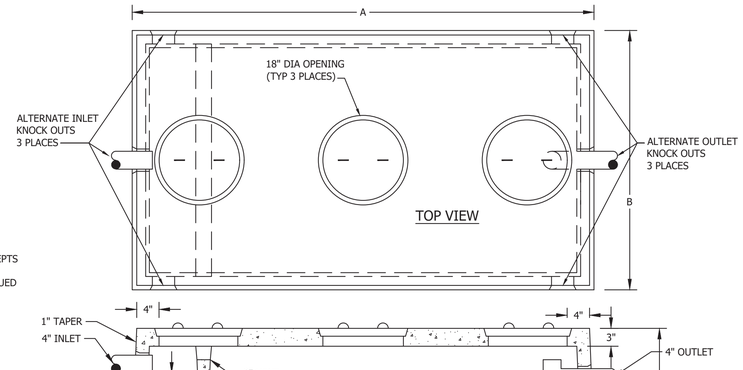
MANUFACTURING NOTES:

1. CONCRETE COMPRESSIVE STRENGTH: 4000PSI @ 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.
6. DESIGNED FOR H20 LOAD RATING.
7. REQUIRES GRADE RINGS TO GRADE AND H20 FRAMES AND COVERS.
8. ALL TANK PENETRATIONS ARE INTEGRALLY CAST.
9. ALL JOINTS SEALED WITH BUTYL RUBBER JOINT SEALANT.

PHYSICAL SPECIFICATIONS:
COVER WEIGHT: 6,995 lbs
BASE WEIGHT: 16,755 lbs
TOTAL WEIGHT: 23,750 lbs
AVAILABLE CAPACITY: 2,067 GAL (MAX)
WORKING CAPACITY : 1,572 GAL (4" DIA PVC)
1,527 GAL (6" DIA PVC)

1,500 GALLON SEPTIC TANK

NTS



SECTION

LIQUID CAPACITY	A	B	C	D	WEIGHT	ITEM #	HEAVY DUTY ITEM #
1000 REG	8'-6"	4'-10"	55 1/2"	64"	8100 LBS	A-902	A-902HD
1000 LB	10'-6"	6'-4"	37 1/2"	48"	10,500 LBS	A-903	A-903HD

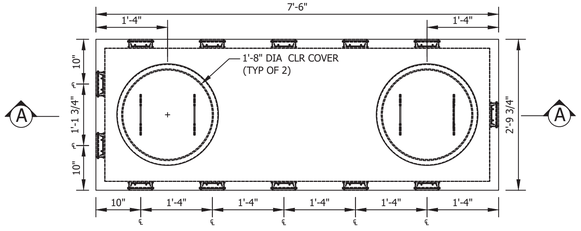
NOTE:
COORDINATE SIZING WITH PLUMBING/MECHANICAL PLANS.

DESIGN NOTES:

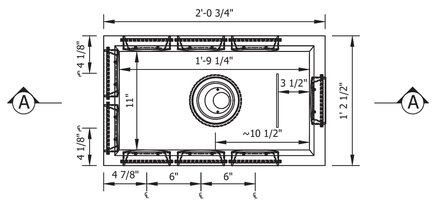
1. CONCRETE 4000 PSI AT 28 DAYS.
2. INLET BAFFLE IS PRECAST AS ONE UNIT WITH THE TOP SECTION OF THE SEPTIC TANK.
3. TANKS REINFORCED WITH 6X6X10 G.A. WIRE.
4. KEYED JOINTS SEALED WITH ASPHALT SEALANT.
5. HEAVY DUTY SEPTIC TANK TOPS REINFORCED WITH 1/2" REBAR ON 6" CENTERS EACH WAY.
6. GREASE FILTER AVAILABLE.

GREASE TRAP

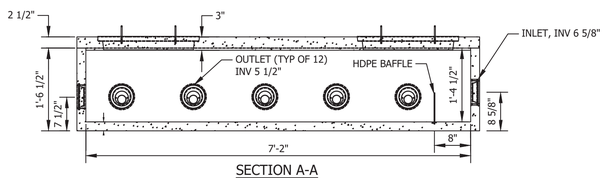
NTS



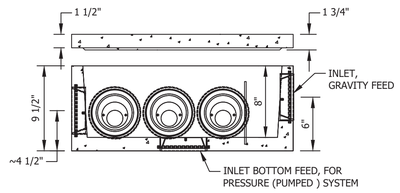
PLAN VIEW



PLAN VIEW
(WITHOUT COVER)



SECTION A-A



SECTION A-A

MANUFACTURING NOTES:

1. CONCRETE COMPRESSIVE STRENGTH: 4000PSI @ 28 DAYS.
2. AIR ENTRAINMENT: 4-6%.
3. GRADE 60 REINFORCEMENT AND STRUCTURAL FIBER REINFORCED.
4. NEVER USE SEPTIC CLEANING AGENTS.
5. DESIGNED FOR PEDESTRIAN LOAD RATING ONLY.
6. ALL PIPE SEAL PENETRATIONS ARE INTEGRALLY CAST.
7. FLOW EQUALIZERS RECOMMENDED FOR EQUAL BED LOADING.

PHYSICAL SPECIFICATIONS:

COVER WEIGHT: 770 lbs
BASE WEIGHT: 1,165 lbs
TOTAL WEIGHT: 1,936 lbs

12-OUTLET DISTRIBUTION BOX

NTS

MANUFACTURING NOTES:

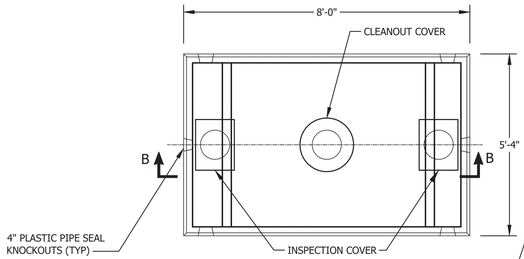
1. CONCRETE COMPRESSIVE STRENGTH: 4000PSI @ 28 DAYS.
2. AIR ENTRAINMENT: 4-6%.
3. GRADE 60 REINFORCEMENT AND STRUCTURAL FIBER REINFORCED.
4. NEVER USE SEPTIC CLEANING AGENTS.
5. DESIGNED FOR PEDESTRIAN LOAD RATING ONLY.
6. ALL PIPE SEAL PENETRATIONS ARE INTEGRALLY CAST.
7. FLOW EQUALIZERS RECOMMENDED FOR EQUAL BED LOADING.

PHYSICAL SPECIFICATIONS:

COVER WEIGHT: 53 lbs
BASE WEIGHT: 95 lbs
TOTAL WEIGHT: 148 lbs

8-OUTLET DISTRIBUTION BOX

NTS



SECTION A-A

SECTION B-B

PRECAST CONCRETE SEPTIC TANK

NTS

NOTES:

1. SEPTIC TANK: AMERICAN CONCRETE INDUSTRIES, SEPTIC TANK, 1,000 GALLON REGULAR SEPTIC TANK
2. KEYED JOINTS IN TANK TO BE SEALED WITH BUTYL RUBBER.
3. EXCAVATION MUST BE AT LEAST 12" WIDER, LONGER AND DEEPER THAN TANK SIZE.
4. TANK AND COVERS MUST BE RATED FOR H-20 LOADING.

REV.	BY	DATE	STATUS
	JTR	7/2022	REVISED PER TOWN REVIEW COMMENTS
	JTR	6/2022	ISSUED FOR TOWN REVIEW

STATE OF MAINE
DANIEL P. DUPIN
11841
LICENSED PROFESSIONAL ENGINEER
2022

SYNERGOSITY, LLC
THE GRANGE HALL PUB AT
LONGWOODS PRESERVE
CUMBERLAND, MAINE

SECTIONS AND DETAILS

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DESIGN BY:	BB
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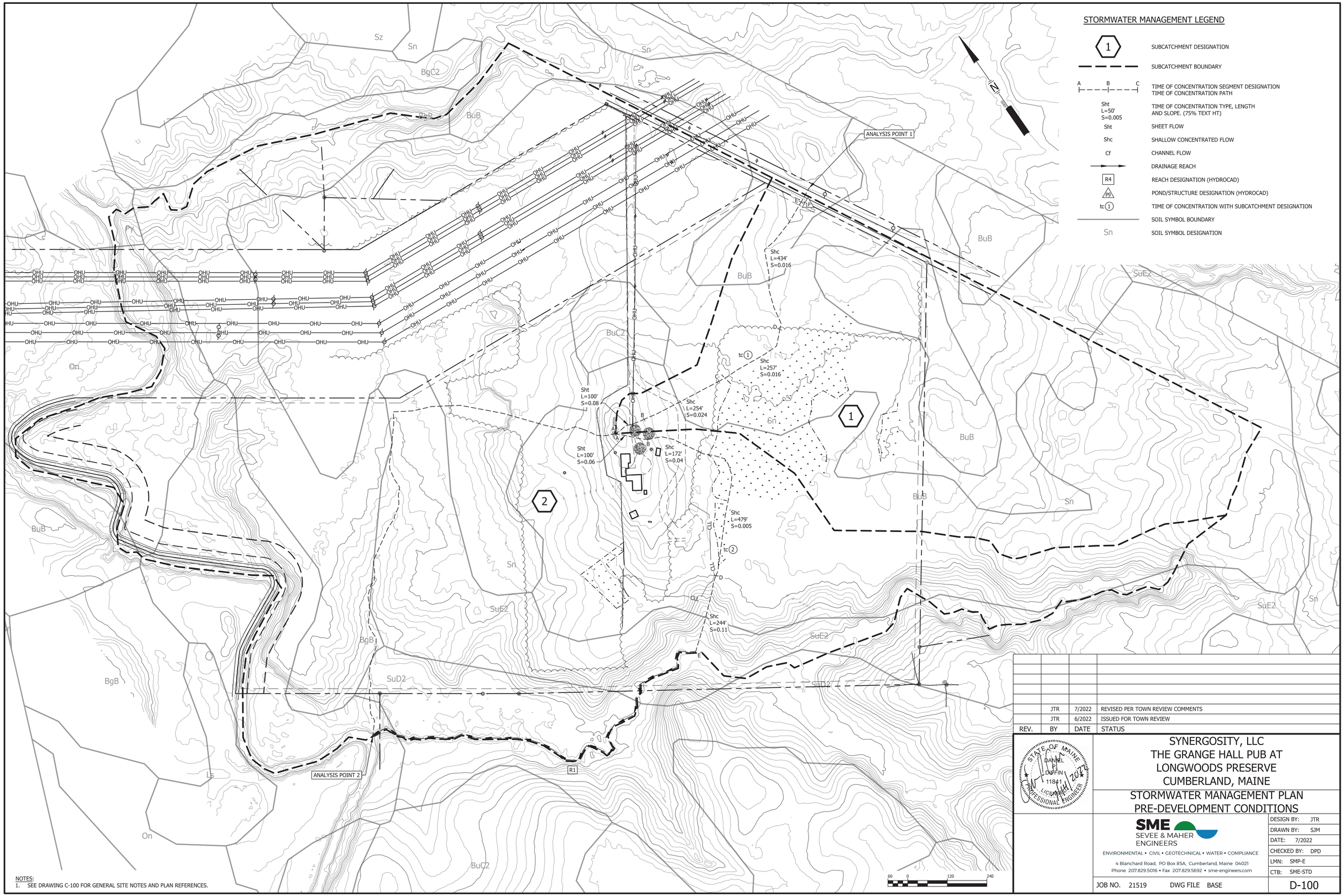
DATE:	7/2022
CHECKED BY:	DPD
LMN:	NONE
CTB:	SME-STD
JOB NO.	21519
DWG FILE	DETAILS

C-303



STORMWATER MANAGEMENT LEGEND

1	SUBCATCHMENT DESIGNATION
	SUBCATCHMENT BOUNDARY
A B C	TIME OF CONCENTRATION SEGMENT DESIGNATION TIME OF CONCENTRATION PATH
Sht L=50' S=0.005	TIME OF CONCENTRATION TYPE, LENGTH AND SLOPE. (75% TEXT HT)
Sht	SHEET FLOW
Shc	SHALLOW CONCENTRATED FLOW
Cf	CHANNEL FLOW
	DRAINAGE REACH
R4	REACH DESIGNATION (HYDROCAD)
P9	POND/STRUCTURE DESIGNATION (HYDROCAD)
tc 1	TIME OF CONCENTRATION WITH SUBCATCHMENT DESIGNATION
	SOIL SYMBOL BOUNDARY
Sn	SOIL SYMBOL DESIGNATION

NOTES:
1. SEE DRAWING C-100 FOR GENERAL SITE NOTES AND PLAN REFERENCES.

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STATE OF MAINE — DANIEL P. DUFFIN — 11841 — LICENSED PROFESSIONAL ENGINEER — 7/27/22

SYNERGOSITY, LLC
THE GRANGE HALL PUB AT LONGWOODS PRESERVE
CUMBERLAND, MAINE
STORMWATER MANAGEMENT PLAN
PRE-DEVELOPMENT CONDITIONS

SME
SEVEE & MAHER ENGINEERS
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DESIGN BY:	JTR
DRAWN BY:	SJM
DATE:	7/2022
CHECKED BY:	DPD
LMN:	SMP-E
CTB:	SME-STD

JOB NO. 21519 DWG FILE BASE

D-100

STORMWATER MANAGEMENT LEGEND

2	SUBCATCHMENT DESIGNATION
	SUBCATCHMENT BOUNDARY
A B C	TIME OF CONCENTRATION SEGMENT DESIGNATION TIME OF CONCENTRATION PATH
Sht L=100' S=0.035	TIME OF CONCENTRATION TYPE, LENGTH AND SLOPE
Sht	SHEET FLOW
Shc	SHALLOW CONCENTRATED FLOW
Cf	CHANNEL FLOW
	DRAINAGE REACH
R4	REACH DESIGNATION (HYDROCAD)
P9	POND/STRUCTURE DESIGNATION (HYDROCAD)
tc 2	TIME OF CONCENTRATION WITH SUBCATCHMENT DESIGNATION
	SOIL SYMBOL BOUNDARY
Sn	SOIL SYMBOL DESIGNATION

ANALYSIS POINT 1

ANALYSIS POINT 2

SC-1

SC-2

R1

Sz Sn BgC2 BuB Py On SuE2 BuC SuD2 BgB Ls

Sht L=100' S=0.02
Shc L=147' S=0.014
Shc L=249' S=0.016
Shc L=434' S=0.016
Shc L=14' S=0.01
Shc L=64' S=0.015
Shc L=36' S=0.015
Sht L=100' S=0.06
Shc L=82' S=0.075
Shc L=42' S=0.01
Shc L=449' S=0.05.
Shc L=243' S=0.11

NOTES:
1. SEE DRAWING C-100 FOR GENERAL SITE NOTES AND PLAN REFERENCES.
2. THE CONCEPTUAL TRAIL SYSTEM WILL BE LOCATED IN THE FIELD BY THE CHEBEAGUE AND CUMBERLAND LAND TRUST IN COORDINATION WITH SYNERGOSITY TRAILS WILL BE FOOT PATHS.

60 0 120 240

REV.	BY	DATE	STATUS
	JTR	7/2022	REVISED PER TOWN REVIEW COMMENTS
	JTR	6/2022	ISSUED FOR TOWN REVIEW

STATE OF MAINE DANIEL P. DUPIN 11841 LICENSED PROFESSIONAL ENGINEER 11/4/2022

SYNERGOSITY, LLC
THE GRANGE HALL PUB AT LONGWOODS PRESERVE
CUMBERLAND, MAINE

STORMWATER MANAGEMENT PLAN
POST DEVELOPMENT CONDITIONS

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

DESIGN BY:	JTR
DRAWN BY:	SJM
DATE:	7/2022
CHECKED BY:	DPD
LMN:	SMP-P
CTB:	SME-STD
JOB NO. 21519	DWG FILE BASE

D-101

GORRILL PALMER

707 Sable Oaks Drive, Suite 30
South Portland, Maine 04106
207.772.2515

MEMORANDUM

To: **Town of Cumberland**

From: **Alton Palmer, Principal**

Date: **July 19, 2022**

Project: **Grange Hall Pub**

Subject: **Peer Review**

As requested by the Town, Gorrill Palmer has conducted an Engineering Peer Review for the above referenced project. Information received for this assignment included:

- Site Plan Applications and attachments, dated June 28, 2022, prepared by SME on behalf of the Synergosity, LLC, consisting of 224 pages
- Site Plan Drawing Set, dated June 2022, prepared by SME consisting of 15 drawings
- Entrance Permit issued by MaineDOT on June 29, 2022
- Response to Comments, dated July 14, 2022, prepared by SME, consisting of 153 pages.
- Revised Site Plan Drawing Set, dated July 2022, prepared by SME, consisting of 14 drawings.

Based on our review of this information, general engineering principles and the Town of Cumberland Zoning Ordinance, we offer the following comments related to the engineering and design aspects of this project:

Subdivision Application

1. As stated in the Application, the following waivers were requested:
    a. High Intensity Soil Survey
    b. Hydro-geologic study
    c. Market study
    d. Landscape Plan

    We have no objections to the granting of the waiver of the High Intensity Soil Survey from an engineering perspective based on the scale and nature of the project.

    We do not recommend granting the waiver for the hydro-geologic study at this time as the Applicant is also requesting a waiver from the Department of Health & Human Services of the separation of the on-site well to the on-site subsurface wastewater disposal system, and in particular, the potential need for approval of an Engineered Wastewater Disposal System.

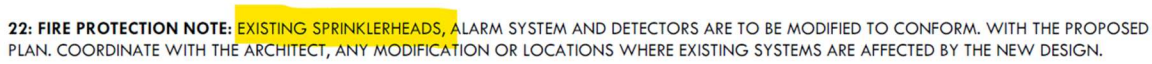
    We would defer to the Planning Board as to the Market Study.

    Regarding the Landscape Plan, the Applicant states: *"The proposed development will be hidden from Longwoods Road by the natural crest of the topography, while maintaining the existing forest on all other sides of the project parcel."* While we agree that the project will not be visible from Longwoods Road, Section 229-10 Approval Standards, Paragraph I.2. states: *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. We would defer to the Board as to whether the Applicant has demonstrated conformance with Section 229-10.I.2.

2. The Board should determine whether a Traffic Impact Study is required.
3. The Applicant should provide evidence of final approval from the Department of Health and Human Services of the Transient Public Water Supply for the restaurant.
4. As noted in the snippet below, Drawing A001 indicates an occupancy classification of Residential A-2, which should be clarified.

5. As noted in the snippet below, Drawing A001 references existing sprinklers, which should be clarified.



6. As a 120 seat restaurant the facility will generate in excess of 2,000 gpd of wastewater, which would typically be considered an engineered system requiring approval from the Department of Health & Human Services. While the facility has 1 kitchen and 1 bathroom, the Applicant has simply shown two sewer services exiting the building with an assumption that the flow will be equally distributed between the two services thereby not resulting in greater than 2,000 gpd being directed to either subsurface system. It is noted that one service is directly off the kitchen, and the second service is at the far corner of the structure of the building from the kitchen. There is no information provided as to how the internal plumbing will distribute the flow to the two proposed subsurface systems. Based on our experience on similar projects, the facility should be designed as an engineered system, which would require a mounding and transmissivity analysis and a reserve area. If the Applicant elects to continue to pursue "splitting" the flow to two beds, we recommend that confirmation be sought from DHHS that this is acceptable.

Site Plans

7. Site Utility Plan – As currently designed, the wastewater from the bathroom with the Grange Hall (considered black water due to toilets) and the seasonal bathroom are being directed to the grease trap which is not in accordance with general engineering practice.

SME
SEVEE & MAHER
ENGINEERS

4 Blanchard Road, P.O. Box 85A
Cumberland, ME 04021
Tel: 207.829.5016 • Fax: 207.829.5692
info@smemaine.com
smemaine.com

July 19, 2022

Carla Nixon, Town Planner
Cumberland Town Hall
290 Tuttle Road
Cumberland, Maine 04021

Subject: The Grange Hall Pub at Longwoods Preserve
Town of Cumberland Site Plan Review Application
Response to Peer Review Comments dated July 19, 2022.

Dear Ms. Nixon,

Sevee & Maher Engineers, Inc. (SME) has prepared the following responses to peer review comments by Gorrill-Palmer for The Grange Hall Pub at Longwoods Preserve project received via email on July 19, 2022. The comment headings correspond to the peer review sections included in the memo. The application materials have been revised in response to review comments as indicated below:

ENGINEER PEER REVIEW COMMENTS

Subdivision Application

1. **As stated in the Application, the following waivers were requested:**
   a. **Market study**
   b. **Landscape Plan**
   c. **Market study**
   d. **Landscape Plan**

   We have no objections to the granting of the waiver of the High Intensity Soil Survey from an engineering perspective based on the scale and nature of the project.

   SME Response: No response required.

   We do not recommend granting the waiver for the hydro-geologic study at this time as the Applicant is also requesting a waiver from the Department of Health & Human Services of the separation of the on-site well to the on-site subsurface wastewater disposal system, and in particular, the potential need for approval of an Engineered Wastewater Disposal System.

   SME Response: A variance request to reduce the separation requirement between the on-site well and proposed septic systems was reviewed and awarded preliminary approval by the Maine Department of Health & Human Services (DHHS). A copy of the preliminary approval letter is attached for reference.

With regard to the waiver request from the requirement for a hydrogeologic study, the proposed septic system locations are more than 300 feet from the closest property line, which will allow for bio-chemical removal of nutrients from the groundwater. A statement from Mark Cenci, L.G. was provided with the site plan application to support this waiver request. An additional copy is attached to this letter for reference.

We would defer to the Planning Board as to the Market Study.

SME Response: This item was discussed with the Planning Board at the Preapplication Conference. The Board indicated they would generally support this waiver request.

Regarding the Landscape Plan, the Applicant states: *"The proposed development will be hidden from Longwoods Road by the natural crest of the topography, while maintaining the existing forest on all other sides of the project parcel."* While we agree that the project will not be visible from Longwoods Road, Section 229-10 Approval Standards, Paragraph I.2. states: *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.* The Applicant does not appear to have provided any information that demonstrates conformance with Section 229-10.I.2.

SME Response: This item was also discussed with the Planning Board at the Preapplication Conference. Based on the size of the parcel, the location of the proposed development, and the visibility from the public way, the Board indicated they would generally support this waiver request. The site will be buffered on all sides by hundreds of feet of conservation land managed by the Chebeague and Cumberland Land Trust (CCLT). As a farm and existing hay field, the character and particular identity of this site will be best preserved by minimizing additional plantings at the site entrance and along street edges.

The natural landscape of the parcel will be maintained with minimal disturbance. The property development includes a viewshed buffer along Route 9 within the conservation area. Drawing C-103 outlines the buffer between the existing structure ("Farmstead Area") and the proposed development to help soften the appearance and minimize the visual impact of the new development.

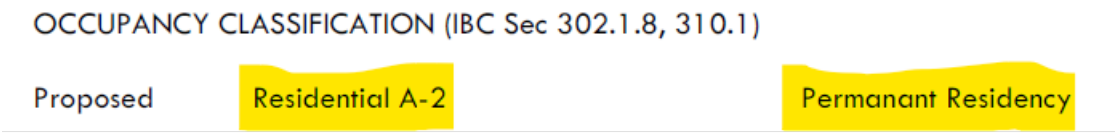
2. **The Board should determine whether a Traffic Impact Study is required.**

   SME Response: The project has received a MEDOT Driveway Entrance Permit. Peak hour trips from the proposed development will not conflict with peak hour commuter traffic on Longwoods Road, and vehicle trips generated by this development will not require a MEDOT Traffic Permit. We have attached a copy of the permit for reference.

3. **The Applicant should provide evidence of final approval from the Department of Health and Human Services of the Transient Public Water Supply for the restaurant.**

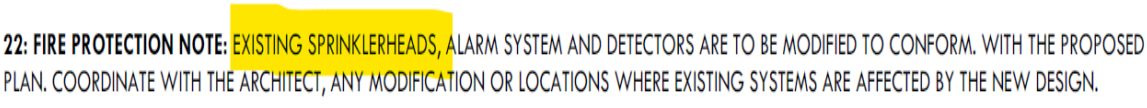
SME Response: A copy of the preliminary approval letter from the DHHS is attached for reference. As outlined in the letter, final approval from the Drinking Water Program will be required prior to the well's use.

4. **As noted in the snippet below, Drawing A001 indicates an occupancy classification of Residential A-2, which should be clarified.**



SME Response: This has been forwarded to the Architect for clarification and will be addressed as part of the building permit for the project.

5. **As noted in the snippet below, Drawing A001 references existing sprinklers, which should be clarified.**



SME Response: This has been forwarded to the Architect for clarification and will be addressed as part of the building permit for the project.

6. **As a 120-seat restaurant the facility will generate in excess of 2,000 gpd of wastewater, which would typically be considered an engineered system requiring approval from the Department of Health & Human Services. While the facility has 1 kitchen and 1 bathroom, the Applicant has simply shown two sewer services exiting the building with an assumption that the flow will be equally distributed between the two services thereby not resulting in greater than 2,000 gpd being directed to either subsurface system. It is noted that one service is directly off the kitchen, and the second service is at the far corner of the structure of the building from the kitchen. There is no information provided as to how the internal plumbing will distribute the flow to the two proposed subsurface systems. Based on our experience on similar projects, the facility should be designed as an engineered system, which would require a mounding and transmissivity analysis and a reserve area. If the Applicant elects to continue to pursue "splitting" the flow to two beds, we recommend that confirmation be sought from DHHS that this is acceptable.**

SME Response: This has been forwarded to the Architect and septic designer for clarification and will be addressed prior to application for a building permit for the project. Details for internal plumbing will be finalized through building design to separate flows. The plumbing systems will be separated for the kitchen drains, which will be routed through a grease trap. The typical blackwater systems from the bathrooms will be routed to a second system.

Site Plans

1. **Site Utility Plan – As currently designed, the wastewater from the bathroom with the Grange Hall (considered black water due to toilets) and the seasonal bathroom are being directed to the grease trap which is not in accordance with general engineering practice.**

   SME Response: As outlined in our comment response to Item 13, wastewater from the bathrooms will be separated from the kitchen waste and routed to a second septic system. This has been forwarded to the septic designer for clarification and will be addressed prior to application for a building permit for the project.

If you have any questions or comments, please do not hesitate to contact me. We look forward to reviewing the comments with the Planning Board at the meeting on July 19, 2022.

Sincerely,

SEVEE & MAHER ENGINEERS, INC.

Jeffrey T. Read, P.E.
Senior Civil Engineer

Attachments

Attachment 1 – DHHS Preliminary Approval
Attachment 2 – MEDOT Permit

ATTACHMENT 1

DHHS PRELIMINARY APPROVAL

SME
SEVEE & MAHER
ENGINEERS

Janet T. Mills
Governor

Jeanne M. Lambrew, Ph.D.
Commissioner

Maine Department of Health and Human Services
Maine Center for Disease Control and Prevention
11 State House Station
286 Water Street
Augusta, Maine 04333-0011
Tel; (207) 287-8016; Fax (207) 287-9058
TTY: Dial 711 (Maine Relay)

February 28, 2022

Alexander Timson
173 Spurwink Road
Scarborough, ME 04074

Re: Preliminary approval for new water supply well to serve -Longwoods Preserve

Dear Mr. Timson,

I have reviewed the preliminary approval for a transient well application regarding the proposed well for Longwoods Preserve. Our site visit to survey the potential location for a well was successful. While surveying the location, we indicated that the existing leach field is 175 feet away from potential well site. With an existing leach field 175 feet away from potential well site we are requiring that the well be constructed with 90 feet of casing in which 10 feet is in bedrock.

Preliminary approval for this site is granted

After the well is drilled, you must receive final approval from the Drinking Water Program prior to putting well online. The final approval application is part of the New Well Approval Packet and must be completed and returned. The final approval application recommends a pump test concluding when the safe yield of the well can be determined with confidence as well as satisfactory results for the water tests described on the list of testing requirements in the New Well Approval Packet. Once you have chosen a State of Maine certified lab please notify us.

Please call me at 207-441-6458 if you have any questions or concerns.

Sincerely,

Jeremiah "Jed" Haws

Jeremiah Haws
PWS Inspector
Maine Drinking Water Program
Maine Center for Disease Control and Prevention
Department of Health and Human Services
286 Water St; 3rd Floor
11 SHS
Augusta, Me 04333-0011
Phone: 207-441-6458
Fax: 207-287-4172

ATTACHMENT 2

MEDOT PERMIT

SME
SEVEE & MAHER
ENGINEERS

Maine Department of Transportation

Janet T. Mills
Governor

Driveway/Entrance Permit

Bruce A. Van Note
Commissioner

Permit Number: 31044 - **Entrance ID:** 1

OWNER

Name: **Alexander Timpson**
Address: **173 Spurwink Road**
Scarborough, ME 04074
Telephone: **(207)415-7273**

Date Printed: **June 29, 2022**

LOCATION

Route: **0009X, Longwoods Road**
Municipality: **Cumberland**
County: **Cumberland**
Tax Map: **R03** Lot Number: **6A and 13**
Culvert Size: **15 inches**
Culvert Type: **plastic**
Culvert Length: **40 feet**
Date of Permit: **June 29, 2022**
Approved Entrance Width: **20 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 **Restaurant, farmers market, gathering hall, and access to public trail.** at a point **3667** feet **North** from **Townline Falmouth/Cumberland,** 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: 43.769321N, -70.249277W.

S - This entrance permit is for a 120 seat Fine Dining Restaurant (LUC 931) and a 55 acre Public Park (LUC 411).

S - In the town of Cumberland on the easterly side of Route 9, the centerline being approximately 3667 feet northeasterly of the Falmouth/Cumberland Townline and approximately 30 feet northeasterly of utility pole 37.

Approved by: Van Fall Date: 6-29-2022

STANDARD CONDITIONS AND APPROVAL

1. Provide, erect and maintain all necessary barricades, lights, warning signs and other devices as directed by MaineDOT to properly safeguard traffic while the construction is in progress.

2. At no time cause the highway to be closed to traffic

3. Where the driveway is located within a curb, curb and gutter, and/or sidewalk section, completely remove the existing curb, curb and gutter, and/or sidewalk as may be required to create the driveway and restore drainage. All driveways abutting sidewalk sections shall meet the requirements set forth in the Americans with Disabilities Act of 1990, 42 U.S.C. Sec. 12131 et seq.

4. Obtain, have delivered to the site, and install any culverts and/or drainage structures which may be necessary for drainage, the size, type and length as called for in the permit pursuant to 23 M.R.S.A. Sec. 705. All culverts and/or drainage structures shall be new.

5. Start construction of the proposed driveway within twenty-four (24) months of the date of permit issuance and substantially complete construction of the proposed driveway within twelve months of commencement of construction.

6. Comply with all applicable federal, state and municipal regulations and ordinances.

7. Do not alter, without the express written consent of the MaineDOT, any culverts or drainage swales within the MaineDOT right of way.

8. File a copy of the approved driveway permit with the affected municipality or LURC, as appropriate within 5 business days of receiving the MaineDOT approval.

9. Construct and maintain the driveway side slopes to be no steeper than the adjacent roadway side slopes, but in no case to be steeper than 3 horizontal to 1 vertical, unless the side slope is behind existing roadway guardrail, in which case it shall be no steeper than 2 horizontal to 1 vertical.

10. Notify the MaineDOT of a proposed change of use served by the driveway when increase in traffic flow is expected to occur. This does not exempt the need for obtaining a Traffic Movement Permit (TMP) if trip generation meets or exceeds 100 passenger car equivalents (PCE) during the peak hour of the day.

11. Construct or implement and maintain erosion and sedimentation measures sufficient to protect MaineDOT facilities.

12. Driveways shall be designed such that all maneuvering and parking of any vehicles will take place outside the highway right-of-way and where vehicles will exit the premises without backing onto the highway traveled way or shoulders. All driveways will have a turnaround area to accomodate vehicles using the premises.

13. Closing any portion of a highway or roadway including lanes, shoulders, sidewalks, bike lanes, or ATV access routes is not permitted without MaineDOT approval.

FURTHER CONDITION OF THE PERMIT

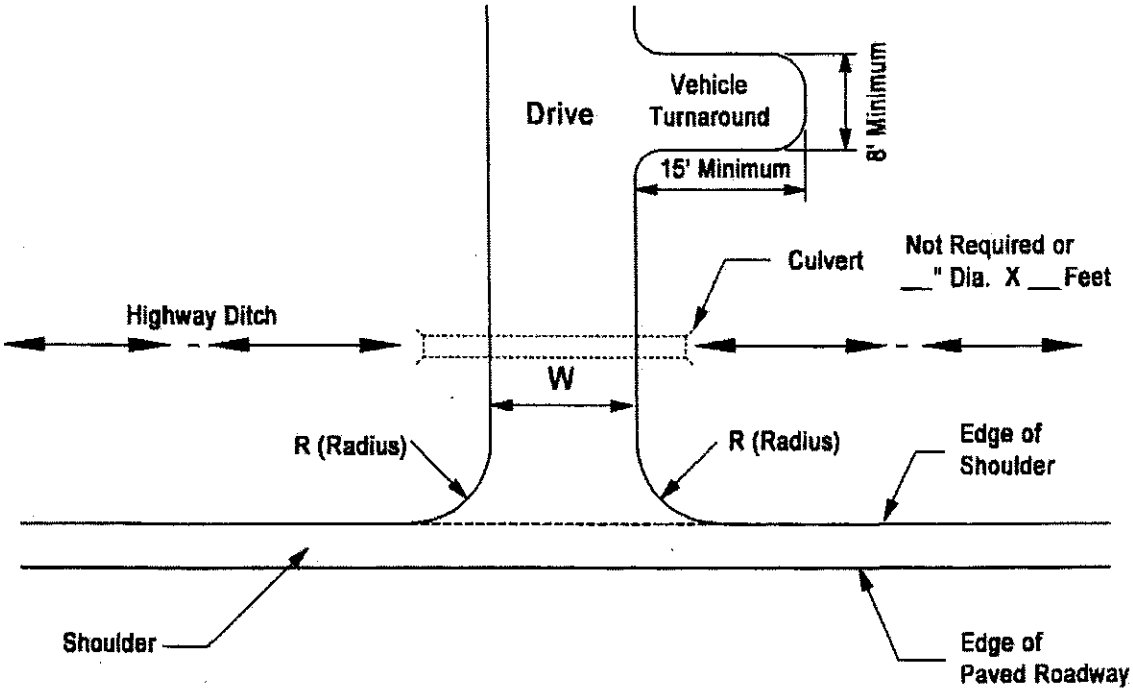
The owner shall assume, the defense of, and pay all damages, fines, and penalties for which he/she shall become liable, and shall indemnify and safe harmless said Department, its representatives, agents and employees from liability, actions against all suits, claims, damages for wrongful death, personal injuries or property damage suffered by any person or association which results from the willful or negligent action or inaction of the owner/applicant (agent) and in proceedings of every kind arising out of the construction and maintenance of said entrance(s), including snow removal.

Nothing herein shall, nor is intended to, waive any defense, immunity or limitation of liability which may be available to the MaineDOT, their officers, agents or employees under the Maine Tort Claims Act or any other privileges and/or immunities provided by law. It is a further condition that the owner will agree to keep the right of way inviolate for public highway purposes and no signs (other than traffic signs and signals), posters, billboards, roadside stands, culvert end walls or private installations shall be permitted within Right of Way limits.

State of Maine
Department of Transportation

Entrance / Driveway Details

PLAN

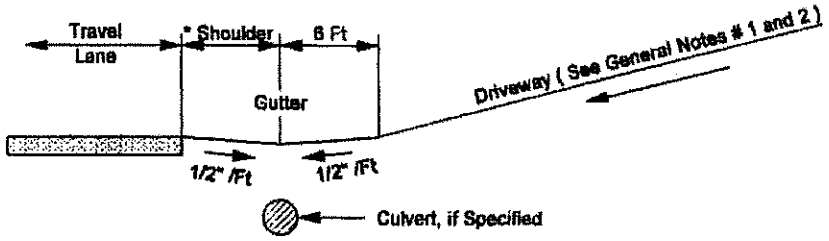


GENERAL NOTES -

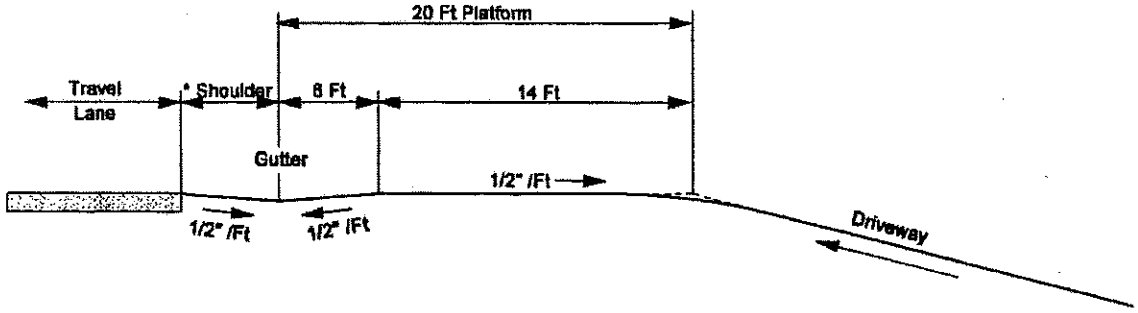
1. ALL RESIDENTAL OR COMMERCIAL DRIVES WITH 10% GRADE OR MORE SLOPING DOWN TOWARDS THE HIGHWAY SHALL BE PAVED TO THE RIGHT OF WAY LINE, AS A MINIMUM, INCUDING SHOULDER, IF GRAVEL AND HAVE DITCHES TO CONTROL RUNOFF.
2. DRIVES SLOPING TO THE HIGHWAY SHALL BE CROWNED (1/2" PER FT. MINIMUM).
3. TO THE MAXIMUM EXTENT PRACTICAL, THE ENTRANCE MUST BE CONSTRUCTED PERPENDICULAR TO THE HIGHWAY AT THE POINT OF ACCESS. EXCEPT WHERE CURBING EXISTS OR IS PROPOSED, THE MINIMUM RADIUS ON THE EDGES OF THE ENTRANCE MUST BE 10 FEET OR AS OTHERWISE REQUIRED AS SHOWN.
4. ENTRANCES/DRIVEWAYS WILL BE BUILT WITH AN ADEQUATE TURN-AROUND AREA ON SITE TO ALLOW ALL VEHICLES TO MANUVER AND PARK WITHOUT BACKING ONTO THE HIGHWAY. THIS TURN-AROUND SHALL BE AT LEAST 8 FEET WIDE BY 15 FEET LONG.
5. ENTRANCES/DRIVEWAYS AND OTHER ASSOCIATED SITE WORK WHICH DIRECTS WATER (RUNOFF) TOWARD THE HIGHWAY MUST BE CONSTRUCTED, CROWNED STABILIZED AND MAINTAINED WITH MATERIALS AND APPROPRIATE TEMPORARY/PERMANENT EROSION CONTROL MATERIALS IN ACCORDANCE WITH MDOT BEST MANAGEMENT PRACTICES.
6. THE PROFILE OF THE ENTRANCES MUST COMPLY WITH THE DETAILS SHOWN ON PAGE 2.

MDOT Entrance / Driveway Details, Continued

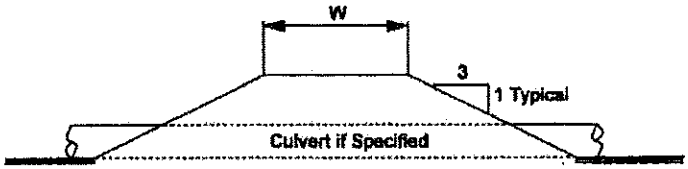
PROFILE
Details



NOTE :
Grade of Existing Shoulder Should Be Maintained To Create A Gutter With a Minimum Of Three Inches Below The Edge Of Traveled Way.
* Distance Of The Gutter From The Edge Of Traveled Way Should Be The Same As Existing Shoulder Or A Minimum Of 4 Feet.



Driveway Cross Section



SME
SEVEE & MAHER
ENGINEERS

4 Blanchard Road, P.O. Box 85A
Cumberland, ME 04021
Tel: 207.829.5016 • Fax: 207.829.5692
info@smemaine.com
smemaine.com

June 28, 2022

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

Subject: The Grange Hall Pub at Longwoods Preserve
Planning Board Site Plan Review Application

Dear Ms. Nixon:

On behalf of the Synergosity, LLC, Sevee & Maher Engineers, Inc. (SME) is pleased to submit the attached Planning Board Site Plan Review Application for the proposed Grange Hall Pub on Longwoods Road in Cumberland.

We have enclosed two copies of the application package, drawings and application fee of $2,125.00.

We look forward to reviewing the project in more detail with the Planning Board on July 19, 2022 and appreciate your consideration of our application. Please feel free to contact me at 207.829.5016 or dpd@smemaine.com if you have any questions or need additional information.

Very truly yours,

SEVEE & MAHER ENGINEERS, INC.

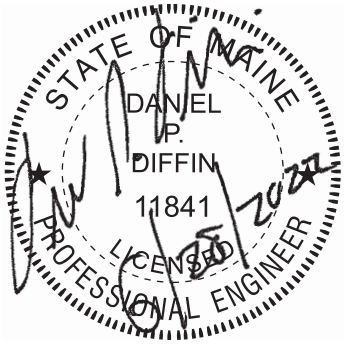
Jeffrey Read, P.E.
Project Manager

Attachments

TOWN OF CUMBERLAND PLANNING BOARD
SITE PLAN REVIEW APPLICATION
THE GRANGE HALL PUB AT LONGWOODS PRESERVE

Prepared for

SYNERGOSITY, LLC
76 Longwoods Road
Cumberland, Maine



June 2022

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

SME
SEVEE & MAHER
ENGINEERS

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF FIGURES (END OF REPORT)

SITE PLAN REVIEW
Town of Cumberland

Appendix C
Planning Board Site Plan Review Application

Applicant's name Synergosity LLC

Applicant's address 76 Longwoods Road, Cumberland, ME 04021

Cell phone 207-415-7273 Home phone N/A Office phone N/A

Email Address alex.timpson@ampf.com

Project address 76 Longwoods Road

Project name The Grange Hall Pub at Longwoods Preserve

Describe project Farm to table restaurant and brew pub

Number of employees 8 to 10

Days and hours of operation Normal anticipated 11:30 am to 9:00 pm (Events 11am to 12pm)

Project review and notice fee $2,125

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

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

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 N/A

If you are not the owner, list owner's name, address and phone number N/A

Boundary Survey
Submitted? Yes X No _____

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

Building Information
Are there existing buildings on the site? Yes X No _____ Number: 2
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: Grange hall pub seasonal building and storage

Number of new buildings 2

Square footage 3,419 s.f., 357 s.f.

Number of floor levels including basement 1

Parking
Number of existing parking spaces 0
Number of new parking spaces 59
Number of handicapped spaces 2
Will parking area be paved? ____Yes _X_No

Entrance
Location: US Route 9
Width 20' Length 1300 lf
Is it paved?_____Yes__X__No__X__If not, do you plan to pave it?

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

Utilities

Water: Public water_____Well__X____(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__X__No _____
Show location of existing and proposed utilities on the site plan and indicate if they are above or below ground.

Signs
Number:__2_____
Size:__TBD_____
Material: TBD
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_____Stream__X__Wetland __X__ Pond _____ Lake _____ Stone walls _____
Are there any other historic or natural features? __(Please See Attached)_____

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

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

Landscaping
Is there existing landscaping on the site? Yes __X__ No_____Show type and location on site plan.

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

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

Erosion Control
Has an erosion and sedimentation control plan been submitted? Yes 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.

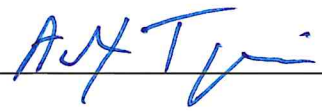
Fire Protection
Location of nearest hydrant N/A Sprinklers? _____ No X
Do you plan to have an alarm system? Yes X No _____ Please contact the Fire/EMS Department at 829-4573 to discuss any Town or state requirements.

Trash
Will trash be stored inside _____ outside X. If outside, will a dumpster be used? Yes X No _____. Show location on site plan and show type of screening proposed (e.g., fencing, plantings).

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

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

- Zoning district: Contract Zone (RR1)
- Minimum lot size: 2 acres
- Classification of proposed use: Contract Zone
- Parcel size: 61.55 acres
- Frontage: None
- Setbacks: Front 15 Side 15 Rear 15
- Board of Appeals Required? N/A
- Tax Map R03 Lot 13 + 6A Deed book 39147 Deed page 20
- Floodplain map number 230162 0015 B Designation Zone C
- Vernal pool identified? No
- Is parcel in a subdivision? No
- Outside agency permits required:
  MDEP Tier 1 N/A MDEP Tier 2 N/A Army Corps of Engineers N/A
  MDEP general construction (stormwater) permit (for disturbance of 1 acre or more)
- MDOT entrance permit See Attached
- MDOT traffic movement permit Not Required
- Traffic study required Waiver Requested
- Hydrogeologic evaluation Waiver Requested
- Market study Waiver Requested
- Route 1 Design Guidelines? N/A
- Route 100, VMU or TCD Design Standards? N/A

Applicant's signature 

Submission date: June 28, 2022

PLANNING BOARD SITE PLAN REVIEW
SUBMISSION CHECKLIST

FOR ALL PROJECTS:

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

Location, dimension of ground floor elevation of all existing buildings	Drawing C-101	
Location, dimension of existing driveways, parking, loading, walkways	Drawing C-101	
Location of intersecting roads & driveways within 200 feet of the site	Drawing C-101	
Wetland areas	Drawing C-101	
Natural and historic features such as water bodies, stands of trees, streams, graveyards, stonewalls, floodplains	Drawing C-101	
Direction of existing surface water drainage across the site & off site	Drawing D-100	
Location, front view, dimensions and lighting of existing signs	Drawing C-101	
Location and dimensions of existing easements & copies of documents	Drawing C-101	
Location of nearest fire hydrant or water supply for fire protection	Drawing C-101	
Proposed Development Site Plan showing:		
Name of development	Drawing C-102	
Date	Drawing C-102	
North arrow	Drawing C-102	
Scale	Drawing C-102	
Legend	Drawing C-102	
Landscape plan		
Stormwater management	Drawing D-100 and 101	
Wetland delineation	Drawing C-101	
Current & proposed stands of trees	Drawing C-103	
Erosion control plan	Drawing C-105	
Landscape plan		
Lighting/photometric plan	Appendix L	
Location and dimensions of all proposed buildings	Drawing C-103	
Location and size of utilities, including sewer, water, culverts and drains	Drawing C-104	
Location and dimension of proposed on-site septic system; test pit locations and nitrate plumes	Drawing C-104 & Appendix G	
Location of wells on subject property and within 200’ of the site	Drawing C-104	
Location, names and widths of existing and proposed streets and ROW’s	Drawing C-103	

Location and dimensions of all accessways and loading and unloading facilities	Drawing C-103	
Location and dimension of all existing and proposed pedestrian ways	Drawing C-103	
Location, dimension and # of spaces of proposed parking areas, including handicapped spaces	Drawing C-103	
Total floor area and ground coverage of each proposed building and structure	Drawing C-103	
Proposed sign location and sign lighting	N/A	
Proposed lighting location and details	Drawing C-104	
Covenants and deed restrictions proposed	Drawing C-101	
Snow storage location	Drawing C-103	
Solid waste storage location and fencing/buffering	Drawing C-103	
Location of all fire protection	N/A	
Location of all temporary & permanent monuments	Drawing C-101	
Street plans and profiles	N/A	

ADDITIONAL REQUIREMENTS FOR MAJOR SITE PLAN PROJECTS:

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

TOWN OF CUMBERLAND
PLANNING BOARD SITE PLAN REVIEW APPLICATION
THE GRANGE HALL PUB AT LONGWOODS PRESERVE
CUMBERLAND, MAINE

1.0 PROJECT DESCRIPTION

The Grange Hall Pub (Grange) at Longwoods Preserve (Longwoods) project is located on a 61.56-acre parcel identified as Lots 6A and 13 on Town of Cumberland Tax Map R3. The parcels are mapped in the Town of Cumberland's Rural Residential 1 Zone (RR1). The parcels were previously reviewed by the Town Council and Planning Board and approved for a Contract Zone to allow for the proposed use of the Grange Hall Pub, conservation land, and agricultural land. The property is bordered by Longwoods Road (ME-9) and a Central Maine Power (CMP) utility corridor to the north, agricultural property in the Town of Falmouth to the south, developed residential properties to the east, and the East Branch of the Piscataqua River and undeveloped forested land to the west. The location of the project is shown in Figure 1, Site Location Map.

The Grange at Longwoods will provide a gathering place for the community while maintaining the existing farm buildings and agricultural character on the parcel. The project will preserve approximately 55 acres of land for a working farm and public trail network. Proposed development will include a new 3,419 square-foot building used as a farm-to-table restaurant, brew pub serving a selection of local craft beer and wine, and a gathering space to host community events such as farmers markets, educational experiences, and fundraisers to support local businesses and agriculture. Proposed site improvements also include parking, access drive improvements, utility upgrades, and new well and septic system construction.

1.1 Stormwater

The development will feature grassed ditching, culverts, conservation land, and natural vegetation to control peak flows from the developed property. The entirety of the project will disturb less than 5 percent of the overall natural landscape of the parcel, producing negligible impacts to stormwater flows and abutting properties.

Construction of the project is expected to result in approximately 154,413 square feet (3.55 acres) of developed area and approximately 42,288 square feet of new impervious surface. Based on review of the Maine Department of Environmental Protection (MEDEP) requirements, this project will require a MEDEP Stormwater Permit-by-Rule (PBR) permit prior to the start of construction. The stormwater PBR permit will be submitted, and a copy provided to the Town prior to the planning Board meeting.

1.2 Traffic

The proposed development will not cause unreasonable highway or public road congestion or unsafe conditions with respect to the use of the highways or public roads. We anticipate 312 daily vehicle trips per day will be generated for 120 seats in a fine dining restaurant, as established by the Trip Generation Manual published by the Institute of Transportation Engineers, 11th Edition. The proposed development will result in less than 53 PM peak hour trips at full build out. A Maine Department of Transportation (MEDOT) Traffic Movement Permit is not required for this project.

1.3 Parking

The project will provide 43 parking spaces for a total of 120 seats, with 60 seats inside and 60 seats outside for the Grange Hall Pub. As the proposed use is a community gathering hall, farmers market, and restaurant, we assumed the parking calculation of a "Eating and Drinking Establishment". A proposed grassed overflow parking area will be available in the event of additional parking requirements during events. Additionally, 16 parking spots have been designated along the access drive for the trail system.

1.4 Utilities

Currently the site utilizes an onsite well for the single-family house and barn. A second well will be drilled to accommodate the additional flow requirements for the new 3,419 square foot building. The proposed restaurant/facility will be serviced by two new onsite subsurface wastewater disposal systems, each with a design flow under 2,000 gallons per day. The existing subsurface system on site will remain to handle existing flows from the single-family structure and barn.

1.5 Roadway Design

The access road on the property will be 20 feet wide with a right of way width of 50 feet built to Town Residential Access Road (</= 50 Vehicles per Day) standards to allow for safe vehicular traffic. The traveled way will be graded to convey stormwater runoff off the surface and to provide safe pedestrian access to the trails and structure.

1.6 Site Entrance

The proposed project will expand the existing gravel driveway to a 20-foot-wide access drive and upgrade the driveway entrance off ME-9. The improved driveway entrance will include a paved apron with 25-foot radii to protect the edge of the existing travel way. Sight distance from the entrance will exceed 500 feet looking both north and south on Route 9. This project will require a Driveway Entrance Permit from the Maine Department of Transportation (MEDOT) at the entrance/exit on Route 9. SME discussed the project with Van Terrell of the MEDOT, and the Entrance Permit is the only requirement of the MEDOT. The

MEDOT Driveway Entrance Permit has been submitted, and a copy of the permit will be provided to the Town once received.

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

2.0 CHAPTER 229 – SITE PLAN REVIEW

2.1 §229-4 Waivers and modifications

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

- A waiver from performing a high intensity soil survey for the project. A medium density soil survey from a Custom Soil Resource Report by the U.S. Natural Resources Conservation Service (NRCS) and a series of test pits on the property were used to evaluate suitability for construction on the property. A copy of the NRCS report is included in Stormwater Report located in Appendix E. Test pit logs are included in Appendix G.
- A waiver from performing a hydrogeological evaluation for the project. The subsurface systems are on the interior of the parcel downgradient of the water supply wells. A statement from our site evaluator is provided in Appendix G.
- A waiver from performing a market study. The proposed use of the site is consistent with existing developments along Route 9. Based on the proposed use and function of this property, a market study does not apply to this project.
- A waiver to provide a traditional landscape plan for the project. The proposed development will be hidden from Longwoods Road by the natural crest of the topography, while maintaining the existing forest on all other sides of the project parcel.

2.2 §229-8 Financial and Technical Capacity

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

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

2.3 229-10 Approval Standards and Criteria

A. Utilization of the Site

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

The Maine Natural Areas Program (MNAP) identified no rare, threatened, or endangered plant species within the project area. The Maine Department of Inland Fisheries and Wildlife (MDIFW) Service has not

mapped designated essential or significant wildlife habitats in the project area. Tree clearing is necessary for this project and will not affect Maine's endangered species of bats. Request letters and responses from the MNAP and MDIFW are included in Appendix D for reference.

The stream and associated wetlands on the property are being protected as much as possible through avoidance of impacts within 75-feet of any streams and providing appropriate setbacks.

B. Traffic, Circulation and Parking

The project site will be accessed from ME-9 with a 20-foot-wide access drive sized to accommodate the Town of Cumberland Fire Department's 46-foot-long ladder truck. The entrance location will provide much greater than 500-feet of sight distance to the north and south as Route 9 is straight with minimal change in grade at this location. The proposed development will not cause unreasonable highway or public road congestion or unsafe conditions with respect to the use of the highways or public roads, existing or proposed. The anticipated number of daily vehicle trips generated will be 2.60 per seat (for a fine dining restaurant), as established by the Trip Generation Manual, published by the Institute of Transportation Engineers. At full build out, the total anticipated weekday trips from the development will be 433 trips. The peak hour trips were analyzed as well, and it is estimated that the development will result in 65 trips in the weekday a.m. peak hour and 75 trips in the weekday p.m. peak hour. This is below the 100 peak hour trips that would trigger further review by the MEDOT.

The project will provide 43 parking spaces for the 120-seat restaurant and 16 parking spaces for the trail use. The ordinance requires 1 parking space per 3 seats for an eating and drinking establishment which totals up to 40 parking spaces. The proposed parking area and drive aisles were designed to meet the requirements for ninety-degree off-street parking outlined in this Ordinance. The Site Layout Plan, Drawing C-103, outlines design and construction dimensions for the proposed parking area. The 59 parking spaces includes 8 parking spaces at each trail entrance, and the remaining 43 will serve the restaurant, including 2 ADA accessible parking spaces.

Site circulation has been designed to provide two-way access within the parking areas as well as a one-way in and one-way out of the development. The circulation has also been designed to accommodate access by the Town of Cumberland 46-foot ladder truck. The truck will be able to access three sides of the building and maneuver around the parking.

C. Stormwater Management and Erosion Control

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

All grading, filling, and associated site construction will be conducted in accordance with the Maine Erosion and Sediment Control Best Management Practices (BMPs), latest edition dated October 2016. This will be the minimum standard for erosion and sedimentation control for the project, as adopted by the

Town of Cumberland from the MEDEP standards. Erosion and sedimentation control notes and details are included on Drawing C-105, Drawing C-300, and Drawing C-301.

D. Water, Sewer, and Fire Protection

Currently the site utilizes an onsite well for the single-family house and barn. A second well has been installed to accommodate the additional flow requirements for the new 3,419 square foot pub and restaurant. A copy of the well and water information is provided in Appendix F.

The proposed restaurant/facility will be serviced by two new onsite subsurface wastewater disposal systems, each with a design flow under 2,000 gallons per day (GPD). The existing subsurface wastewater disposal system on site will remain to treat existing flows from the farmhouse and barn. A copy of the HHE-200 forms for the new systems are provided in Appendix G.

The proposed building is less than 4,000 square feet and does not require sprinkler system for fire protection, per the Town of Cumberland's municipal ordinance. A sprinkler system is not proposed for the new structure.

Existing utilities are shown on the Existing Conditions and Clearing Plan, Drawing C-101. Proposed water and sewer utilities are shown on the Site Utilities Plan, Drawing C-104.

E. Water Protection

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

F. Floodplain Management

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

G. Historic and Archaeological resources.

A site review has been requested from the Maine Historic Preservation Commission (MHPC). A copy of the request for review and the written response from the MHPC is provided in Appendix I. There are no known National Register eligible properties or areas considered sensitive for archaeological resources.

H. Exterior Lighting

Exterior lighting proposed for the site will provide adequate lighting to provide lighting for customers as they enter the building. The sight lights will be full cut-off LED lights that are located around the outside of the building and parking lot. A Site Photometric Plan showing the light distribution at the property is provided as Appendix L.

I. Buffering and Landscaping

The development will preserve the natural forest and landscaping while enhancing the identity of the site by setting the building away from the roadway and utilizing a conservation trail system for the public to enjoy. Buffering of the site from adjacent properties will be accomplished through preservation of existing vegetation on three sides of the parcel and the addition of proposed plantings buffers between the existing and proposed structures.

J. Noise

The noise levels of the proposed development are expected to be under 65 dB between 7:00 am and 10:00 pm and under 55 dB between 10:01 pm and 6:59 am at the property boundaries. Construction of the project will generally occur between the hours of 7:00 am and 7:00 pm on Mondays through Fridays unless otherwise approved by the Town.

K. Storage of Materials

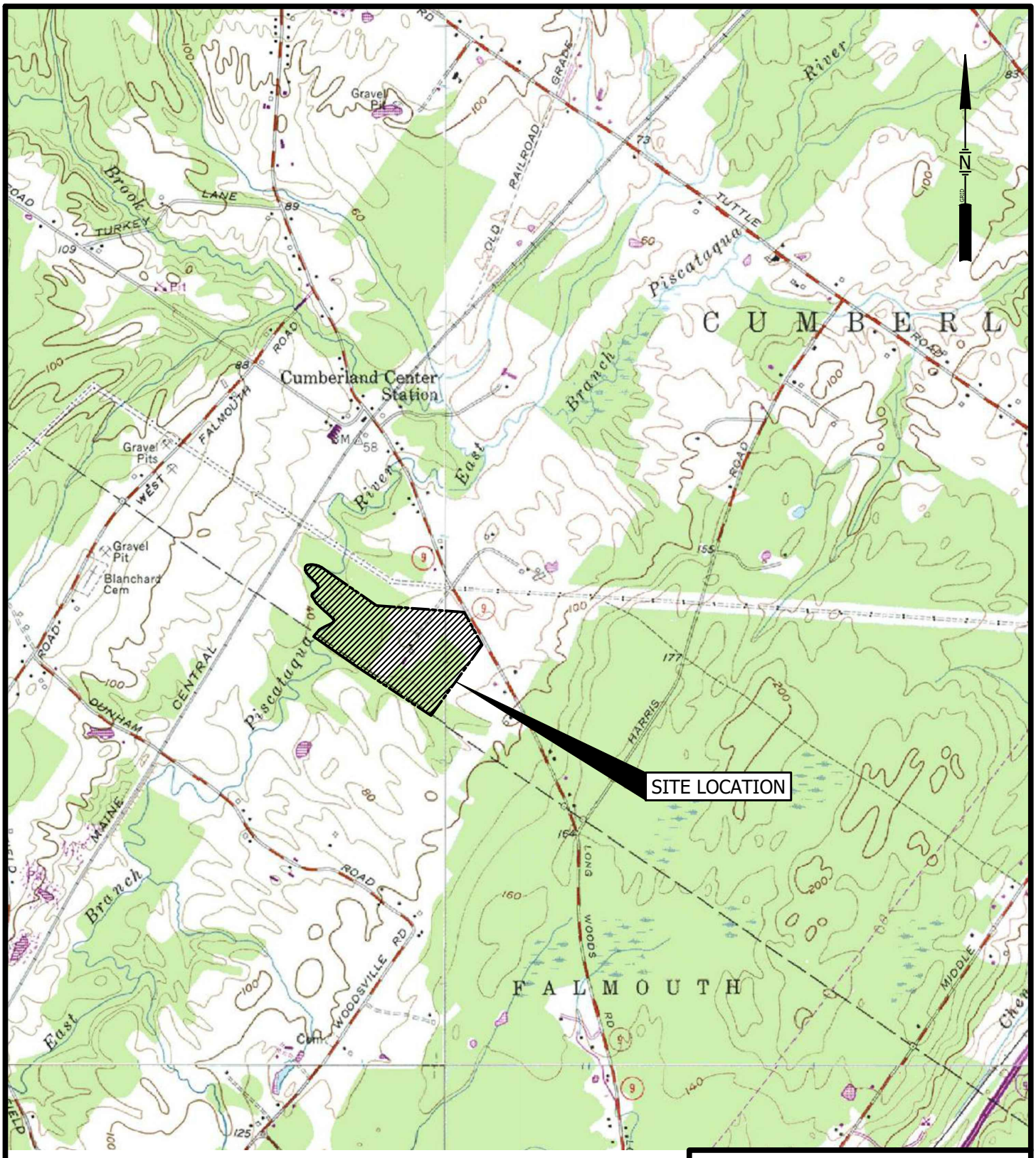
There will be no storage of hazardous materials on site. A dumpster pad is proposed on site and will be enclosed with a gated fence. The location of the dumpster receptacle is outlined on the Site Layout Plan, C-103.

L. Capacity of the Applicant

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

M. Design and Performance Standards

The proposed development will adhere to all standards set for within the contract zone agreement outlined in Appendix M.



BASEMAP ADAPTED FROM 7.5 MIN USGS TOPO QUADS
CUMBERLAND CENTER, ME - 1975
YARMOUTH, ME - 1975

1000 0 2000 FEET

DWG: SITELOC LMN: NONE CTB: SME-STD REV: 4/12/2022

FIGURE 1
SITE LOCATION MAP
ALEX TIMPSON
LONGWOODS PRESERVE
CUMBERLAND, MAINE

SME
SEVEE & MAHER
ENGINEERS

\\Nserver\cfs\Alex Timpson\76 Longwoods Rd\Acad\Figures\SITELOC.dwg, A_FIG 1, 4/12/2022 10:54:12 AM, sjm

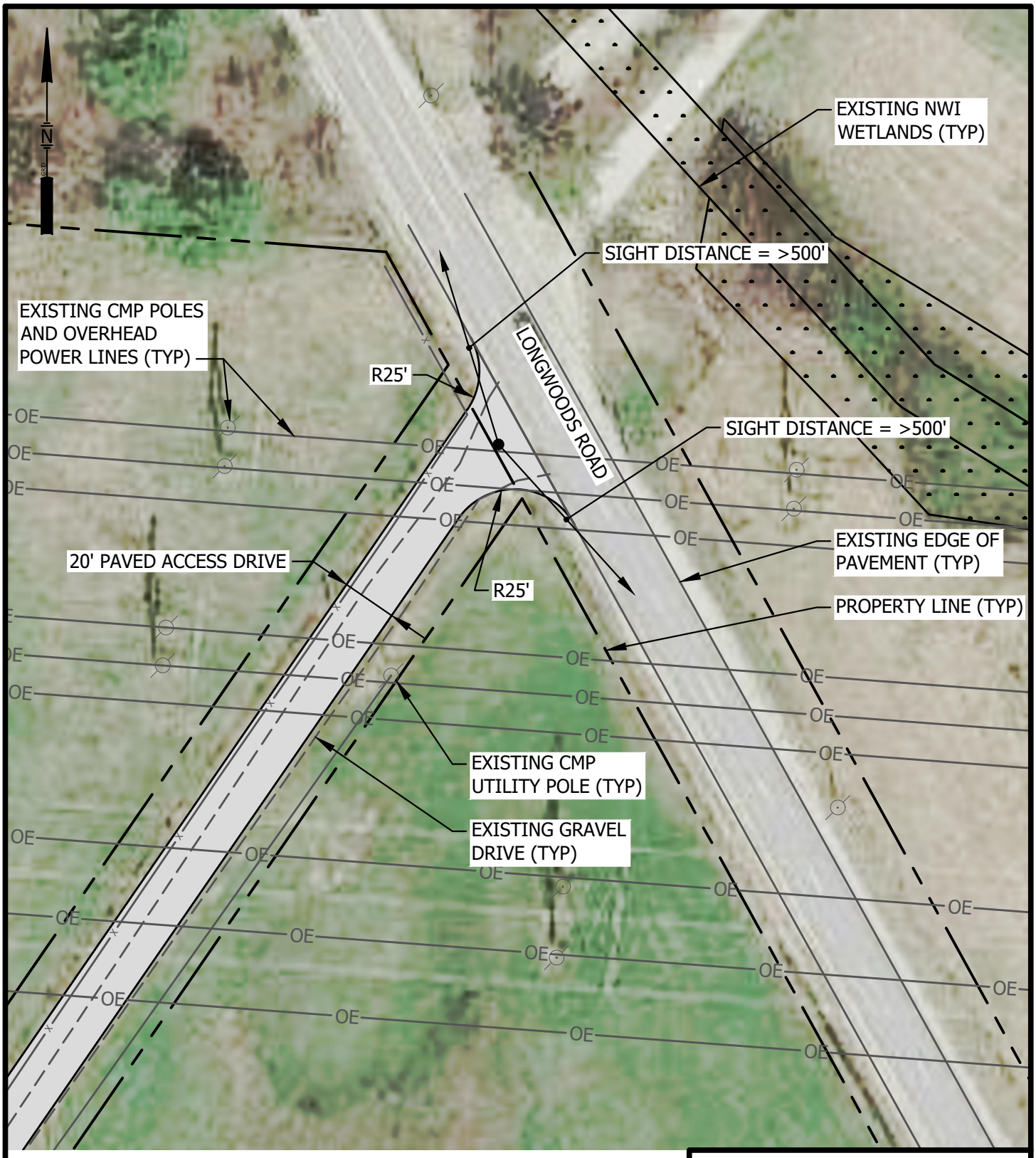


FIGURE 2
MDOT ENTRANCE PLAN
ALEX TIMPSON
LONGWOODS PRESERVE
CUMBERLAND, MAINE

25 0 50 FEET

DWG: BASE LMN: MDOT CTB: SME-STD REV: 4/13/2022

SME
SEVEE & MAHER ENGINEERS

APPENDIX A

TITLE, RIGHT, OR INTEREST, EASEMENTS

SME
SEVEE & MAHER
ENGINEERS

** *Corrective* **

WARRANTY DEED

{Maine Statutory Short Form}

KNOW ALL PERSONS BY THESE PRESENTS, THAT **DANIEL F. VILLACCI** and **MARIANNA VILLACCI,** both with a mailing address of 297 Middle Road, Falmouth, ME 04105 for consideration paid, GRANT to **SYNERGOSITY, LLC**, a Maine limited liability company with a principal place of business in Scarborough, Maine with WARRANTY COVENANTS, the land in the Town of Cumberland, County of Cumberland, and State of Maine, described as follows:

See Attached Exhibit A.

WITNESS, my hand and seal this 19 day of ~~October 2021.~~ January 2022

SIGNED, SEALED AND DELIVERED in the presence of

_____

_____

Daniel Villacci
DANIEL F. VILLACCI

Marianna Villacci
MARIANNA VILLACCI

State of Maine
County of Cumberland

~~October ___, 2021~~
January 19, 2022

Then personally appeared the above-named **DANIEL F. VILLACCI** and **MARIANNA VILLACCI** and acknowledged the foregoing instrument to be their free act and deed.

ABBEY LOMBARD
Notary Public-Maine
My Commission Expires
February 22, 2025

Before me,

Abbey L

Notary Public
Printed Name: Abbey Lombard
My commission expires:
2/22/2025

SEAL

1/18/2022, 8:01 PM

Exhibit A

76 Longwoods Road, Cumberland

Historical Description

Parcel I (76 Longwoods Road):

A certain lot or parcel of land with the buildings thereon, situated on the westerly side of Longwoods Road, in the Town of Cumberland, County of Cumberland and State of Maine, bounded and described as follows:

Beginning at an iron pin on the westerly side of Longwoods Road at the northerly corner of land formerly of Owen Farwell; thence South 53° West by said Farwell land and land now or formerly of Bertelle Seekins, one thousand two hundred sixty (1,260) feet, more or less, to an iron pin on the Falmouth Town Line; thence North 38° West by the Falmouth Town Line, one thousand two hundred fifteen (1,215) feet, more or less, to an iron pin at the southerly corner of land now or formerly of Frank E. Oulton; thence North 53° East by said Oulton land, seven hundred eighty-seven (787) feet, more or less, to a pile of stones; thence North 37° 30' West by said Oulton land five hundred eighty-five (585) feet, more or less, to an iron pin at the southerly corner of land conveyed by Roger Bolduc to Wallace E. Leavitt, et al, by deed dated March 26, 1956 and recorded in the Cumberland County Registry of Deeds in Book 2281, Page 101; thence North 52° East by said Leavitt land, seven hundred thirty (730) feet, more or less, to an iron pin at the westerly corner of land conveyed by Christen Christensen to Hans Zenas Hansen by deed dated September 7, 1927 and recorded in said Registry of Deeds in Book 1277, Page 92; thence South 36° 30' East by said Hansen land, six hundred three (603) feet, more or less, to an iron pin; thence North 52° East by said Hansen land, one hundred forty-one (141) feet, more or less, to an iron pipe at the westerly corner of land conveyed by Robert Nelson to Henry L. Hanson by deed dated January 10, 1948 and recorded in said Registry of Deeds in Book 1907, Page 68; thence South 32° 30' East by said Hanson land, three hundred twelve (312) feet, more or less, to an iron pin; thence North 52° 30' East by said Hanson land, one hundred forty-seven (147) feet, more or less, to an iron pin on the westerly sideline of Longwoods Road; thence South 10° 45' East by Longwoods Road, one thousand one hundred fifteen (1,115) feet, more or less, to the point of beginning. Containing 54 acres, more or less.

Excepting, however, so much of said premise as was conveyed by Maurice P. Hansen to Central Maine Power Company by deed dated July 27, 1956 and recorded in said Registry of Deeds in Book 2310, Page 495, but this conveyance includes all the rights and privileges reserved in said deed.

This conveyance is made subject to the easement conveyed by Maurice P. Hansen and Marie C. Hansen to New England Telephone and Telegraph Company and Central Maine Power

Company by deed dated January 27, 1950 and recorded in said Registry of Deeds in Book 1989, Page 434.

Being a portion of the premises as described in a Warranty Deed from Daniel F. Villacci to Daniel F. Villacci and Marianna Villacci, dated May 13, 2002 and recorded at Book 17630, Page 16 in the Cumberland County Registry of Deeds.

Parcel II (0 Longwoods Road):

A certain lot or parcel of land, located in the Town of Cumberland, County of Cumberland and State of Maine, bounded and described as follows:

Beginning at a point which is the intersection of the East Branch of the Piscataqua River and the southerly line of a certain lot or parcel of land now of Central Maine Power Company, more particularly described in a deed from Frank E. Oulton and Annie G. Oulton to Central Maine Power Company, dated October 5, 1956 and recorded at the Cumberland County Registry of Deeds, Book 2281, Page 494; thence southeasterly along said southerly line of said Central Maine Power Company land to a point intersecting with the northwesterly line of a certain lot or parcel of land now or formerly of Daniel F. Villacci; thence westerly along said line to a point which is the northwest point of said lot or parcel of land now of Daniel F. Villacci; thence South 42° East by land formerly of Peter Merrill thirty-five (35) rods to said lot or parcel of land now of Daniel F. Villacci to a point; thence running South 48° West by land formerly of Joseph Sawyer forty-seven (47) rods and eight (8) links to the Falmouth and Cumberland line; thence North 41° West by said Falmouth and Cumberland line to the easterly bank of the East Branch of said Piscataqua River; thence running northeasterly and upstream along said easterly bank to the point of beginning; comprising 18 acres more or less;

Also, all rights which the Grantors may have in or with respect to a certain lot or parcel of land now of Central Maine Power Company and described in a deed from Frank E. Oulton and Annie G. Oulton to Central Maine Power Company, dated October 5, 1956 and recorded in said Registry of Deeds in Book 2281, Page 494.

Being a portion of the premises as described in a Warranty Deed from Daniel F. Villacci and Marianna Villacci to Daniel F. Villacci and Marianna Villacci, dated May 13, 2002 and recorded at Book 17630, Page 14 in the Cumberland County Registry of Deeds.

New Description

Also conveying all our right, title and interest in the below alternate description of the above-described parcels which is based upon an unrecorded plan entitled "Existing Conditions Survey for Alexander Timpson of 76 Longwoods Road, Cumberland, Maine" dated August 10, 2021, by David Bouffard, PLS:

A certain lot or parcel of land with any improvements thereon, located on the westerly

side of Longwoods Road, also known as State Route 9 in the Town of Cumberland, County of Cumberland, State of Maine and more particularly bounded and described as follows:

BEGINNING at a found iron rebar capped PLS 1183 on the westerly side of Longwoods Road at the northerly corner of land formerly of Philip Stanhope as described in Deed Book 2932, Page 385 recorded in the Cumberland County Registry of Deeds;

Thence **S 35°50'39" W, a distance of 1278.39'** along land formerly of Philip L. Stanhope and land now or formerly of Roberto Bertelle as described in Book 3640 Page 172 to a found iron pipe;

Thence **N 56°33'06" W, a distance of 1213.64'** along land now or formerly of Elwin Hansen as described in Book 3029, Page 502 to a found iron pipe;

Thence **N 55°12'38" W, a distance of 421.76'** along land of Hansen to a found iron pipe;

Thence **N 55°12'38" W, a distance of 437',** more or less, along land now or formerly of Daniel Vallacci as described as the Town of Falmouth Parcel of land in Book 6362, Page 132, to the center of the East Branch of the Piscataqua River;

Thence northerly along the center of the said river about **1,660 feet**, more or less to a point;

Thence **S 55°10'35" E,** about **185',** more or less along land now or formerly of Central Maine Power Company as described in Book 2281, Page 494 to a point (a tie bearing and distance from the last-mentioned iron pipe to this point is N 04°43'30" W, a distance of 1162.40').

Thence **S 55°10'35" E, a distance of 800.00'** to angle point of Central Maine Power Company land;

Thence **S 85°43'08" E, a distance of 1286.21'** along Central Maine Power Company land as described in Book 2310, Page 495 to Longwoods Road;

Thence **S 28°52'05" E, a distance of 546.85'** along Longwoods Road to the **POINT OF BEGINNING**.

Containing an area of **61.56 Acres**, more or less.

Also, another parcel of land opposite the before mentioned angle point on northerly side of the 450-foot-wide corridor of Central Maine Power Company land;

BEGINNING at a found copper rod with cap on the northerly side of Central Maine Power Company land as described in Book 2310 Page 495 at the westerly corner of land now or formerly of Todd Shallow as described in Deed Book 34990, Page 348 recorded in the Cumberland County Registry of Deeds;

Thence **N 85°43'08" W, a distance of 293.15'** along Central Maine Power Company land as described in Book 2310 Page 495 to an angle point;

Thence **N 55°10'35" W, a distance of 106.66'** along Central Maine Power Company land to a found iron pipe;

Thence **N 35°02'41" E, a distance of 158.06'** land as is depicted as Lot 1 of the plan recorded in the Cumberland County Registry of Deeds in Plan Book 198 Page 161 to a found iron pipe;

Thence **S 53°43'30" E, a distance of 358.63'** along land now or formerly of Robert Crawford as described in Book 26346 Page 25 and land of said Todd Shallow to the **POINT OF BEGINNING**.

Containing an area of **0.83 Acre**, more or less.

The basis of bearings for this description was the Maine State Grid Plane of 1983 located in the West Zone.

Together with any right of way that may exist as a result of long use over the Central Maine Power Company land described in Book 2310, Page 495.

Subject to utility easement as described in Book 1989, Page 434.

Meaning and intending to describe land in the Town of Cumberland, being a portion of the premises as described in a deed to Daniel F. and Marianna Villacci dated May 13, 2002 and recorded in said Registry in Book 6362 Page 132.

0 Winn Road, Falmouth

A certain lot or parcel of land located in the Town of Falmouth, in said Cumberland County and State of Maine, bounded and described as follows:

All land now of Grantor lying southerly of the Cumberland and Falmouth line, easterly of the easterly bank of the East Branch of said Piscataqua River, and westerly of the following described line: beginning at an iron pipe set in the ground at a point on said Cumberland and Falmouth line nineteen (19) rods, more or less, southeasterly from said

East Branch of the Piscataqua River, said iron pipe being at the Northerly corner of land now or formerly of Osborn Hanson; thence, southwesterly by said Hanson land eighty (80) rods, more or less, to the most easterly corner of land now or formerly of one Thompson; said land of Grantor being a portion of a certain lot or parcel of land described in a certain deed from Oscar M. Braley and Clara T. Braley to Frank E. Oulton, Frank E. Oulton, Jr. and Edward B. Oulton, dated November 2, 1954, and recorded in the Cumberland County Registry of Deeds at Book 2204, Page 63; comprising of 1.3 acres more or less.

For source of title, reference is made to a deed from Edward B. Oulton et. al to Daniel F. Villaci and Marianna Villaci dated December 29, 1983 and recorded at Book 6362, Page 132 in the Cumberland County Registry of Deeds, and a deed from to Daniel F. Villaci and Marianna Villaci to Daniel F. Villaci and Marianna dated May 13, 2002 and recorded at Book 17630, Page 14.

The purpose of this corrective deed is to include the Falmouth property which was inadvertently left out of the deed from the Grantors herein to the Grantee herein dated September 3, 2021 and recorded at Book 38626, Page 268 in the Cumberland County Registry of Deeds.

Received
Recorded Register of Deeds
Feb 03,2022 08:45:59A
Cumberland County
Jessica M. Spaulding

Witness William E. Schmiedrl
Witness Lillian D. Powell

Frederick Robie Seal

Witness William E. Schmiedrl
Witness Lillian D. Powell

Alice G. Robie

STATE OF ALABAMA

DALLAS COUNTY,SS. November 14, 1949.

Then personally appeared the above named Frederick Robie and Alice G. Robie and personally acknowledged the foregoing instrument to be their free act and deed.

Before me, Lillian D. Powell

Notary Public, in and for the State of Alabama, at Large. Notarial Seal My commission expires March 9, 1950

Received March 14, 1950, at 10h -m A. M., and recorded according to the original

---

Hansen & to New Eng. T. & T. Co.& Deed

KNOW ALL MEN BY THESE PRESENTS That We, Maurice P. and Marie C. Hanson of the Town of Cumberland, Cumberland County and State of Maine, being husband and wife,in consideration of One Dollar and other valuable considerations, total considerations being less than One Hundred Dollars ($100.00), to us paid by the New England Telephone and Telegraph Company, a corporation duly organized under the laws of the State of New York, and the Central Maine Power Company, a corporation duly organized under the laws of the State of Maine, receipt of which is hereby acknowledged hereby grant, bargain, sell and convey unto said New England Telephone and Telegraph Company and Central Maine Power Company the right to construct, operate and maintain lines of telephone and telegraph, electric light and power, including the necessary poles and fixtures upon and over the premises in the said Town of Cumberland, County of Cumberland and State of Maine, of which We are the sole owners, bounded and described as follows, to wit:

A private road off the Longwoods Road in a Northeasterly direction to the residence of Maurice P. and Marie C. Hanson

The above granted rights being more particularly described as the exclusive right to construct, reconstruct, operate, maintain, replace and remove poles with the wires and/or cables thereon,with the necessary guys, anchors, fixtures and supports, and the right to cut down and keep trimmed all trees and bushes, as the grantees may from time to time desire upon and over the said described premises, and to become permanent upon the erection of the poles in said lines of telephone and telegraph, electric light and power, with permission to enter upon said premises for access thereto for all the above purposes.

TO HAVE AND TO HOLD the above granted rights and privileges in, upon and over said premises to the said New England Telephone and Telegraph Company, and Central Maine Power Company, their successors and assigns, for their own use and behoof forever.

And We do hereby for ourselves and our heirs, executors and administrators, covenant with the said grantees, and their successors and assigns, that We are lawfully seized in fee simple of the aforesaid premises, that they are free from all incum-

brances, that We have good right to sell and convey the rights aforesaid and We will and our heirs, executors and administrators shall warrant and defend the same to the said grantees and their successors and assigns forever against the lawful claims and demands of all persons.

WITNESS our hands and common seal this 27th day of Jan. 27, 1950.

Witness Joseph L. Huse — Maurice P. Hansen Seal

for Both — Marie C. Hansen Seal

STATE OF MAINE

CUMBERLAND,SS. Jan. 27, 1950.

Then personally appeared the above named Maurice P. Hanson Marie C. Hanson and personally acknowledged the foregoing instrument to be their free act and deed.

Before me, Joseph L. Huse

Justice of the Peace

My commission expires Oct. 1954

= Received March 14, 1950, at 10h -m A. M., and recorded according to the original

---

NOTICE OF FORECLOSURE

Ward & to Maine Sav.Bk. N. F.

WHEREAS, Donald E. Ward and Muriel T. Ward, both of Portland, in the County of Cumberland and State of Maine, by their mortgage deed dated August 24, 1946, recorded in Cumberland County Registry of Deeds in Book 1828, Page 115, conveyed to the Maine Savings Bank a corporation established by law at said Portland, certain real estate situated in said City of Portland, on Peaks Island, bounded and described as follows:

A certain lot or parcel of land, with the buildings thereon, situated on Peaks Island, in said Portland, bounded and described as follows: Beginning at a stake on the boundary line between land formerly of Josiah Sterling and that of the heirs of Mary A. Brackett at the intersection of the southerly side line of a certain street or way forty-five (45) feet wide known as Prospect Avenue as laid out by the commissioners of partition of the estate of said Mary A. Brackett, deceased, said partition being recorded in Cumberland County Registry of Deeds in Book 577, Page 408, and as designated on the plan of said partition, known as a "plan of the Estate of Mary A. Brackett", made by C. E. Staples in 1889, with said boundary line, and running North 86° 55' East by said boundary line fifty-seven (57) feet to a stake;thence at right angles South 3° 5' East sixty-six and one-fourth (66 1/4) feet to a stake; thence westerly, parallel with said boundary line eighty-seven and one-half (87 1/2) feet to a stake and said Prospect Avenue; and thence running northerly by said Avenue seventy-two and one-fourth (72 1/4) feet to the point of beginning, being Lot 4 in Section C as shown upon said plan, recorded in said Registry of Deeds, Plan Book 12, Page 101.

Also a right of way for all lawful purposes over, along and upon the whole of any part of said Prospect Avenue.

Being the same premises conveyed to Donald E. Ward and Muriel T. Ward by

CENTRAL MAINE POWER

An AVANGRID Company

Sender Name: Alice Richards
Title: Project Manager, Real Estate Projects

Alexander Timpson
Ameriprise Financial Services, LLC
Two Portland Square
7th Floor, Suite 700
Portland, Maine 04101

Re: LongWoods Preserve Project

Dear Alex,

After review of the presented site plan, other information and discussions for the LongWoods Preserve Project, Central Maine Power has no objection to the expanded driveway in the Easement area as shown on the plan for this Project so long as the expanded driveway within the Easement Area does not encroach upon CMP's ability to service its assets located in this Easement Area.

Sincerely,

Alice Richards

Ale

Alice Richards
Project Manager, Real Estate Projects

APPENDIX B

FINANCIAL CAPABILITY

SME
SEVEE & MAHER
ENGINEERS

Adelphi Group
Ameriprise Private Wealth Advisory Practice

Benjamin C. Henchel, CRPC®, APMA®
Branch Manager
Financial Advisor

Adelphi Group
A private wealth advisory practice of
Ameriprise Financial Services, LLC

Two Portland Square
Suite 700
Portland, ME 04101-4088
Tel: 207.228.2658
Cell: 802.324.3950

benjamin.c.henchel@ampf.com
CA Insurance #0J19375

May 9, 2022

ATTN: To Whomever it May Concern

As of May 6th, 2022, Alexander and Susan Timpson have more than $5 million in taxable investment accounts at Ameriprise, constructed of stocks, bonds and cash. These taxable accounts do not include assets associated with their retirement accounts. If further verification is required investment statements can be provided. Alexander has requested that his privacy be respected regarding his financial net worth during the Town of Cumberland's Planning Board Review Process.

Sincerely,

Benjamin C Henchel

Benjamin C. Henchel

Branch Manager

APPENDIX C

TECHNICAL CAPABILITY

SME
SEVEE & MAHER
ENGINEERS

TECHNICAL CAPACITY

Synergosity LLC, is working with the following permit application representative and site design engineer:

Sevee & Maher Engineers, Inc. (SME)

SME of Cumberland, Maine is providing technical assistance for the site design and environmental permitting. Founded in 1985, SME has obtained hundreds of local, state, and federal permits related to environmental projects throughout the Northeast, including Site Location Permits for Backyard Farms in Madison, the Pineland Center in New Gloucester, the Mill Stream Subdivision in Freeport, and the Pine Tree Landfill in Hampden.

Sevee & Maher Engineers, Inc.
4 Blanchard Road
Cumberland, Maine 04021
207-829-5016

Daniel P. Diffin, P.E., LEED AP – Permitting and Site Design, SME

Mr. Diffin, SME Vice President and principal has more than twelve years of experience on a wide variety of civil engineering design and construction management projects for private and public sector clients. Mr. Diffin has been responsible for the engineering, design, and construction services for land development projects, commercial, industrial, and medical site developments, educational campuses, stormwater management and erosion control projects, and local, state, and federal permitting. Projects include: Backyard Farms, Madison; Maine R&D Station and other facility upgrades; and 2015 Mill Build-out Plan, Woodland Mill, Baileyville Maine.

Mark Cenci, LG – Test Pits and Septic Design, Mark Cenci Geologic, Inc.
93 Mill Road
North Yarmouth, Maine 04097
207-329-3524

Northeast Laboratory Services – Water Testing
P.O. Box 788
Waterville, Maine 04901-0788
207-873-7711

David Bouffard, PLS, LSE – Surveying, Boundary Points Professional Land Surveying, LLC
P.O. Box 175
Cumberland, Maine 04021-0175
207-854-1015

Chris Coppi,– Wetland and Soil Services, Coppi Environmental, LLC
19 Decker Circle
Hollis, Maine 04042
207-756-3245

APPENDIX D

MNAP AND MDIFW REVIEW LETTERS

SME
SEVEE & MAHER
ENGINEERS

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

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

May 17, 2022

Jeff Read
Sevee & Maher Engineers
PO Box 85A
Cumberland, ME 04021

Via email: jtr@smemaine.com

Re: Rare and exemplary botanical features in proximity to: Longroads Preserve, 76 Longwoods Road, Cumberland, Maine

Dear Mr. Read:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received May 16, 2022 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Cumberland, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

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

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

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

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

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

DEPARTMENT OF Agriculture Conservation & Forestry

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

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

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

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

Sincerely,

Lisa St. Hilaire

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

Rare and Exemplary Botanical Features within 4 miles of
Project: Longroads Preserve, 76 Longroads Road, Cumberland, ME

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Allegheny Vine						
	E	S1	G4	1860-10	9	Rocky summits and outcrops (non-forested, upland),Dry
American Chestnut						
	SC	S4	G3	2001-02-13	2	Hardwood to mixed forest (forest, upland)
American Sea-blite						
	T	S2	G5	1932-09-12	5	Tidal wetland (non-forested, wetland)
Bottlebrush Grass						
	SC	S3	G5	1905-09-13	10	Hardwood to mixed forest (forest, upland)
Broad Beech Fern						
	SC	S2	G5	2016-09-04	28	Hardwood to mixed forest (forest, upland)
Engelmann's Spikerush						
	PE	SH	G4G5	1916-08-31	2	Open wetland, not coastal nor rivershore (non-forested,
Enriched Northern Hardwoods						
		S3	GNR	2001-08-28	34	Hardwood to mixed forest (forest, upland)
Fern-leaved False Foxglove						
	SC	S3	G5	1902-09-02	13	Dry barrens (partly forested, upland),Hardwood to mixed
Foxtail Bog-clubmoss						
	E	S1	G5	2017-08-22	1	
Great Blue Lobelia						
	PE	SX	G5	1905-09	3	Forested wetland,Non-tidal rivershore (non-forested,
Hollow Joe-pye Weed						
	SC	S2	G5?	2011-08-04	19	Open wetland, not coastal nor rivershore (non-forested,
Horned Pondweed						

Horned Pondweed					
SC	S2	G5	1913-09-13	9	Tidal wetland (non-forested, wetland)
MacGregor's Rye					
SC	S2	G5	2019-08-20	13	
Marsh Milkwort					
PE	SH	G5T4	1903-08-18	1	Dry barrens (partly forested, upland),Open wetland, not
Mountain-laurel					
SC	S2	G5	1985-08-01	13	Conifer forest (forest, upland),Hardwood to mixed forest
Mountain Honeysuckle					
E	S2	G5	2018-06-02	14	Dry barrens (partly forested, upland),Hardwood to mixed
Oak - Hickory Forest					
	S1	G4G5	2014-08-21	5	Hardwood to mixed forest (forest, upland)
Pocket Swamp					
	S2	G5	2017-07-27	24	Forested wetland,Hardwood to mixed forest (forest,
Rattlesnake Hawkweed					
E	S1	G5T4Q	1909-07	1	Dry barrens (partly forested, upland)
Salt-hay Saltmarsh					
	S3	G5	2020-07-02	68	Tidal wetland (non-forested, wetland)
Screwstem					
	S1	G5T3T5	2014-09-24	17	
Slender Knotweed					
PE	SH	G5	1902-09-07	1	Dry barrens (partly forested, upland)
Smooth Winterberry Holly					
SC	S3	G5	2017-08-22	32	Forested wetland
SC	S3	G5	2017-08-23	45	Forested wetland
Spotted Wintergreen					
T	S2	G5	2009-07-26	30	Conifer forest (forest, upland),Hardwood to mixed forest
Upper Floodplain Hardwood Forest					

Upper Floodplain Hardwood Forest					
	S3	GNR	2012	20	Forested wetland
Upright Bindweed					
T	S2	G4G5	2007-06-28	5	Dry barrens (partly forested, upland),Old field/roadside
Variable Sedge					
E	S1	G3	2012-08-09	1	Dry barrens (partly forested, upland),Hardwood to mixed
E	S1	G3	2017-08-22	4	Dry barrens (partly forested, upland),Hardwood to mixed
E	S1	G3	1985-07-16	5	Dry barrens (partly forested, upland),Hardwood to mixed
E	S1	G3	2018-08-29	6	Dry barrens (partly forested, upland),Hardwood to mixed
Water-plantain Spearwort					
PE	SH	G4	1903-07-29	2	Open water (non-forested, wetland)
Wild Garlic					
SC	S2	G5	1918-07-16	6	Forested wetland,Hardwood to mixed forest (forest,
Wild Leek					
SC	S3	G5	2018-05-02	55	Hardwood to mixed forest (forest, upland),Forested

Date Exported: 2022-05-17 11:04

Conservation Status Ranks

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

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

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

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

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

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

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

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

maine DEPARTMENT OF Agriculture Conservation & Forestry
NATURAL AREAS

JANET T. MILLS
GOVERNOR

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
353 WATER STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041

JUDITH CAMUSO
COMMISSIONER

June 15, 2022

Jeffrey Read
Sevee & Maher Engineers
4 Blanchard Rd, PO Box 85A
Cumberland, ME 04021

RE: Information Request – 76 Longwoods Road Project, Cumberland

Dear Jeffrey:

Per your request received on May 17, 2022, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information for known locations of Endangered, Threatened, and Special Concern species; designated Essential and Significant Wildlife Habitats; and inland fisheries habitat concerns within the vicinity of the *76 Longwoods Road* project in Cumberland. For purposes of this review, we are assuming there will be tree clearing as part of this project.

Our Department has not mapped any Essential Habitats that would be directly affected by your project.

Endangered, Threatened, and Special Concern Species

Bat Species – Of the eight species of bats that occur in Maine, the three *Myotis* species are protected under Maine's Endangered Species Act (MESA) and are afforded special protection under 12 M.R.S §12801 - §12810. The three *Myotis* species include little brown bat (State Endangered), northern long-eared bat (State Endangered), and eastern small-footed bat (State Threatened). The five remaining bat species are listed as Special Concern: big brown bat, red bat, hoary bat, silver-haired bat, and tri-colored bat. While a comprehensive statewide inventory for bats has not been completed, based on historical evidence it is likely that several of these species occur within the project area during migration and/or the breeding season. However, our Agency does not anticipate significant impacts to any of the bat species as a result of this project.

Wood Turtle - Occurrences of wood turtle, a State Species of Special Concern, have been documented within the vicinity of the proposed project. Wood turtles use a mix of aquatic and terrestrial habitats throughout the year including riparian meadows, shrub thickets, farmland, and deciduous forests as well as bogs, forested wetlands, vernal pools, and streams. If these habitats are present in the project area, we recommend that they be avoided and adequately buffered with a 300-foot undisturbed, intact vegetative cover.

Significant Wildlife Habitat

Significant Vernal Pools - At this time MDIFW Significant Wildlife Habitat (SWH) maps indicate no known presence of SWHs subject to protection under the Natural Resources Protection Act (NRPA) within the project area, which include Waterfowl and Wading Bird Habitats, Seabird Nesting Islands, Shorebird Areas, and Significant Vernal Pools. However, a comprehensive statewide inventory for Significant Vernal Pools has not been completed. Therefore, we recommend that surveys for vernal pools

be conducted within the project boundary by qualified wetland scientists prior to final project design to determine whether there are Significant Vernal Pools present in the area. These surveys should extend up to 250 feet beyond the anticipated project footprint because of potential performance standard requirements for off-site Significant Vernal Pools, assuming such pools are located on land owned or controlled by the applicant. Once surveys are completed, survey forms should be submitted to our Agency for review well before the submission of any necessary permits. Our Department will need to review and verify any vernal pool data prior to final determination of significance.

Fisheries Habitat

We generally recommend maintaining 100-foot undisturbed vegetated buffers from the upland edge of all intermittent and perennial streams and any contiguous wetlands. Maintaining and enhancing buffers along these resources is critical to the protection of water temperatures, water quality, natural inputs of coarse woody debris, and various forms of aquatic life necessary to support fish and other aquatic species. Riparian buffers also provide critical habitat and important travel corridors for a variety of wildlife species. Stream crossings should be avoided, but if a stream crossing is necessary, or an existing crossing needs to be modified, it should be designed to provide for full aquatic passage. Small streams, including intermittent streams, can provide crucial rearing habitat, cold water for thermal refugia, and abundant food for juvenile salmonids on a seasonal basis. Undersized crossings may inhibit these functions and become a frequent maintenance problem that causes reoccurring damage to the resource. Generally, MDIFW recommends that all new, modified, and replacement stream crossings be sized to span at least 1.2 times the bankfull width of the stream. In addition, we generally recommend that stream crossings be open bottomed (i.e. natural bottom), although embedded structures which are backfilled with representative streambed material have been shown to be effective in providing habitat connectivity for fish and other aquatic organisms. Construction Best Management Practices should be closely followed to avoid erosion, sedimentation, alteration of stream flow, and other impacts as eroding soils can travel significant distances as well as transport other pollutants resulting in direct impacts to fish, other aquatic life, and their habitats. In addition, we recommend that any necessary instream work occur between July 15 and October 1.

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance we recommend additional consultation with the municipality, and other state resource agencies including the Maine Natural Areas Program, Maine Department of Marine Resources, and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance.

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,

Becca Settele
Wildlife Biologist

APPENDIX E

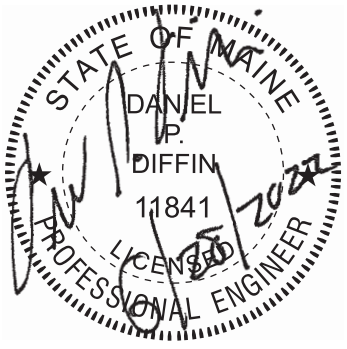
STORMWATER MANAGEMENT REPORT

SME
SEVEE & MAHER
ENGINEERS

STORMWATER MANAGEMENT REPORT
THE GRANGE HALL PUB AT LONGWOODS PRESERVE
76 LONGWOODS ROAD
CUMBERLAND, MAINE

Prepared for

SYNERGOSITY, LLC
76 Longwoods Road
Cumberland, Maine



June 2022

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ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

SME
SEVEE & MAHER
ENGINEERS

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STORMWATER MANAGEMENT REPORT
THE GRANGE HALL PUB AT LONGWOODS PRESERVE
76 LONGWOODS ROAD
CUMBERLAND, MAINE

1.0 INTRODUCTION

This Stormwater Management Report was prepared by Sevee & Maher Engineers, Inc. (SME) to assess stormwater management design for the construction of the proposed Grange Hall Pub (Grange) at Longwoods Preserve (Longwoods) project located off Longwoods Road (ME-9) in Cumberland, Maine. Stormwater design is based on the Town's water quantity objectives identified in Town Ordinances. This project will require a Stormwater Permit-by-Rule (PBR) from the Maine Department of Environmental Protection (MEDEP) for disturbed areas more than one acre, less than one acre of impervious surface, and less than five acres of developed area.

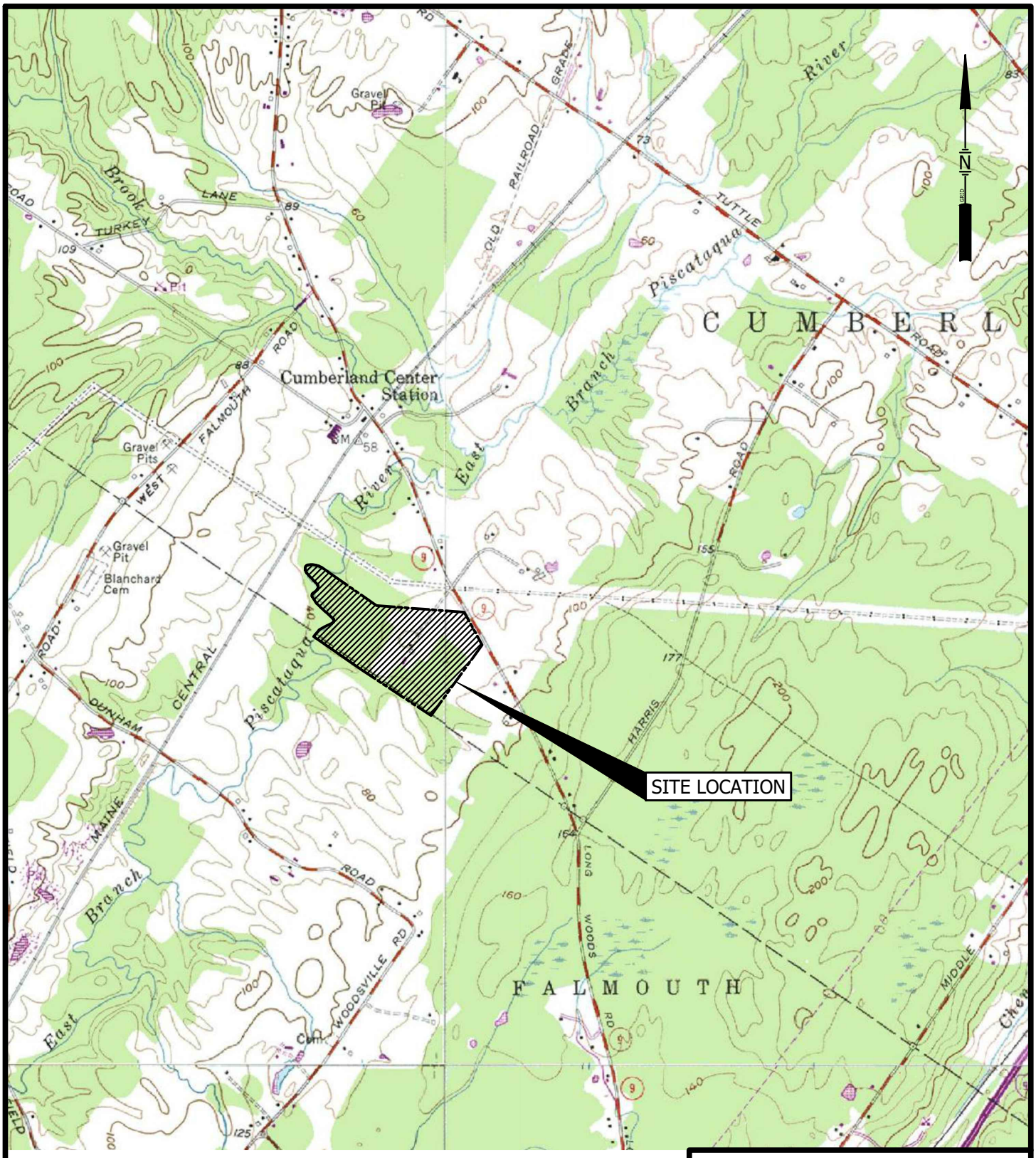
2.0 PROJECT DESCRIPTION

Synergosity, LLC (Applicant) proposes to develop a new restaurant and brew pub at 76 Longwoods Road in Cumberland, Maine. The location of the project is shown in Figure 1, Site Location Map.

The 61.56-acre property is bordered by Longwoods Road and a Central Maine Power (CMP) utility corridor to the north, agricultural property in the Town of Falmouth to the south, developed residential properties to the east, and the East Branch of the Piscataqua River, and undeveloped forested land to the west.

The Grange at Longwoods project will include a 3,419-square-foot building that will provide a gathering place for the community while maintaining the existing farm buildings and agricultural character on the parcel. The site construction will include a total of 59 parking spaces for restaurant and trailhead parking, including 2 ADA parking spaces adjacent to the restaurant. Site access will be from a new 20-foot access drive off ME-9. Additional site improvements include a new private well, two additional septic systems, underground utilities, stormwater management, and site lighting. Approximately 55 acres of this property will remain undeveloped in a conservation easement with the Chebeague and Cumberland Land Trust.

Construction of the project will result in approximately 154,413 square feet (3.55 acres) of developed area and approximately 42,288 square feet of new impervious surface. Based on Chapter 500 requirements, this project will require a MEDEP Stormwater PBR prior to the start of construction.



BASEMAP ADAPTED FROM 7.5 MIN USGS TOPO QUADS
CUMBERLAND CENTER, ME - 1975
YARMOUTH, ME - 1975

1000 0 2000 FEET

DWG: SITELOC LMN: NONE CTB: SME-STD REV: 4/12/2022

FIGURE 1
SITE LOCATION MAP
ALEX TIMPSON
LONGWOODS PRESERVE
CUMBERLAND, MAINE

SME
SEVEE & MAHER
ENGINEERS

\\Nserver\cfs\Alex Timpson\76 Longwoods Rd\Acad\Figures\SITELOC.dwg, A_FIG 1, 4/12/2022 10:54:12 AM, sjm

3.0 SITE WATERSHED

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

Soil in the project watershed consists of Nicholville (BgB/BgC2) very fine sandy loam, Lamoine (BuB/BuC2) silt loam, Elmwood (EmB) fine sandy loam, Hartland (HfB/HfC2) very fine sandy loam, Lyman-Tunbridge complex, (HrB/HrC), Lyman-Abram complex (HsB/HsC), Limerick (Ls) Saco silt loams, Ondawa (On) fine sandy loam, Podunk (Py) fine sandy loam, Scantic (Sn) silt loam, Suffield (SuC2, SuD2, SuE2) silt loam, and Swanton (Sz) fine sandy loam. Soil natural drainage classifications range from "Somewhat excessively drained" to "Moderately well drained." Hydrologic soil groups range from Type B to Type D.

The site is currently developed with a single-family residence. Most of the property consists of undeveloped forested land and hay fields. Site topography is characterized by a local high point in the center of the parcel. From this high point, the ground surface generally slopes to the northeast and southwest off the property at slopes ranging from 1 to 10 percent.

For this analysis, the project was divided into two Subcatchment areas. Subcatchment 1 (SC-1) contains the eastern portion of the property and drains to an existing 24-inch diameter cross culvert under ME-9. The culvert outlet was selected as Analysis Point 1 (AP-1). The northern and western portions of the property are contained in Subcatchment 2 (SC-2), which flows to the East Branch of the Piscataqua River at the northwestern property boundary. A point in the East Branch of the Piscataqua River near the southwestern property corner was selected as Analysis Point 2 (AP-2).

This project was designed to have minimal impact on existing stormwater runoff patterns. Proposed development in SC-1 is minimal and stormwater flows to the existing cross culvert are largely unchanged. Most of the project area is in SC-2 where drainage patterns are modified slightly to include roadside ditches, a cross culvert in the new access drive, and a level spreader at the new culvert outlet to minimize the impact of concentrated stormwater flows on adjacent undeveloped land. As with SC-1, proposed drainage patterns in SC-2 are very similar to existing conditions. Most of the new impervious area is directed to the northeast using roadside ditches along the new access drive, to the east via sheet flow to an existing forested wetland, or to the northwest across the existing hay fields.

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

4.0 STORMWATER QUALITY ANALYSIS

As previously outlined, stormwater treatment will not be required for this project based on MEDEP Chapter 500 standards. Based on the size of the project and the scope of proposed development, SME does not anticipate that development of the parcel will adversely impact the quality of stormwater runoff from the property. New construction will include minor clearing on the site, a proposed reclaimed pavement parking lot, building, and stormwater distribution methods.

This project is designed to meet basic standards outlined in MEDEP Chapter 500 standards, and construction will adhere to MEDEP Best Management Practices (BMPs) for erosion and sedimentation control.

5.0 FLOODING STANDARDS

Stormwater quantity is managed to the maximum extent practicable by minimizing the amount of impervious area on the site, revegetating cleared and grubbed areas where possible, and adding a level spreader at the new culvert outlet to minimize the impact of concentrated stormwater flows on adjacent undeveloped land.

The stormwater model for this project was developed to determine peak flow rates at AP-1 and AP-2 to assess the potential impact of proposed development on adjacent properties. Stormwater peak flow rates were modeled using rainfall intensities from MEDEP Chapter 500. Copies of modeling calculations for the pre-development and post-development conditions are provided in Appendix B and C, respectively.

Peak flow values calculated for the 2-, 10-, and 25-year/24-hour storm events are summarized in Table 1.

TABLE 1

STORMWATER QUANTITY SUMMARY

	2-Year Storm		10-Year Storm		25-Year Storm	
	Existing	**Proposed**	**Existing**	**Proposed**	**Existing**	**Proposed**
Analysis Point 1 (cfs)	10.11	9.66	16.33	15.92	20.63	19.42
Analysis Point 2 (cfs)	40.69	44.05	90.77	95.73	135.00	140.91

As previously outlined in this report, stormwater runoff patterns and peak flow quantities in the proposed development closely resemble pre-developed conditions. Our model indicates a slight decrease in peak flow rates at AP-1 and a modest increase in peak flow runoff at AP-2 during the 2-year, 10-year, and 25-year storms.

The reduced drainage area and decreased peak flows calculated for stormwater runoff at AP-1 should improve conditions and long-term performance of the existing cross culvert under ME-9.

We anticipate increased peak flows in SC-2 will have minimal impact on adjacent properties. Increases outlined in our model will be attenuated by the existing forested wetland adjacent to the project area on the southeast, the existing hay fields to the northwest, and the major river segment receiving stormwater runoff near the southwest property corner.

6.0 CONCLUSION

The stormwater runoff from this project is not anticipated to have an adverse effect on downstream drainage or abutting properties. The large drainage area and discharge of flows from SC-2 to a major river segment will provide a stable drainage downstream of the property.

APPENDIX A

NRCS SOIL SURVEY

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ENGINEERS

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

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

May 18, 2021

Preface

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

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

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

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

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

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

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

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

Soil Map

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

Custom Soil Resource Report
Soil Map

Map Scale: 1:9,510 if printed on B portrait (11" x 17") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 450 900 1800 2700

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

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 17, Jun 5, 2020

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

Date(s) aerial images were photographed: Jun 7, 2019—Jul 2, 2019

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

MAP LEGEND

MAP INFORMATION

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BgB	Nicholville very fine sandy loam, 0 to 8 percent slopes	37.0	7.0%
BgC2	Nicholville very fine sandy loam, 8 to 15 percent slopes	4.3	0.8%
BuB	Lamoine silt loam, 3 to 8 percent slopes	175.0	33.3%
BuC2	Buxton silt loam, 8 to 15 percent slopes	8.0	1.5%
EmB	Elmwood fine sandy loam, 0 to 8 percent slopes	0.1	0.0%
HfB	Hartland very fine sandy loam, 3 to 8 percent slopes	9.7	1.8%
HfC2	Hartland very fine sandy loam, 8 to 15 percent slopes, eroded	1.3	0.2%
HrB	Lyman-Tunbridge complex, 0 to 8 percent slopes, rocky	8.3	1.6%
HrC	Lyman-Tunbridge complex, 8 to 15 percent slopes, rocky	11.2	2.1%
HsB	Lyman-Abram complex, 0 to 8 percent slopes, very rocky	7.6	1.4%
HsC	Lyman-Abram complex, 8 to 15 percent slopes, very rocky	1.9	0.4%
Ls	Limerick-Saco silt loams	4.7	0.9%
On	Ondawa fine sandy loam, 0 to 3 percent slopes, occasionally flooded	23.5	4.5%
Py	Podunk fine sandy loam, 0 to 3 percent slopes, occasionally flooded	50.7	9.6%
Sn	Scantic silt loam, 0 to 3 percent slopes	79.7	15.2%
SuC2	Suffield silt loam, 8 to 15 percent slopes, eroded	28.8	5.5%
SuD2	Suffield silt loam, 15 to 25 percent slopes, eroded	32.2	6.1%
SuE2	Suffield silt loam, 25 to 45 percent slopes, eroded	37.7	7.2%
Sz	Swanton fine sandy loam	4.0	0.8%
Totals for Area of Interest		**525.8**	**100.0%**

Map Unit Descriptions

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

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

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

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

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

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

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas

shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

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

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

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

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

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

Cumberland County and Part of Oxford County, Maine

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

Map Unit Setting

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

Map Unit Composition

Nicholville and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nicholville

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Roundabout, somewhat poorly drained

Percent of map unit: 5 percent
Landform: Lakebeds (relict)

Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Croghan

Percent of map unit: 5 percent
Landform: Lakebeds (relict)
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Salmon

Percent of map unit: 3 percent
Landform: Lakebeds (relict)
Landform position (two-dimensional): Backslope, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Roundabout

Percent of map unit: 2 percent
Landform: Lakebeds (relict)
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

BgC2—Nicholville very fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2yjg6
Elevation: 20 to 2,300 feet
Mean annual precipitation: 34 to 50 inches
Mean annual air temperature: 37 to 45 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Nicholville and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nicholville

Setting

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

Typical profile

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

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: High (about 10.3 inches)

Interpretive groups

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

Minor Components

Croghan

Percent of map unit: 5 percent
Landform: Lakebeds (relict), eskers
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Salmon

Percent of map unit: 5 percent
Landform: Lakebeds (relict), eskers
Landform position (two-dimensional): Backslope, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Roundabout, somewhat poorly drained

Percent of map unit: 4 percent
Landform: Eskers, lakebeds (relict)

Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Linear
Hydric soil rating: No

Roundabout

Percent of map unit: 1 percent
Landform: Lakebeds (relict), eskers
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Concave, linear
Hydric soil rating: Yes

BuB—Lamoine silt loam, 3 to 8 percent slopes

Map Unit Setting

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

Map Unit Composition

Lamoine and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lamoine

Setting

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

Typical profile

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

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 6 to 17 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Moderate (about 7.6 inches)

Interpretive groups

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

Minor Components

Scantic

Percent of map unit: 10 percent
Landform: Marine terraces, river valleys
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Buxton

Percent of map unit: 3 percent
Landform: Marine terraces, river valleys
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Ragmuff

Percent of map unit: 1 percent
Landform: Marine terraces, river valleys
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Side slope, base slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Biddeford

Percent of map unit: 1 percent
Landform: Marine terraces, river valleys
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: F144BY002ME - Marine Terrace Depression
Hydric soil rating: Yes

BuC2—Buxton silt loam, 8 to 15 percent slopes

Map Unit Setting

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

Map Unit Composition

Buxton and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Buxton

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

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

Minor Components

Lamoine

Percent of map unit: 7 percent
Landform: Marine terraces, river valleys
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Scantic

Percent of map unit: 5 percent
Landform: Marine terraces, river valleys
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Buxton, >15% slopes

Percent of map unit: 3 percent
Landform: Marine terraces, river valleys
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

EmB—Elmwood fine sandy loam, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: blh8
Elevation: 10 to 900 feet
Mean annual precipitation: 36 to 55 inches
Mean annual air temperature: 39 to 46 degrees F
Frost-free period: 90 to 195 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Elmwood and similar soils: 88 percent
Minor components: 12 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elmwood

Setting

Landform: Stream terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread

Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy glaciolacustrine deposits

Typical profile

H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 25 inches: sandy loam
H3 - 25 to 65 inches: silty clay loam

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Swanton

Percent of map unit: 7 percent
Landform: Stream terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Melrose

Percent of map unit: 3 percent
Landform: Stream terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Whately

Percent of map unit: 2 percent
Landform: Stream terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

HfB—Hartland very fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: blhb
Elevation: 10 to 2,500 feet
Mean annual precipitation: 34 to 55 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 60 to 195 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hartland and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hartland

Setting

Landform: Lakebeds
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-silty glaciolacustrine deposits

Typical profile

H1 - 0 to 9 inches: very fine sandy loam
H2 - 9 to 29 inches: silt loam
H3 - 29 to 65 inches: silt loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 11.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Belgrade

Percent of map unit: 5 percent
Landform: Lakebeds
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Elmwood

Percent of map unit: 3 percent
Landform: Lakebeds
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Tunbridge

Percent of map unit: 2 percent
Landform: Lakebeds
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Buxton

Percent of map unit: 2 percent
Landform: Lakebeds
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Hartland, slopes >8%

Percent of map unit: 1 percent
Landform: Lakebeds
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Hartland, slopes <3%

Percent of map unit: 1 percent
Landform: Lakebeds
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Roundabout

Percent of map unit: 1 percent
Landform: Lakebeds
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

HfC2—Hartland very fine sandy loam, 8 to 15 percent slopes, eroded

Map Unit Setting

National map unit symbol: blhc
Elevation: 0 to 2,500 feet
Mean annual precipitation: 34 to 50 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 60 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Hartland and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hartland

Setting

Landform: Lakebeds
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-silty glaciolacustrine deposits

Typical profile

H1 - 0 to 9 inches: very fine sandy loam
H2 - 9 to 29 inches: silt loam
H3 - 29 to 65 inches: silt loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 11.8 inches)

Interpretive groups

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

Minor Components

Belgrade

Percent of map unit: 6 percent
Landform: Lakebeds
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Buxton

Percent of map unit: 3 percent
Landform: Lakebeds
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Tunbridge

Percent of map unit: 2 percent
Landform: Lakebeds
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Hollis

Percent of map unit: 2 percent
Landform: Lakebeds
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Hartland, slopes >15%

Percent of map unit: 1 percent
Landform: Lakebeds
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Hartland, slopes <8%

Percent of map unit: 1 percent
Landform: Lakebeds
Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

HrB—Lyman-Tunbridge complex, 0 to 8 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2x1cx
Elevation: 0 to 520 feet
Mean annual precipitation: 36 to 65 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Lyman and similar soils: 50 percent
Tunbridge and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Crest, nose slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

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

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches

Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 3.2 inches)

Interpretive groups

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

Description of Tunbridge

Setting

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

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material
Oa - 3 to 5 inches: highly decomposed plant material
E - 5 to 8 inches: fine sandy loam
Bhs - 8 to 11 inches: fine sandy loam
Bs - 11 to 26 inches: fine sandy loam
BC - 26 to 28 inches: fine sandy loam
R - 28 to 79 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 21 to 41 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.6 inches)

Interpretive groups

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

Minor Components

Ragmuff

Percent of map unit: 10 percent
Landform: Ridges, hills
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Base slope, side slope
Down-slope shape: Linear

Across-slope shape: Linear
Hydric soil rating: No

Abram

Percent of map unit: 5 percent
Landform: Hills, ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Peru

Percent of map unit: 4 percent
Landform: Hills, ridges
Landform position (two-dimensional): Footslope, backslope
Landform position (three-dimensional): Base slope, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent
Landform: Hills, ridges
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Nose slope, crest, free face
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

HrC—Lyman-Tunbridge complex, 8 to 15 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2x1cy
Elevation: 0 to 520 feet
Mean annual precipitation: 36 to 65 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Lyman and similar soils: 45 percent
Tunbridge and similar soils: 40 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman

Setting

Landform: Hills, ridges

Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, nose slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

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

Properties and qualities

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

Interpretive groups

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

Description of Tunbridge

Setting

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

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material
Oa - 3 to 5 inches: highly decomposed plant material
E - 5 to 8 inches: fine sandy loam
Bhs - 8 to 11 inches: fine sandy loam
Bs - 11 to 26 inches: fine sandy loam
BC - 26 to 28 inches: fine sandy loam
R - 28 to 79 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 21 to 41 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.6 inches)

Interpretive groups

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

Minor Components

Ragmuff

Percent of map unit: 5 percent
Landform: Hills, ridges
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Base slope, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Abram

Percent of map unit: 5 percent
Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Peru

Percent of map unit: 4 percent
Landform: Hills, ridges
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Base slope, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent
Landform: Ridges, hills
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Nose slope, crest, free face
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

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

Map Unit Setting

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

Map Unit Composition

Lyman and similar soils: 50 percent
Abram and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

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

Description of Abram

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

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

Minor Components

Ragmuff

Percent of map unit: 6 percent
Landform: Ridges, hills
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Base slope, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Tunbridge

Percent of map unit: 5 percent
Landform: Hills, ridges
Landform position (two-dimensional): Backslope, shoulder, footslope
Landform position (three-dimensional): Side slope, crest

Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Hogback

Percent of map unit: 3 percent
Landform: Mountains
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Mountaintop, upper third of mountainflank
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Rock outcrop

Percent of map unit: 3 percent
Landform: Ridges, hills
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Free face, nose slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Knob lock

Percent of map unit: 3 percent
Landform: Hills, ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest, nose slope, free face
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

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

Map Unit Setting

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

Map Unit Composition

Lyman and similar soils: 45 percent
Abram and similar soils: 35 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

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

Description of Abram

Setting

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

Typical profile

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

Properties and qualities

Slope: 8 to 15 percent

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

Interpretive groups

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

Minor Components

Knob lock

Percent of map unit: 6 percent
Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest, nose slope, free face
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Tunbridge

Percent of map unit: 5 percent
Landform: Hills, ridges
Landform position (two-dimensional): Backslope, footslope, shoulder
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Hogback

Percent of map unit: 4 percent
Landform: Mountains
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Mountaintop, upper third of mountainflank
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Rock outcrop

Percent of map unit: 3 percent
Landform: Ridges, hills
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Free face, nose slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Ragmuff

Percent of map unit: 2 percent

Landform: Ridges, hills
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Base slope, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Ls—Limerick-Saco silt loams

Map Unit Setting

National map unit symbol: blj2
Elevation: 10 to 2,000 feet
Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 80 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Limerick and similar soils: 55 percent
Saco and similar soils: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Limerick

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-silty alluvium derived from slate

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 16 inches: silt loam
H3 - 16 to 65 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Available water capacity: Very high (about 18.2 inches)

Interpretive groups

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

Description of Saco

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-silty alluvium

Typical profile

H1 - 0 to 12 inches: silt loam
H2 - 12 to 24 inches: silt loam
H3 - 24 to 65 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Available water capacity: Very high (about 15.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Minor Components

Rumney

Percent of map unit: 7 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Lovewell

Percent of map unit: 3 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Cornish

Percent of map unit: 3 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Podunk

Percent of map unit: 2 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

On—Ondawa fine sandy loam, 0 to 3 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2qgvy
Elevation: 0 to 1,800 feet
Mean annual precipitation: 31 to 95 inches
Mean annual air temperature: 27 to 54 degrees F
Frost-free period: 80 to 160 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Ondawa and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ondawa

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy alluvium derived from schist and/or coarse-loamy alluvium derived from quartzite and/or coarse-loamy alluvium derived from granite and gneiss

Typical profile

Ap - 0 to 9 inches: fine sandy loam
Bw - 9 to 30 inches: fine sandy loam

C - 30 to 65 inches: loamy fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: OccasionalNone
Frequency of ponding: None
Available water capacity: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Podunk

Percent of map unit: 8 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Microfeatures of landform position: Closed depressions
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: No

Rumney

Percent of map unit: 3 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Microfeatures of landform position: Closed depressions
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: Yes

Sunday

Percent of map unit: 3 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Adams

Percent of map unit: 1 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Microfeatures of landform position: Rises
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Py—Podunk fine sandy loam, 0 to 3 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2qgvw
Elevation: 0 to 2,330 feet
Mean annual precipitation: 31 to 95 inches
Mean annual air temperature: 27 to 54 degrees F
Frost-free period: 80 to 160 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Podunk and similar soils: 83 percent
Minor components: 17 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Podunk

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy alluvium derived from schist and/or coarse-loamy alluvium derived from quartzite and/or coarse-loamy alluvium derived from granite and gneiss

Typical profile

Ap - 0 to 10 inches: fine sandy loam
Bw1 - 10 to 18 inches: fine sandy loam
Bw2 - 18 to 30 inches: fine sandy loam
C - 30 to 65 inches: loamy fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: NoneOccasional
Frequency of ponding: None
Available water capacity: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Hydric soil rating: No

Minor Components

Rumney

Percent of map unit: 6 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Microfeatures of landform position: Closed depressions
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: Yes

Ondawa

Percent of map unit: 5 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Microfeatures of landform position: Rises
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Lovewell

Percent of map unit: 4 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Charles

Percent of map unit: 2 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Microfeatures of landform position: Closed depressions
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Sn—Scantic silt loam, 0 to 3 percent slopes

Map Unit Setting

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

Map Unit Composition

Scantic and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scantic

Setting

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

Typical profile

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

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.3 inches)

Interpretive groups

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

Minor Components

Lamoine

Percent of map unit: 8 percent
Landform: River valleys, marine terraces
Landform position (three-dimensional): Riser, rise
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Biddeford

Percent of map unit: 3 percent
Landform: Marine terraces, river valleys
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave, linear
Ecological site: F144BY002ME - Marine Terrace Depression
Hydric soil rating: Yes

Roundabout

Percent of map unit: 2 percent
Landform: River valleys, marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear

Across-slope shape: Linear
Hydric soil rating: Yes

Buxton

Percent of map unit: 2 percent
Landform: Marine terraces, river valleys
Landform position (three-dimensional): Riser, rise
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

SuC2—Suffield silt loam, 8 to 15 percent slopes, eroded

Map Unit Setting

National map unit symbol: blk1
Elevation: 10 to 900 feet
Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 43 to 46 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Suffield and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Suffield

Setting

Landform: Coastal plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine glaciolacustrine deposits

Typical profile

H1 - 0 to 6 inches: silt loam
H2 - 6 to 23 inches: silt loam
H3 - 23 to 33 inches: silty clay
H4 - 33 to 65 inches: silty clay

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None

Available water capacity: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Hartland

Percent of map unit: 6 percent
Landform: Coastal plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Belgrade

Percent of map unit: 5 percent
Landform: Coastal plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Suffield, slopes >15%

Percent of map unit: 2 percent
Landform: Coastal plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Suffield, slopes <8%

Percent of map unit: 2 percent
Landform: Coastal plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

SuD2—Suffield silt loam, 15 to 25 percent slopes, eroded

Map Unit Setting

National map unit symbol: blk2
Elevation: 10 to 900 feet

Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 43 to 46 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Suffield and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Suffield

Setting

Landform: Coastal plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine glaciolacustrine deposits

Typical profile

H1 - 0 to 6 inches: silt loam
H2 - 6 to 23 inches: silt loam
H3 - 23 to 33 inches: silty clay
H4 - 33 to 65 inches: silty clay

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 9.5 inches)

Interpretive groups

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

Minor Components

Hartland

Percent of map unit: 7 percent
Landform: Coastal plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Suffield, slopes <15%

Percent of map unit: 3 percent
Landform: Coastal plains

Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Belgrade

Percent of map unit: 3 percent
Landform: Coastal plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Suffield, slopes >25%

Percent of map unit: 2 percent
Landform: Coastal plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

SuE2—Suffield silt loam, 25 to 45 percent slopes, eroded

Map Unit Setting

National map unit symbol: blk3
Elevation: 10 to 1,500 feet
Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 43 to 46 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Suffield and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Suffield

Setting

Landform: Coastal plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine glaciolacustrine deposits

Typical profile

H1 - 0 to 6 inches: silt loam

H2 - 6 to 23 inches: silt loam
H3 - 23 to 33 inches: silty clay
H4 - 33 to 65 inches: silty clay

Properties and qualities

Slope: 25 to 45 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 9.5 inches)

Interpretive groups

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

Minor Components

Hartland

Percent of map unit: 7 percent
Landform: Coastal plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Suffield, slopes <25%

Percent of map unit: 4 percent
Landform: Coastal plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Belgrade

Percent of map unit: 3 percent
Landform: Coastal plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Suffield, slopes >45%

Percent of map unit: 1 percent
Landform: Coastal plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear

Hydric soil rating: No

Sz—Swanton fine sandy loam

Map Unit Setting

National map unit symbol: blk4
Elevation: 10 to 900 feet
Mean annual precipitation: 34 to 55 inches
Mean annual air temperature: 39 to 46 degrees F
Frost-free period: 90 to 195 days
Farmland classification: Not prime farmland

Map Unit Composition

Swanton and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Swanton

Setting

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

Typical profile

H1 - 0 to 9 inches: fine sandy loam
H2 - 9 to 32 inches: fine sandy loam
H3 - 32 to 65 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 9.3 inches)

Interpretive groups

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

Minor Components

Scantic

Percent of map unit: 8 percent
Landform: Coastal plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Whately

Percent of map unit: 4 percent
Landform: Outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Elmwood

Percent of map unit: 3 percent
Landform: Outwash plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Soil Information for All Uses

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Soil Physical Properties

This folder contains a collection of tabular reports that present soil physical properties. The reports (tables) include all selected map units and components for each map unit. Soil physical properties are measured or inferred from direct observations in the field or laboratory. Examples of soil physical properties include percent clay, organic matter, saturated hydraulic conductivity, available water capacity, and bulk density.

Engineering Properties

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Hydrologic soil group is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonal high water table, saturated hydraulic conductivity after prolonged wetting, and depth to a layer with a very slow water transmission

rate. Changes in soil properties caused by land management or climate changes also cause the hydrologic soil group to change. The influence of ground cover is treated independently. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas.

The four hydrologic soil groups are described in the following paragraphs:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group

index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Percentage of rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

References:

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

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

Absence of an entry indicates that the data were not estimated. The asterisk '*' denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
BgB—Nicholville very fine sandy loam, 0 to 8 percent slopes														
Nicholville	85	C	0-7	Very fine sandy loam, silt loam	ML	A-4, A-6	0- 0- 0	0- 0- 0	95-100-100	90-100-100	86-98-100	61-71-81	21-28-41	2-5 -11
			7-19	Very fine sandy loam, silt loam	CL-ML	A-6, A-4	0- 0- 0	0- 0- 0	95-100-100	90-100-100	87-98-100	62-71-82	19-25-37	2-5 -12
			19-30	Very fine sandy loam, silt loam	ML, CL-ML	A-6, A-4	0- 0- 0	0- 0- 0	96-100-100	92-100-100	89-98-100	62-69-80	19-21-32	2-4 -12
			30-65	Very fine sandy loam, silt loam, very fine sand, loamy very fine sand	ML	A-4	0- 0- 0	0- 0- 0	92-100-100	84-100-100	81-97-100	45-55-65	0-0 -26	NP-0 -8

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
BgC2—Nicholville very fine sandy loam, 8 to 15 percent slopes														
Nicholville	85	C	0-7	Silt loam, very fine sandy loam	ML	A-4, A-6	0- 0- 0	0- 0- 0	95-100-100	90-100-100	86-98-100	61-71-81	21-28-41	2-5 -11
			7-19	Very fine sandy loam, silt loam	CL-ML	A-6, A-4	0- 0- 0	0- 0- 0	95-100-100	90-100-100	87-98-100	62-71-82	19-25-37	2-5 -12
			19-30	Very fine sandy loam, silt loam	ML, CL-ML	A-6, A-4	0- 0- 0	0- 0- 0	96-100-100	92-100-100	89-98-100	62-69-80	19-21-32	2-4 -12
			30-65	Very fine sand, loamy very fine sand, silt loam, very fine sandy loam	ML	A-4	0- 0- 0	0- 0- 0	92-100-100	84-100-100	81-97-100	45-55-65	0-0 -26	NP-0 -8
BuB—Lamoine silt loam, 3 to 8 percent slopes														
Lamoine	85	C/D	0-7	Silt loam	ML, MH	A-6, A-7, A-7-5	0- 0- 0	0- 0- 0	96-100-100	91-100-100	85-98-100	77-90-94	37-46-54	12-15-18
			7-13	Silty clay loam, silt loam	CL, ML, MH	A-7, A-6	0- 0- 0	0- 0- 0	96-100-100	92-100-100	87-98-100	80-91-100	34-40-51	15-19-25
			13-24	Silty clay loam	CL	A-6, A-7-6, A-7	0- 0- 0	0- 0- 0	96-100-100	93-100-100	88-100-100	82-93-99	37-43-50	19-23-28
			24-65	Clay, silty clay, silty clay loam	CL, CH	A-7, A-7-6	0- 0- 0	0- 0- 0	97-100-100	93-100-100	88-100-100	83-95-100	45-52-67	27-32-43

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
BuC2—Buxton silt loam, 8 to 15 percent slopes														
Buxton	85	C/D	0-7	Silt loam	ML, MH	A-7-5, A-6, A-7	0- 0- 0	0- 0- 0	96-100-100	91-100-100	85-98-100	77-90-94	35-45-54	12-15-18
			7-18	Silt loam, silty clay loam	CL	A-6	0- 0- 0	0- 0- 0	96-100-100	91-100-100	85-98-100	78-90-100	30-36-56	12-16-28
			18-23	Silty clay loam, silt loam, silty clay	CL	A-7-6	0- 0- 0	0- 0- 0	96-100-100	92-100-100	84-98-100	78-91-100	34-43-57	17-23-32
			23-35	Silty clay loam, silty clay	CL	A-7-6	0- 0- 0	0- 0- 0	96-100-100	93-100-100	85-100-100	79-93-100	39-48-61	21-27-36
			35-65	Silty clay loam, silty clay	CH	A-7-6	0- 0- 0	0- 0- 0	97-100-100	93-100-100	85-100-100	80-95-100	43-52-63	24-31-40
EmB—Elmwood fine sandy loam, 0 to 8 percent slopes														
Elmwood	88	B	0-8	Fine sandy loam	ML, SM	A-2, A-4	0- 0- 0	0- 0- 0	100-100-100	95-98-100	55-70-85	30-43-55	15-23-30	NP-4 -7
			8-25	Sandy loam, fine sandy loam, silt loam	CL, ML, SC, SM	A-2, A-4	0- 0- 0	0- 0- 0	100-100-100	95-98-100	55-75-95	30-53-75	15-23-30	NP-5 -9
			25-65	Silty clay loam, clay loam, clay	CH, CL	A-6, A-7	0- 0- 0	0- 0- 0	100-100-100	100-100-100	95-98-100	90-95-100	35-45-55	11-21-30

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
HfB—Hartland very fine sandy loam, 3 to 8 percent slopes														
Hartland	85	B	0-9	Very fine sandy loam	CL-ML, ML	A-4, A-6	0- 0- 0	0- 0- 0	100-100 -100	85-93-100	80-90-100	70-83-95	20-30 -40	2-7 -12
			9-29	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0- 0- 0	0- 0- 0	100-100 -100	85-93-100	80-90-100	70-83-95	15-20 -25	NP-3 -5
			29-65	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0- 0- 0	0- 0- 0	100-100 -100	85-93-100	80-90-100	70-83-95	15-20 -25	NP-3 -5
HfC2—Hartland very fine sandy loam, 8 to 15 percent slopes, eroded														
Hartland	85	B	0-9	Very fine sandy loam	CL-ML, ML	A-4, A-6	0- 0- 0	0- 0- 0	100-100 -100	85-93-100	80-90-100	70-83-95	20-30 -40	2-7 -12
			9-29	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0- 0- 0	0- 0- 0	100-100 -100	85-93-100	80-90-100	70-83-95	15-20 -25	NP-3 -5
			29-65	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0- 0- 0	0- 0- 0	100-100 -100	85-93-100	80-90-100	70-83-95	15-20 -25	NP-3 -5

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
HrB—Lyman-Tunbridge complex, 0 to 8 percent slopes, rocky														
Lyman	50	D	0-1	Moderately decomposed plant material, highly decomposed plant material, slightly decomposed plant material	PT	A-8	0- 0- 0	0- 0- 0	—	—	—	—	—	—
			1-3	Loam, fine sandy loam, very fine sandy loam, gravelly sandy loam	ML	A-4	0- 0- 28	0- 0- 18	55-100-100	53-100-100	38-82-90	22-55-62	0-35 -65	NP-3 -5
			3-5	Fine sandy loam, very fine sandy loam, loam, gravelly sandy loam	SC-SM	A-4	0- 0- 22	0- 0- 14	64-84-98	63-84-98	46-69-89	23-41-57	0-23 -34	NP-4 -6
			5-7	Fine sandy loam, very fine sandy loam, loam, gravelly sandy loam	SM	A-4	0- 0- 28	0- 0- 18	77-89-99	53-77-97	38-64-88	22-42-60	0-40 -76	NP-3 -5
			7-11	Loam, fine sandy loam, very fine sandy loam, gravelly sandy loam	SM	A-4	0- 0- 27	0- 0- 18	77-89-99	53-77-97	38-64-88	22-42-60	0-34 -61	NP-3 -5
			11-18	Channery loam, fine sandy loam, sandy loam, very fine sandy loam	SM	A-4	0- 0- 25	0-14- 30	52-84-99	50-83-99	36-69-89	21-46-61	0-26 -36	NP-4 -6

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
			18-79	Bedrock	—	—	—	—	—	—	—	—	—	—
Tunbridge	30	C	0-3	Moderately decomposed plant material	PT	A-8	0- 0- 0	0- 0- 0	—	—	—	—	—	—
			3-5	Highly decomposed plant material	PT	A-8	0- 0- 0	0- 0- 0	—	—	—	—	—	—
			5-8	Fine sandy loam, very fine sandy loam, loam, gravelly sandy loam	SC-SM	A-4	0- 0- 0	0- 8- 24	53-91-96	51-91-96	37-75-87	19-45-55	0-23 -34	NP-4 -6
			8-11	Loam, very fine sandy loam, fine sandy loam, gravelly sandy loam	SM	A-4	0- 0- 0	0- 4- 30	43-78-90	41-77-90	30-64-81	15-38-52	0-40 -76	NP-3 -5
			11-26	Very fine sandy loam, fine sandy loam, loam, gravelly sandy loam	SM	A-4	0- 0- 0	0- 6- 30	43-78-91	41-77-90	30-64-82	15-38-52	0-31 -60	NP-3 -5
			26-28	Fine sandy loam, very fine sandy loam, loam, gravelly sandy loam	SC-SM	A-4	0- 0- 0	0- 0- 25	52-91-91	50-91-91	36-75-83	19-45-53	0-21 -30	NP-4 -6
			28-79	Bedrock	—	—	—	—	—	—	—	—	—	—

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
HrC—Lyman-Tunbridge complex, 8 to 15 percent slopes, rocky														
Lyman	45	D	0-1	Moderately decomposed plant material, highly decomposed plant material, slightly decomposed plant material	PT	A-8	0- 0- 0	0- 0- 0	—	—	—	—	—	—
			1-3	Loam, fine sandy loam, very fine sandy loam, gravelly sandy loam	ML	A-4	0- 0- 28	0- 0- 18	55-100-100	53-100-100	38-82-90	22-55-62	0-35 -65	NP-3 -5
			3-5	Very fine sandy loam, loam, fine sandy loam, gravelly sandy loam	SC-SM	A-4	0- 0- 22	0- 0- 14	64-84-98	63-84-98	46-69-89	23-41-57	0-23 -34	NP-4 -6
			5-7	Fine sandy loam, very fine sandy loam, loam, gravelly sandy loam	SM	A-4	0- 0- 28	0- 0- 18	77-89-99	53-77-97	38-64-88	22-42-60	0-40 -76	NP-3 -5
			7-11	Loam, fine sandy loam, very fine sandy loam, gravelly sandy loam	SM	A-4	0- 0- 27	0- 0- 18	77-89-99	53-77-97	38-64-88	22-42-60	0-34 -61	NP-3 -5
			11-18	Sandy loam, very fine sandy loam, channery loam, fine sandy loam	SM	A-4	0- 0- 25	0-14- 30	52-84-99	50-83-99	36-69-89	21-46-61	0-26 -36	NP-4 -6

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
			18-79	Bedrock	—	—	—	—	—	—	—	—	—	—
Tunbridge	40	C	0-3	Moderately decomposed plant material	PT	A-8	0- 0- 0	0- 0- 0	—	—	—	—	—	—
			3-5	Highly decomposed plant material	PT	A-8	0- 0- 0	0- 0- 0	—	—	—	—	—	—
			5-8	Loam, fine sandy loam, very fine sandy loam, gravelly sandy loam	SC-SM	A-4	0- 0- 0	0- 8- 24	53-91-96	51-91-96	37-75-87	19-45-55	0-23 -34	NP-4 -6
			8-11	Very fine sandy loam, loam, fine sandy loam, gravelly sandy loam	SM	A-4	0- 0- 0	0- 4- 30	43-78-90	41-77-90	30-64-81	15-38-52	0-40 -76	NP-3 -5
			11-26	Very fine sandy loam, fine sandy loam, loam, gravelly sandy loam	SM	A-4	0- 0- 0	0- 6- 30	43-78-91	41-77-90	30-64-82	15-38-52	0-31 -60	NP-3 -5
			26-28	Fine sandy loam, very fine sandy loam, loam, gravelly sandy loam	SC-SM	A-4	0- 0- 0	0- 0- 25	52-91-91	50-91-91	36-75-83	19-45-53	0-21 -30	NP-4 -6
			28-79	Bedrock	—	—	—	—	—	—	—	—	—	—

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
HsB—Lyman-Abram complex, 0 to 8 percent slopes, very rocky														
Lyman	50	D	0-1	Moderately decomposed plant material, highly decomposed plant material, slightly decomposed plant material	PT	A-8	0- 0- 0	0- 0- 0	—	—	—	—	—	—
			1-3	Fine sandy loam, very fine sandy loam, loam, gravelly sandy loam	ML	A-4	0- 0- 28	0- 0- 18	55-100-100	53-100-100	38-82-90	22-55-62	0-35 -65	NP-3 -5
			3-5	Fine sandy loam, very fine sandy loam, loam, gravelly sandy loam	SC-SM	A-4	0- 0- 22	0- 0- 14	64-84-98	63-84-98	46-69-89	23-41-57	0-23 -34	NP-4 -6
			5-7	Fine sandy loam, loam, very fine sandy loam, gravelly sandy loam	SM	A-4	0- 0- 28	0- 0- 18	77-89-99	53-77-97	38-64-88	22-42-60	0-40 -76	NP-3 -5
			7-11	Fine sandy loam, very fine sandy loam, loam, gravelly sandy loam	SM	A-4	0- 0- 27	0- 0- 18	77-89-99	53-77-97	38-64-88	22-42-60	0-34 -61	NP-3 -5
			11-18	Channery loam, fine sandy loam, sandy loam, very fine sandy loam	SM	A-4	0- 0- 25	0-14- 30	52-84-99	50-83-99	36-69-89	21-46-61	0-26 -36	NP-4 -6

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
			18-79	Bedrock	—	—	—	—	—	—	—	—	—	—
Abram	30	D	0-2	Moderately decomposed plant material, highly decomposed plant material	PT	A-8	0- 0- 16	0- 0- 16	—	—	—	—	—	—
			2-3	Silt loam, fine sandy loam, loam, sandy loam, gravelly fine sandy loam	SC-SM, GM	A-2, A-4	0- 0- 6	0- 0- 19	60-79-89	60-79-89	50-68-80	30-43-51	0-22 -27	NP-5 -6
			3-6	Sandy loam, fine sandy loam, loam, silt loam, gravelly fine sandy loam	GM, SM	A-4, A-2	0- 0- 6	0- 0- 19	60-79-89	60-79-89	50-68-80	30-43-51	0-31 -43	NP-4 -5
			6-79	Bedrock	—	—	—	—	—	—	—	—	—	—

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
HsC—Lyman-Abram complex, 8 to 15 percent slopes, very rocky														
Lyman	45	D	0-1	Moderately decomposed plant material, highly decomposed plant material, slightly decomposed plant material	PT	A-8	0- 0- 0	0- 0- 0	—	—	—	—	—	—
			1-3	Fine sandy loam, very fine sandy loam, loam, gravelly sandy loam	ML	A-4	0- 0- 28	0- 0- 18	55-100-100	53-100-100	38-82-90	22-55-62	0-35 -65	NP-3 -5
			3-5	Fine sandy loam, very fine sandy loam, loam, gravelly sandy loam	SC-SM	A-4	0- 0- 22	0- 0- 14	64-84-98	63-84-98	46-69-89	23-41-57	0-23 -34	NP-4 -6
			5-7	Fine sandy loam, loam, very fine sandy loam, gravelly sandy loam	SM	A-4	0- 0- 28	0- 0- 18	77-89-99	53-77-97	38-64-88	22-42-60	0-40 -76	NP-3 -5
			7-11	Fine sandy loam, very fine sandy loam, loam, gravelly sandy loam	SM	A-4	0- 0- 27	0- 0- 18	77-89-99	53-77-97	38-64-88	22-42-60	0-34 -61	NP-3 -5
			11-18	Channery loam, fine sandy loam, sandy loam, very fine sandy loam	SM	A-4	0- 0- 25	0-14- 30	52-84-99	50-83-99	36-69-89	21-46-61	0-26 -36	NP-4 -6

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
			18-79	Bedrock	—	—	—	—	—	—	—	—	—	—
Abram	35	D	0-2	Moderately decomposed plant material, highly decomposed plant material	PT	A-8	0- 0- 16	0- 0- 16	—	—	—	—	—	—
			2-3	Silt loam, fine sandy loam, loam, sandy loam, gravelly fine sandy loam	SC-SM, GM	A-2, A-4	0- 0- 6	0- 0- 19	60-79-89	60-79-89	50-68-80	30-43-51	0-22 -27	NP-5 -6
			3-6	Sandy loam, fine sandy loam, loam, silt loam, gravelly fine sandy loam	GM, SM	A-4, A-2	0- 0- 6	0- 0- 19	60-79-89	60-79-89	50-68-80	30-43-51	0-31 -43	NP-4 -5
			6-79	Bedrock	—	—	—	—	—	—	—	—	—	—
Ls—Limerick-Saco silt loams														
Limerick	55	B/D	0-8	Silt loam	CL, CL-ML, ML	A-4, A-6	0- 0- 0	0- 0- 0	100-100-100	100-100-100	95-98-100	80-88-95	15-28-40	NP-8-15
			8-16	Silt loam, very fine sandy loam	CL-ML, ML, CL	A-6, A-4	0- 0- 0	0- 0- 0	95-98-100	95-98-100	90-95-100	80-88-95	15-28-40	NP-8-15
			16-65	Silt loam, very fine sandy loam, loamy very fine sand	CL, CL-ML, ML	A-4, A-6	0- 0- 0	0- 0- 0	100-100-100	100-100-100	95-98-100	60-78-95	15-28-40	NP-8-15
Saco	30	B/D	0-12	Silt loam	CL, CL-ML, ML	A-4, A-6	0- 0- 0	0- 0- 0	95-98-100	90-95-100	85-93-100	80-88-95	15-28-40	NP-8-15
			12-24	Silt loam, very fine sandy loam, loamy very fine sand	CL, ML	A-4	0- 0- 0	0- 0- 0	95-98-100	90-95-100	85-93-100	60-78-95	15-28-40	NP-5-10
			24-65	Silt loam, very fine sandy loam, loamy very fine sand	CL-ML, ML, SC-SM, SM	A-4	0- 0- 0	0- 0- 0	95-98-100	90-95-100	80-90-100	35-65-95	15-20-25	NP-3 -5

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
On—Ondawa fine sandy loam, 0 to 3 percent slopes, occasionally flooded														
Ondawa	85	B	0-9	Fine sandy loam, sandy loam, loam, very fine sandy loam	SM	A-4	0- 0- 0	0- 0- 0	73-100-100	72-100-100	62-98-100	24-47-63	0-0 -38	NP-0 -13
			9-30	Fine sandy loam, sandy loam, loam, very fine sandy loam	SM	A-4	0- 0- 0	0- 0- 0	75-100-100	74-100-100	64-98-100	24-47-63	0-0 -34	NP-0 -13
			30-65	Loamy fine sand, coarse sand, gravelly sand, loamy sand	SM	A-4	0- 0- 0	0- 0- 0	44-100-100	41-100-100	37-99-100	11-38-49	0-0 -30	NP-0 -9

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
Py—Podunk fine sandy loam, 0 to 3 percent slopes, occasionally flooded														
Podunk	83	B/D	0-10	Fine sandy loam, very fine sandy loam	SM	A-2, A-4	0- 0- 0	0- 0- 0	81-100-100	80-100-100	63-91-100	24-44-59	0-24 -34	NP-3 -9
			10-18	Fine sandy loam, very fine sandy loam	SM	A-2, A-4	0- 0- 0	0- 0- 0	82-100-100	82-100-100	62-88-100	23-41-57	0-19 -30	NP-1 -9
			18-30	Fine sandy loam, coarse sandy loam, very fine sandy loam, loamy fine sand	SM	A-2, A-4	0- 0- 0	0- 0- 0	82-100-100	82-100-100	62-88-100	23-41-57	0-17 -30	NP-1 -9
			30-65	Gravelly coarse sand, loamy fine sand, fine sandy loam, loamy sand	SM, SP-SM	A-4, A-2	0- 0- 0	0- 0- 0	44-100-100	41-100-100	34-92-100	11-36-45	0-0 -25	NP-0 -6
Sn—Scantic silt loam, 0 to 3 percent slopes														
Scantic	85	D	0-9	Silt loam	ML	A-7-5	0- 0- 0	0- 0- 0	100-100-100	93-96-100	84-90-99	75-84-93	31-46-53	9-15-16
			9-16	Silt loam, silty clay loam	CL	A-7-6	0- 0- 0	0- 0- 0	100-100-100	95-96-100	85-92-99	77-85-94	32-43-51	13-20-24
			16-29	Silty clay loam, silty clay	CH	A-7-6	0- 0- 0	0- 0- 0	100-100-100	95-97-100	89-96-100	81-91-100	43-52-72	24-29-43
			29-65	Silty clay, clay	CH	A-7-6	0- 0- 0	0- 0- 0	100-100-100	95-97-100	90-96-100	85-95-100	47-55-72	28-34-47

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
SuC2—Suffield silt loam, 8 to 15 percent slopes, eroded														
Suffield	85	C	0-6	Silt loam	MH, ML	A-4, A-5, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	85-93-100	36-46-55	5-10-15
			6-23	Silt loam, silty clay loam, silty clay	CL, MH, ML	A-4, A-6, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	85-93-100	28-42-55	8-17-25
			23-33	Silt loam, silty clay loam, silty clay	CL, MH, ML	A-4, A-6, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	85-93-100	28-42-55	8-17-25
			33-65	Silty clay, silty clay loam, clay	CL, MH	A-6, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	90-95-100	30-45-60	10-18-25
SuD2—Suffield silt loam, 15 to 25 percent slopes, eroded														
Suffield	85	C	0-6	Silt loam	MH, ML	A-4, A-5, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	85-93-100	36-46-55	5-10-15
			6-23	Silt loam, silty clay loam, silty clay	CL, MH, ML	A-4, A-6, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	85-93-100	28-42-55	8-17-25
			23-33	Silt loam, silty clay loam, silty clay	CL, MH, ML	A-4, A-6, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	85-93-100	28-42-55	8-17-25
			33-65	Silty clay, silty clay loam, clay	CL, MH	A-6, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	90-95-100	30-45-60	10-18-25

Engineering Properties–Cumberland County and Part of Oxford County, Maine														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
SuE2—Suffield silt loam, 25 to 45 percent slopes, eroded														
Suffield	85	C	0-6	Silt loam	MH, ML	A-4, A-5, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	85-93-100	36-46-55	5-10-15
			6-23	Silt loam, silty clay loam, silty clay	CL, MH, ML	A-4, A-6, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	85-93-100	28-42-55	8-17-25
			23-33	Silt loam, silty clay loam, silty clay	CL, MH, ML	A-4, A-6, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	85-93-100	28-42-55	8-17-25
			33-65	Silty clay, silty clay loam, clay	CL, MH	A-6, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	95-98-100	90-95-100	30-45-60	10-18-25
Sz—Swanton fine sandy loam														
Swanton	85	C/D	0-9	Fine sandy loam	CL, ML, SC, SM	A-2, A-4	0- 0- 0	0- 0- 0	100-100-100	95-98-100	60-78-95	30-48-65	15-23-30	NP-5 -9
			9-32	Fine sandy loam, sandy loam	CL, ML, SC, SM	A-2, A-4	0- 0- 0	0- 0- 0	100-100-100	95-98-100	60-78-95	30-48-65	15-23-30	NP-5 -9
			32-65	Silty clay loam, silty clay, clay	CH, CL	A-6, A-7	0- 0- 0	0- 0- 0	100-100-100	100-100-100	95-98-100	90-95-100	25-40-55	11-21-30

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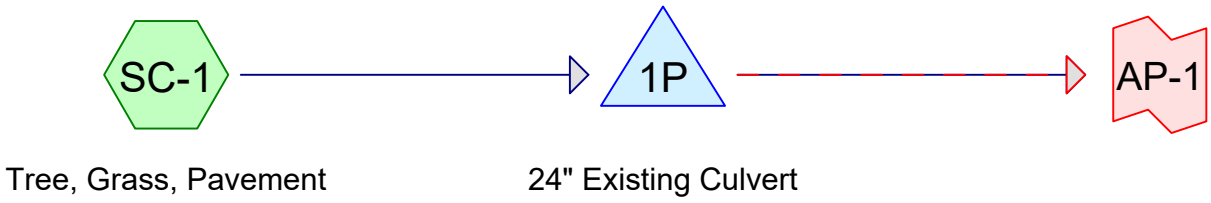
APPENDIX B

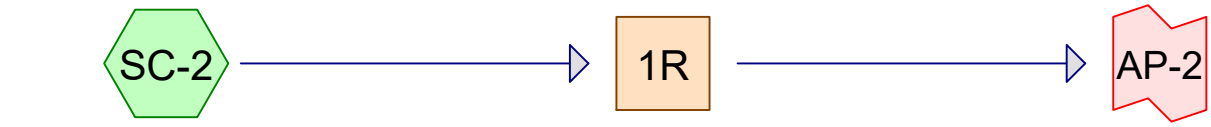
PRE-DEVELOPMENT HYDROCAD CALCULATIONS

SME
SEVEE & MAHER
ENGINEERS



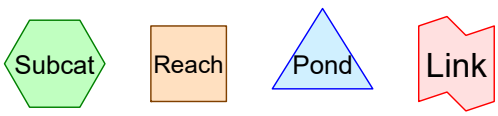
Tree, Grass, Pavement

24" Existing Culvert



Tree, Grass, Structure, Pavement

Drainage



Routing Diagram for The Grange Hall_PRE - 06282022a

Prepared by Sevee & Maher Engineers, Inc., Printed 6/28/2022

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

Subcatchment SC-1: Tree, Grass, Runoff Area=1,157,563 sf 0.54% Impervious Runoff Depth=1.20"
Flow Length=1,045' Tc=24.6 min CN=78 Runoff=19.76 cfs 2.659 af

Subcatchment SC-2: Tree, Grass, Runoff Area=3,607,020 sf 0.31% Impervious Runoff Depth=1.03"
Flow Length=994' Tc=33.4 min UI Adjusted CN=75 Runoff=43.53 cfs 7.085 af

Reach 1R: Drainage Avg. Flow Depth=0.90' Max Vel=2.54 fps Inflow=43.53 cfs 7.085 af
n=0.040 L=1,281.0' S=0.0094 '/' Capacity=231.29 cfs Outflow=40.69 cfs 7.085 af

Pond 1P: 24" Existing Culvert Peak Elev=61.59' Storage=23,434 cf Inflow=19.76 cfs 2.659 af
Primary=10.11 cfs 2.655 af Secondary=0.00 cfs 0.000 af Outflow=10.11 cfs 2.655 af

Link AP-1: Inflow=10.11 cfs 2.655 af
Primary=10.11 cfs 2.655 af

Link AP-2: Inflow=40.69 cfs 7.085 af
Primary=40.69 cfs 7.085 af

Total Runoff Area = 109.380 ac Runoff Volume = 9.744 af Average Runoff Depth = 1.07"
99.64% Pervious = 108.983 ac 0.36% Impervious = 0.397 ac

Summary for Subcatchment SC-1: Tree, Grass, Pavement

Runoff = 19.76 cfs @ 12.36 hrs, Volume= 2.659 af, Depth= 1.20"

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

Area (sf)	CN	Description
273,224	80	>75% Grass cover, Good, HSG D
1,133	96	Gravel surface, HSG D
870,741	77	Woods, Good, HSG D
12,465	93	Paved roads w/open ditches, 50% imp, HSG D
1,157,563	78	Weighted Average
1,151,331		99.46% Pervious Area
6,233		0.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	100	0.0800	0.29		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
3.9	254	0.0240	1.08		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
6.8	257	0.0160	0.63		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
8.2	434	0.0160	0.89		**Shallow Concentrated Flow, D-E** Short Grass Pasture Kv= 7.0 fps
24.6	1,045	Total			

Summary for Subcatchment SC-2: Tree, Grass, Structure, Pavement

Runoff = 43.53 cfs @ 12.50 hrs, Volume= 7.085 af, Depth= 1.03"

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

Area (sf)	CN	Adj	Description
877,902	80		>75% Grass cover, Good, HSG D
3,979	98		Unconnected roofs, HSG D
13,496	96		Gravel surface, HSG D
1,926,279	77		Woods, Good, HSG D
545,165	70		Woods, Good, HSG C
214,485	55		Woods, Good, HSG B
11,559	74		>75% Grass cover, Good, HSG C
14,155	93		Paved roads w/open ditches, 50% imp, HSG D
3,607,020	76	75	Weighted Average, UI Adjusted
3,595,964			99.69% Pervious Area
11,057			0.31% Impervious Area
3,979			35.99% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	100	0.0600	0.26		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
2.0	172	0.0400	1.40		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
22.6	479	0.0050	0.35		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
2.4	243	0.1100	1.66		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
33.4	994	Total			

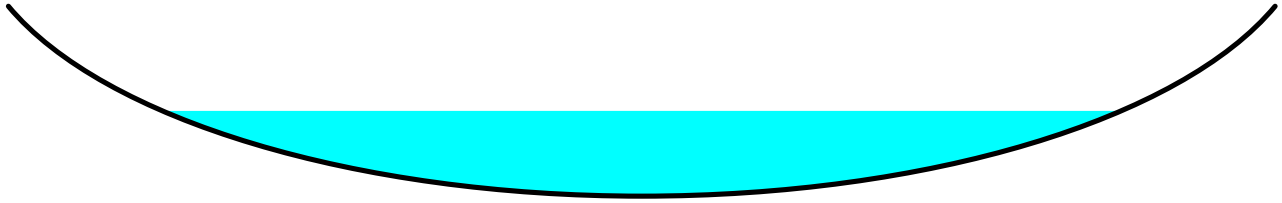
Summary for Reach 1R: Drainage

Inflow Area = 82.806 ac, 0.31% Impervious, Inflow Depth = 1.03" for 2-Year event
Inflow = 43.53 cfs @ 12.50 hrs, Volume= 7.085 af
Outflow = 40.69 cfs @ 12.73 hrs, Volume= 7.085 af, Atten= 7%, Lag= 13.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.54 fps, Min. Travel Time= 8.4 min
Avg. Velocity = 1.00 fps, Avg. Travel Time= 21.3 min

Peak Storage= 20,479 cf @ 12.59 hrs
Average Depth at Peak Storage= 0.90' , Surface Width= 26.77'
Bank-Full Depth= 2.00' Flow Area= 53.3 sf, Capacity= 231.29 cfs

40.00' x 2.00' deep Parabolic Channel, n= 0.040 Winding stream, pools & shoals
Length= 1,281.0' Slope= 0.0094 '/'
Inlet Invert= 42.00', Outlet Invert= 30.00'



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Summary for Pond 1P: 24" Existing Culvert

Inflow Area = 26.574 ac, 0.54% Impervious, Inflow Depth = 1.20" for 2-Year event
Inflow = 19.76 cfs @ 12.36 hrs, Volume= 2.659 af
Outflow = 10.11 cfs @ 12.71 hrs, Volume= 2.655 af, Atten= 49%, Lag= 20.6 min
Primary = 10.11 cfs @ 12.71 hrs, Volume= 2.655 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 61.59' @ 12.71 hrs Surf.Area= 25,592 sf Storage= 23,434 cf

Plug-Flow detention time= 42.6 min calculated for 2.654 af (100% of inflow)
Center-of-Mass det. time= 41.8 min (939.9 - 898.1)

Volume	Invert	Avail.Storage	Storage Description
#1	60.00'	141,427 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.00	3,955	0	0
62.00	31,236	35,191	35,191
64.00	75,000	106,236	141,427

Device	Routing	Invert	Outlet Devices
#1	Primary	60.00'	**24.0" Round Culvert** L= 50.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 60.00' / 59.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Secondary	63.00'	**10.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=10.11 cfs @ 12.71 hrs HW=61.59' (Free Discharge)
1=Culvert (Inlet Controls 10.11 cfs @ 3.78 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=60.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Link AP-1:

Inflow Area = 26.574 ac, 0.54% Impervious, Inflow Depth > 1.20" for 2-Year event
Inflow = 10.11 cfs @ 12.71 hrs, Volume= 2.655 af
Primary = 10.11 cfs @ 12.71 hrs, Volume= 2.655 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Link AP-2:

Inflow Area = 82.806 ac, 0.31% Impervious, Inflow Depth = 1.03" for 2-Year event
Inflow = 40.69 cfs @ 12.73 hrs, Volume= 7.085 af
Primary = 40.69 cfs @ 12.73 hrs, Volume= 7.085 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

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

Subcatchment SC-1: Tree, Grass, Runoff Area=1,157,563 sf 0.54% Impervious Runoff Depth=2.38"
Flow Length=1,045' Tc=24.6 min CN=78 Runoff=40.08 cfs 5.261 af

Subcatchment SC-2: Tree, Grass, Runoff Area=3,607,020 sf 0.31% Impervious Runoff Depth=2.13"
Flow Length=994' Tc=33.4 min UI Adjusted CN=75 Runoff=94.73 cfs 14.691 af

Reach 1R: Drainage Avg. Flow Depth=1.30' Max Vel=3.26 fps Inflow=94.73 cfs 14.691 af
n=0.040 L=1,281.0' S=0.0094 '/' Capacity=231.29 cfs Outflow=90.77 cfs 14.691 af

Pond 1P: 24" Existing Culvert Peak Elev=62.50' Storage=53,447 cf Inflow=40.08 cfs 5.261 af
Primary=16.33 cfs 5.257 af Secondary=0.00 cfs 0.000 af Outflow=16.33 cfs 5.257 af

Link AP-1: Inflow=16.33 cfs 5.257 af
Primary=16.33 cfs 5.257 af

Link AP-2: Inflow=90.77 cfs 14.691 af
Primary=90.77 cfs 14.691 af

Total Runoff Area = 109.380 ac Runoff Volume = 19.952 af Average Runoff Depth = 2.19"
99.64% Pervious = 108.983 ac 0.36% Impervious = 0.397 ac

Summary for Subcatchment SC-1: Tree, Grass, Pavement

Runoff = 40.08 cfs @ 12.35 hrs, Volume= 5.261 af, Depth= 2.38"

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

Area (sf)	CN	Description
273,224	80	>75% Grass cover, Good, HSG D
1,133	96	Gravel surface, HSG D
870,741	77	Woods, Good, HSG D
12,465	93	Paved roads w/open ditches, 50% imp, HSG D
1,157,563	78	Weighted Average
1,151,331		99.46% Pervious Area
6,233		0.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	100	0.0800	0.29		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
3.9	254	0.0240	1.08		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
6.8	257	0.0160	0.63		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
8.2	434	0.0160	0.89		**Shallow Concentrated Flow, D-E** Short Grass Pasture Kv= 7.0 fps
24.6	1,045	Total			

Summary for Subcatchment SC-2: Tree, Grass, Structure, Pavement

Runoff = 94.73 cfs @ 12.47 hrs, Volume= 14.691 af, Depth= 2.13"

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

Area (sf)	CN	Adj	Description
877,902	80		>75% Grass cover, Good, HSG D
3,979	98		Unconnected roofs, HSG D
13,496	96		Gravel surface, HSG D
1,926,279	77		Woods, Good, HSG D
545,165	70		Woods, Good, HSG C
214,485	55		Woods, Good, HSG B
11,559	74		>75% Grass cover, Good, HSG C
14,155	93		Paved roads w/open ditches, 50% imp, HSG D
3,607,020	76	75	Weighted Average, UI Adjusted
3,595,964			99.69% Pervious Area
11,057			0.31% Impervious Area
3,979			35.99% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	100	0.0600	0.26		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
2.0	172	0.0400	1.40		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
22.6	479	0.0050	0.35		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
2.4	243	0.1100	1.66		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
33.4	994	Total			

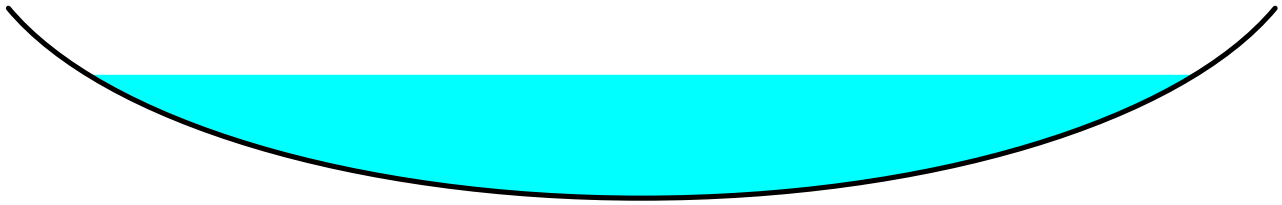
Summary for Reach 1R: Drainage

Inflow Area = 82.806 ac, 0.31% Impervious, Inflow Depth = 2.13" for 10-Year event
Inflow = 94.73 cfs @ 12.47 hrs, Volume= 14.691 af
Outflow = 90.77 cfs @ 12.66 hrs, Volume= 14.691 af, Atten= 4%, Lag= 11.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.26 fps, Min. Travel Time= 6.6 min
Avg. Velocity = 1.19 fps, Avg. Travel Time= 17.9 min

Peak Storage= 35,718 cf @ 12.55 hrs
Average Depth at Peak Storage= 1.30' , Surface Width= 32.22'
Bank-Full Depth= 2.00' Flow Area= 53.3 sf, Capacity= 231.29 cfs

40.00' x 2.00' deep Parabolic Channel, n= 0.040 Winding stream, pools & shoals
Length= 1,281.0' Slope= 0.0094 '/'
Inlet Invert= 42.00', Outlet Invert= 30.00'



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Summary for Pond 1P: 24" Existing Culvert

Inflow Area = 26.574 ac, 0.54% Impervious, Inflow Depth = 2.38" for 10-Year event
Inflow = 40.08 cfs @ 12.35 hrs, Volume= 5.261 af
Outflow = 16.33 cfs @ 12.79 hrs, Volume= 5.257 af, Atten= 59%, Lag= 26.0 min
Primary = 16.33 cfs @ 12.79 hrs, Volume= 5.257 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 62.50' @ 12.79 hrs Surf.Area= 42,126 sf Storage= 53,447 cf

Plug-Flow detention time= 44.4 min calculated for 5.255 af (100% of inflow)
Center-of-Mass det. time= 44.0 min (916.6 - 872.6)

Volume	Invert	Avail.Storage	Storage Description
#1	60.00'	141,427 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.00	3,955	0	0
62.00	31,236	35,191	35,191
64.00	75,000	106,236	141,427

Device	Routing	Invert	Outlet Devices
#1	Primary	60.00'	**24.0" Round Culvert** L= 50.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 60.00' / 59.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Secondary	63.00'	**10.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=16.33 cfs @ 12.79 hrs HW=62.50' (Free Discharge)
1=Culvert (Inlet Controls 16.33 cfs @ 5.20 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=60.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Link AP-1:

Inflow Area = 26.574 ac, 0.54% Impervious, Inflow Depth > 2.37" for 10-Year event
Inflow = 16.33 cfs @ 12.79 hrs, Volume= 5.257 af
Primary = 16.33 cfs @ 12.79 hrs, Volume= 5.257 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Link AP-2:

Inflow Area = 82.806 ac, 0.31% Impervious, Inflow Depth = 2.13" for 10-Year event
Inflow = 90.77 cfs @ 12.66 hrs, Volume= 14.691 af
Primary = 90.77 cfs @ 12.66 hrs, Volume= 14.691 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

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

Subcatchment SC-1: Tree, Grass, Runoff Area=1,157,563 sf 0.54% Impervious Runoff Depth=3.40"
Flow Length=1,045' Tc=24.6 min CN=78 Runoff=57.44 cfs 7.536 af

Subcatchment SC-2: Tree, Grass, Runoff Area=3,607,020 sf 0.31% Impervious Runoff Depth=3.11"
Flow Length=994' Tc=33.4 min UI Adjusted CN=75 Runoff=139.57 cfs 21.477 af

Reach 1R: Drainage Avg. Flow Depth=1.56' Max Vel=3.68 fps Inflow=139.57 cfs 21.477 af
n=0.040 L=1,281.0' S=0.0094 '/' Capacity=231.29 cfs Outflow=135.00 cfs 21.476 af

Pond 1P: 24" Existing Culvert Peak Elev=63.12' Storage=84,142 cf Inflow=57.44 cfs 7.536 af
Primary=19.45 cfs 7.493 af Secondary=1.18 cfs 0.038 af Outflow=20.63 cfs 7.531 af

Link AP-1: Inflow=20.63 cfs 7.531 af
Primary=20.63 cfs 7.531 af

Link AP-2: Inflow=135.00 cfs 21.476 af
Primary=135.00 cfs 21.476 af

Total Runoff Area = 109.380 ac Runoff Volume = 29.012 af Average Runoff Depth = 3.18"
99.64% Pervious = 108.983 ac 0.36% Impervious = 0.397 ac

Summary for Subcatchment SC-1: Tree, Grass, Pavement

Runoff = 57.44 cfs @ 12.35 hrs, Volume= 7.536 af, Depth= 3.40"

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

Area (sf)	CN	Description
273,224	80	>75% Grass cover, Good, HSG D
1,133	96	Gravel surface, HSG D
870,741	77	Woods, Good, HSG D
12,465	93	Paved roads w/open ditches, 50% imp, HSG D
1,157,563	78	Weighted Average
1,151,331		99.46% Pervious Area
6,233		0.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	100	0.0800	0.29		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
3.9	254	0.0240	1.08		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
6.8	257	0.0160	0.63		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
8.2	434	0.0160	0.89		**Shallow Concentrated Flow, D-E** Short Grass Pasture Kv= 7.0 fps
24.6	1,045	Total			

Summary for Subcatchment SC-2: Tree, Grass, Structure, Pavement

Runoff = 139.57 cfs @ 12.46 hrs, Volume= 21.477 af, Depth= 3.11"

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

Area (sf)	CN	Adj	Description
877,902	80		>75% Grass cover, Good, HSG D
3,979	98		Unconnected roofs, HSG D
13,496	96		Gravel surface, HSG D
1,926,279	77		Woods, Good, HSG D
545,165	70		Woods, Good, HSG C
214,485	55		Woods, Good, HSG B
11,559	74		>75% Grass cover, Good, HSG C
14,155	93		Paved roads w/open ditches, 50% imp, HSG D
3,607,020	76	75	Weighted Average, UI Adjusted
3,595,964			99.69% Pervious Area
11,057			0.31% Impervious Area
3,979			35.99% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	100	0.0600	0.26		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
2.0	172	0.0400	1.40		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
22.6	479	0.0050	0.35		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
2.4	243	0.1100	1.66		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
33.4	994	Total			

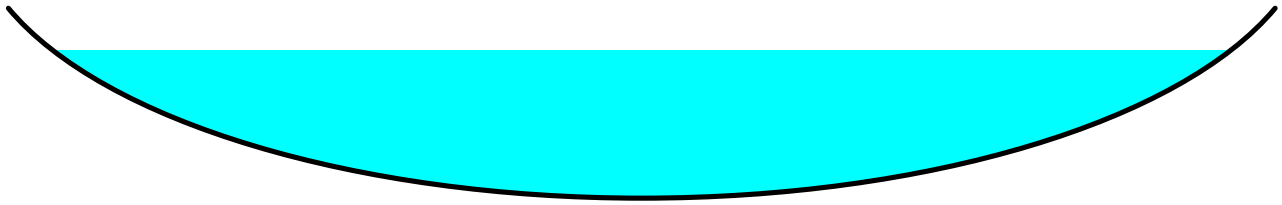
Summary for Reach 1R: Drainage

Inflow Area = 82.806 ac, 0.31% Impervious, Inflow Depth = 3.11" for 25-Year event
Inflow = 139.57 cfs @ 12.46 hrs, Volume= 21.477 af
Outflow = 135.00 cfs @ 12.63 hrs, Volume= 21.476 af, Atten= 3%, Lag= 10.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.68 fps, Min. Travel Time= 5.8 min
Avg. Velocity = 1.31 fps, Avg. Travel Time= 16.3 min

Peak Storage= 47,037 cf @ 12.53 hrs
Average Depth at Peak Storage= 1.56' , Surface Width= 35.32'
Bank-Full Depth= 2.00' Flow Area= 53.3 sf, Capacity= 231.29 cfs

40.00' x 2.00' deep Parabolic Channel, n= 0.040 Winding stream, pools & shoals
Length= 1,281.0' Slope= 0.0094 '/'
Inlet Invert= 42.00', Outlet Invert= 30.00'



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Summary for Pond 1P: 24" Existing Culvert

Inflow Area = 26.574 ac, 0.54% Impervious, Inflow Depth = 3.40" for 25-Year event
Inflow = 57.44 cfs @ 12.35 hrs, Volume= 7.536 af
Outflow = 20.63 cfs @ 12.84 hrs, Volume= 7.531 af, Atten= 64%, Lag= 29.3 min
Primary = 19.45 cfs @ 12.84 hrs, Volume= 7.493 af
Secondary = 1.18 cfs @ 12.84 hrs, Volume= 0.038 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 63.12' @ 12.84 hrs Surf.Area= 55,839 sf Storage= 84,142 cf

Plug-Flow detention time= 49.8 min calculated for 7.529 af (100% of inflow)
Center-of-Mass det. time= 49.5 min (908.8 - 859.3)

Volume	Invert	Avail.Storage	Storage Description
#1	60.00'	141,427 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.00	3,955	0	0
62.00	31,236	35,191	35,191
64.00	75,000	106,236	141,427

Device	Routing	Invert	Outlet Devices
#1	Primary	60.00'	**24.0" Round Culvert** L= 50.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 60.00' / 59.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Secondary	63.00'	**10.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=19.45 cfs @ 12.84 hrs HW=63.12' (Free Discharge)
1=Culvert (Inlet Controls 19.45 cfs @ 6.19 fps)

Secondary OutFlow Max=1.17 cfs @ 12.84 hrs HW=63.12' (Free Discharge)
2=Broad-Crested Rectangular Weir (Weir Controls 1.17 cfs @ 0.94 fps)

Summary for Link AP-1:

Inflow Area = 26.574 ac, 0.54% Impervious, Inflow Depth > 3.40" for 25-Year event
Inflow = 20.63 cfs @ 12.84 hrs, Volume= 7.531 af
Primary = 20.63 cfs @ 12.84 hrs, Volume= 7.531 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Link AP-2:

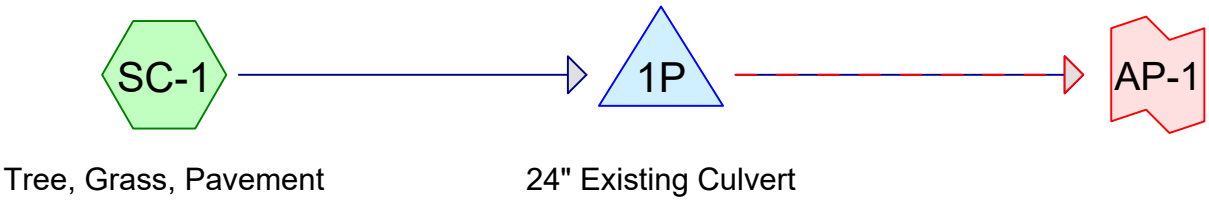
Inflow Area = 82.806 ac, 0.31% Impervious, Inflow Depth = 3.11" for 25-Year event
Inflow = 135.00 cfs @ 12.63 hrs, Volume= 21.476 af
Primary = 135.00 cfs @ 12.63 hrs, Volume= 21.476 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

APPENDIX C

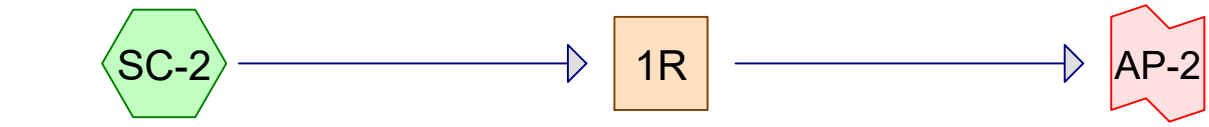
POST-DEVELOPMENT HYDROCAD CALCULATIONS

SME
SEVEE & MAHER
ENGINEERS



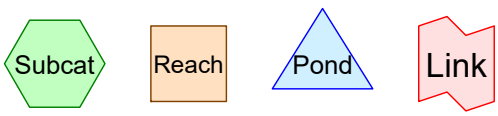
Tree, Grass, Pavement

24" Existing Culvert



Tree, Grass, Structure, Pavement

Drainage



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

Subcatchment SC-1: Tree, Grass, Runoff Area=1,119,751 sf 1.11% Impervious Runoff Depth=1.20"
Flow Length=930' Tc=27.8 min CN=78 Runoff=17.99 cfs 2.572 af

Subcatchment SC-2: Tree, Grass, Runoff Area=3,644,832 sf 2.06% Impervious Runoff Depth=1.08"
Flow Length=1,030' Tc=33.3 min CN=76 Runoff=47.13 cfs 7.551 af

Reach 1R: Drainage Avg. Flow Depth=0.93' Max Vel=2.61 fps Inflow=47.13 cfs 7.551 af
n=0.040 L=1,281.0' S=0.0094 '/' Capacity=231.29 cfs Outflow=44.05 cfs 7.551 af

Pond 1P: 24" Existing Culvert Peak Elev=61.54' Storage=22,211 cf Inflow=17.99 cfs 2.572 af
Primary=9.66 cfs 2.568 af Secondary=0.00 cfs 0.000 af Outflow=9.66 cfs 2.568 af

Link AP-1: Inflow=9.66 cfs 2.568 af
Primary=9.66 cfs 2.568 af

Link AP-2: Inflow=44.05 cfs 7.551 af
Primary=44.05 cfs 7.551 af

Total Runoff Area = 109.380 ac Runoff Volume = 10.123 af Average Runoff Depth = 1.11"
98.16% Pervious = 107.371 ac 1.84% Impervious = 2.009 ac

Summary for Subcatchment SC-1: Tree, Grass, Pavement

Runoff = 17.99 cfs @ 12.39 hrs, Volume= 2.572 af, Depth= 1.20"

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

Area (sf)	CN	Description
235,433	80	>75% Grass cover, Good, HSG D
871,853	77	Woods, Good, HSG D
12,465	98	Paved roads w/curbs & sewers, HSG D
1,119,751	78	Weighted Average
1,107,286		98.89% Pervious Area
12,465		1.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.0200	0.17		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
3.0	147	0.0140	0.83		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
6.6	249	0.0160	0.63		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
8.2	434	0.0160	0.89		**Shallow Concentrated Flow, D-E** Short Grass Pasture Kv= 7.0 fps
27.8	930	Total			

Summary for Subcatchment SC-2: Tree, Grass, Structure, Pavement

Runoff = 47.13 cfs @ 12.47 hrs, Volume= 7.551 af, Depth= 1.08"

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

Area (sf)	CN	Description
889,068	80	>75% Grass cover, Good, HSG D
8,255	98	Unconnected roofs, HSG D
66,796	98	Paved parking, HSG D
1,909,504	77	Woods, Good, HSG D
545,165	70	Woods, Good, HSG C
214,485	55	Woods, Good, HSG B
11,559	74	>75% Grass cover, Good, HSG C
3,644,832	76	Weighted Average
3,569,781		97.94% Pervious Area
75,051		2.06% Impervious Area
8,255		11.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	100	0.0600	0.26		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
0.7	82	0.0750	1.92		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
0.1	42	0.0100	5.26	6.46	**Pipe Channel, C-D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
0.3	14	0.0100	0.70		**Shallow Concentrated Flow, D-E** Short Grass Pasture Kv= 7.0 fps
1.2	64	0.0150	0.86		**Shallow Concentrated Flow, E-F** Short Grass Pasture Kv= 7.0 fps
1.0	36	0.0150	0.61		**Shallow Concentrated Flow, F-G** Woodland Kv= 5.0 fps
21.2	449	0.0050	0.35		**Shallow Concentrated Flow, G-H** Woodland Kv= 5.0 fps
2.4	243	0.1100	1.66		**Shallow Concentrated Flow, H-I** Woodland Kv= 5.0 fps
33.3	1,030	Total			

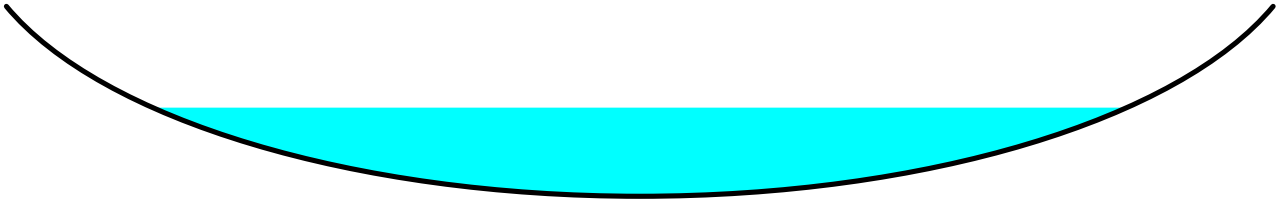
Summary for Reach 1R: Drainage

Inflow Area = 83.674 ac, 2.06% Impervious, Inflow Depth = 1.08" for 2-Year event
Inflow = 47.13 cfs @ 12.47 hrs, Volume= 7.551 af
Outflow = 44.05 cfs @ 12.72 hrs, Volume= 7.551 af, Atten= 7%, Lag= 14.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.61 fps, Min. Travel Time= 8.2 min
Avg. Velocity = 1.02 fps, Avg. Travel Time= 21.0 min

Peak Storage= 21,640 cf @ 12.58 hrs
Average Depth at Peak Storage= 0.93' , Surface Width= 27.27'
Bank-Full Depth= 2.00' Flow Area= 53.3 sf, Capacity= 231.29 cfs

40.00' x 2.00' deep Parabolic Channel, n= 0.040 Winding stream, pools & shoals
Length= 1,281.0' Slope= 0.0094 '/'
Inlet Invert= 42.00', Outlet Invert= 30.00'



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Summary for Pond 1P: 24" Existing Culvert

Inflow Area = 25.706 ac, 1.11% Impervious, Inflow Depth = 1.20" for 2-Year event
Inflow = 17.99 cfs @ 12.39 hrs, Volume= 2.572 af
Outflow = 9.66 cfs @ 12.76 hrs, Volume= 2.568 af, Atten= 46%, Lag= 22.1 min
Primary = 9.66 cfs @ 12.76 hrs, Volume= 2.568 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 61.54' @ 12.76 hrs Surf.Area= 24,932 sf Storage= 22,211 cf

Plug-Flow detention time= 42.8 min calculated for 2.568 af (100% of inflow)
Center-of-Mass det. time= 41.9 min (943.0 - 901.1)

Volume	Invert	Avail.Storage	Storage Description
#1	60.00'	141,427 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.00	3,955	0	0
62.00	31,236	35,191	35,191
64.00	75,000	106,236	141,427

Device	Routing	Invert	Outlet Devices
#1	Primary	60.00'	**24.0" Round Culvert** L= 50.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 60.00' / 59.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Secondary	63.00'	**10.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=9.66 cfs @ 12.76 hrs HW=61.54' (Free Discharge)
1=Culvert (Inlet Controls 9.66 cfs @ 3.73 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=60.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Link AP-1:

Inflow Area = 25.706 ac, 1.11% Impervious, Inflow Depth > 1.20" for 2-Year event
Inflow = 9.66 cfs @ 12.76 hrs, Volume= 2.568 af
Primary = 9.66 cfs @ 12.76 hrs, Volume= 2.568 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Link AP-2:

Inflow Area = 83.674 ac, 2.06% Impervious, Inflow Depth = 1.08" for 2-Year event
Inflow = 44.05 cfs @ 12.72 hrs, Volume= 7.551 af
Primary = 44.05 cfs @ 12.72 hrs, Volume= 7.551 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

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

Subcatchment SC-1: Tree, Grass, Runoff Area=1,119,751 sf 1.11% Impervious Runoff Depth=2.38"
Flow Length=930' Tc=27.8 min CN=78 Runoff=36.58 cfs 5.089 af

Subcatchment SC-2: Tree, Grass, Runoff Area=3,644,832 sf 2.06% Impervious Runoff Depth=2.21"
Flow Length=1,030' Tc=33.3 min CN=76 Runoff=100.13 cfs 15.409 af

Reach 1R: Drainage Avg. Flow Depth=1.33' Max Vel=3.31 fps Inflow=100.13 cfs 15.409 af
n=0.040 L=1,281.0' S=0.0094 '/' Capacity=231.29 cfs Outflow=95.73 cfs 15.409 af

Pond 1P: 24" Existing Culvert Peak Elev=62.42' Storage=50,363 cf Inflow=36.58 cfs 5.089 af
Primary=15.92 cfs 5.085 af Secondary=0.00 cfs 0.000 af Outflow=15.92 cfs 5.085 af

Link AP-1: Inflow=15.92 cfs 5.085 af
Primary=15.92 cfs 5.085 af

Link AP-2: Inflow=95.73 cfs 15.409 af
Primary=95.73 cfs 15.409 af

Total Runoff Area = 109.380 ac Runoff Volume = 20.498 af Average Runoff Depth = 2.25"
98.16% Pervious = 107.371 ac 1.84% Impervious = 2.009 ac

Summary for Subcatchment SC-1: Tree, Grass, Pavement

Runoff = 36.58 cfs @ 12.39 hrs, Volume= 5.089 af, Depth= 2.38"

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

Area (sf)	CN	Description
235,433	80	>75% Grass cover, Good, HSG D
871,853	77	Woods, Good, HSG D
12,465	98	Paved roads w/curbs & sewers, HSG D
1,119,751	78	Weighted Average
1,107,286		98.89% Pervious Area
12,465		1.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.0200	0.17		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
3.0	147	0.0140	0.83		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
6.6	249	0.0160	0.63		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
8.2	434	0.0160	0.89		**Shallow Concentrated Flow, D-E** Short Grass Pasture Kv= 7.0 fps
27.8	930	Total			

Summary for Subcatchment SC-2: Tree, Grass, Structure, Pavement

Runoff = 100.13 cfs @ 12.47 hrs, Volume= 15.409 af, Depth= 2.21"

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

Area (sf)	CN	Description
889,068	80	>75% Grass cover, Good, HSG D
8,255	98	Unconnected roofs, HSG D
66,796	98	Paved parking, HSG D
1,909,504	77	Woods, Good, HSG D
545,165	70	Woods, Good, HSG C
214,485	55	Woods, Good, HSG B
11,559	74	>75% Grass cover, Good, HSG C
3,644,832	76	Weighted Average
3,569,781		97.94% Pervious Area
75,051		2.06% Impervious Area
8,255		11.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	100	0.0600	0.26		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
0.7	82	0.0750	1.92		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
0.1	42	0.0100	5.26	6.46	**Pipe Channel, C-D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
0.3	14	0.0100	0.70		**Shallow Concentrated Flow, D-E** Short Grass Pasture Kv= 7.0 fps
1.2	64	0.0150	0.86		**Shallow Concentrated Flow, E-F** Short Grass Pasture Kv= 7.0 fps
1.0	36	0.0150	0.61		**Shallow Concentrated Flow, F-G** Woodland Kv= 5.0 fps
21.2	449	0.0050	0.35		**Shallow Concentrated Flow, G-H** Woodland Kv= 5.0 fps
2.4	243	0.1100	1.66		**Shallow Concentrated Flow, H-I** Woodland Kv= 5.0 fps
33.3	1,030	Total			

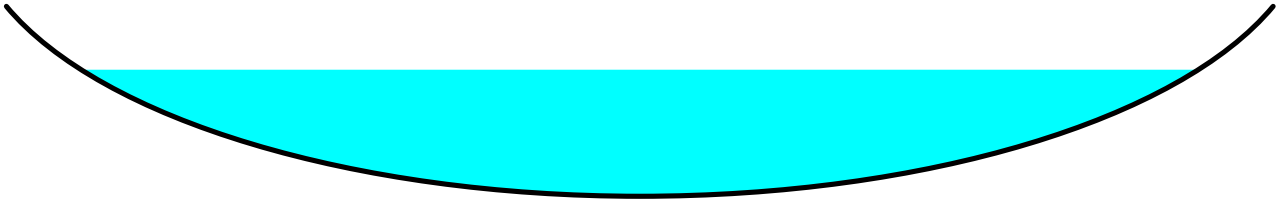
Summary for Reach 1R: Drainage

Inflow Area = 83.674 ac, 2.06% Impervious, Inflow Depth = 2.21" for 10-Year event
Inflow = 100.13 cfs @ 12.47 hrs, Volume= 15.409 af
Outflow = 95.73 cfs @ 12.66 hrs, Volume= 15.409 af, Atten= 4%, Lag= 11.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.31 fps, Min. Travel Time= 6.5 min
Avg. Velocity = 1.20 fps, Avg. Travel Time= 17.7 min

Peak Storage= 37,061 cf @ 12.55 hrs
Average Depth at Peak Storage= 1.33' , Surface Width= 32.62'
Bank-Full Depth= 2.00' Flow Area= 53.3 sf, Capacity= 231.29 cfs

40.00' x 2.00' deep Parabolic Channel, n= 0.040 Winding stream, pools & shoals
Length= 1,281.0' Slope= 0.0094 '/'
Inlet Invert= 42.00', Outlet Invert= 30.00'



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Summary for Pond 1P: 24" Existing Culvert

Inflow Area = 25.706 ac, 1.11% Impervious, Inflow Depth = 2.38" for 10-Year event
Inflow = 36.58 cfs @ 12.39 hrs, Volume= 5.089 af
Outflow = 15.92 cfs @ 12.84 hrs, Volume= 5.085 af, Atten= 56%, Lag= 27.0 min
Primary = 15.92 cfs @ 12.84 hrs, Volume= 5.085 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 62.42' @ 12.84 hrs Surf.Area= 40,493 sf Storage= 50,363 cf

Plug-Flow detention time= 44.0 min calculated for 5.083 af (100% of inflow)
Center-of-Mass det. time= 43.5 min (919.1 - 875.6)

Volume	Invert	Avail.Storage	Storage Description
#1	60.00'	141,427 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.00	3,955	0	0
62.00	31,236	35,191	35,191
64.00	75,000	106,236	141,427

Device	Routing	Invert	Outlet Devices
#1	Primary	60.00'	**24.0" Round Culvert** L= 50.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 60.00' / 59.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Secondary	63.00'	**10.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=15.92 cfs @ 12.84 hrs HW=62.42' (Free Discharge)
1=Culvert (Inlet Controls 15.92 cfs @ 5.07 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=60.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Link AP-1:

Inflow Area = 25.706 ac, 1.11% Impervious, Inflow Depth > 2.37" for 10-Year event
Inflow = 15.92 cfs @ 12.84 hrs, Volume= 5.085 af
Primary = 15.92 cfs @ 12.84 hrs, Volume= 5.085 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Link AP-2:

Inflow Area = 83.674 ac, 2.06% Impervious, Inflow Depth = 2.21" for 10-Year event
Inflow = 95.73 cfs @ 12.66 hrs, Volume= 15.409 af
Primary = 95.73 cfs @ 12.66 hrs, Volume= 15.409 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

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

Subcatchment SC-1: Tree, Grass, Runoff Area=1,119,751 sf 1.11% Impervious Runoff Depth=3.40"
Flow Length=930' Tc=27.8 min CN=78 Runoff=52.46 cfs 7.289 af

Subcatchment SC-2: Tree, Grass, Runoff Area=3,644,832 sf 2.06% Impervious Runoff Depth=3.21"
Flow Length=1,030' Tc=33.3 min CN=76 Runoff=146.15 cfs 22.370 af

Reach 1R: Drainage Avg. Flow Depth=1.59' Max Vel=3.73 fps Inflow=146.15 cfs 22.370 af
n=0.040 L=1,281.0' S=0.0094 '/' Capacity=231.29 cfs Outflow=140.91 cfs 22.370 af

Pond 1P: 24" Existing Culvert Peak Elev=63.05' Storage=80,038 cf Inflow=52.46 cfs 7.289 af
Primary=19.11 cfs 7.278 af Secondary=0.31 cfs 0.007 af Outflow=19.42 cfs 7.285 af

Link AP-1: Inflow=19.42 cfs 7.285 af
Primary=19.42 cfs 7.285 af

Link AP-2: Inflow=140.91 cfs 22.370 af
Primary=140.91 cfs 22.370 af

Total Runoff Area = 109.380 ac Runoff Volume = 29.660 af Average Runoff Depth = 3.25"
98.16% Pervious = 107.371 ac 1.84% Impervious = 2.009 ac

Summary for Subcatchment SC-1: Tree, Grass, Pavement

Runoff = 52.46 cfs @ 12.39 hrs, Volume= 7.289 af, Depth= 3.40"

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

Area (sf)	CN	Description
235,433	80	>75% Grass cover, Good, HSG D
871,853	77	Woods, Good, HSG D
12,465	98	Paved roads w/curbs & sewers, HSG D
1,119,751	78	Weighted Average
1,107,286		98.89% Pervious Area
12,465		1.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.0200	0.17		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
3.0	147	0.0140	0.83		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
6.6	249	0.0160	0.63		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
8.2	434	0.0160	0.89		**Shallow Concentrated Flow, D-E** Short Grass Pasture Kv= 7.0 fps
27.8	930	Total			

Summary for Subcatchment SC-2: Tree, Grass, Structure, Pavement

Runoff = 146.15 cfs @ 12.47 hrs, Volume= 22.370 af, Depth= 3.21"

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

Area (sf)	CN	Description
889,068	80	>75% Grass cover, Good, HSG D
8,255	98	Unconnected roofs, HSG D
66,796	98	Paved parking, HSG D
1,909,504	77	Woods, Good, HSG D
545,165	70	Woods, Good, HSG C
214,485	55	Woods, Good, HSG B
11,559	74	>75% Grass cover, Good, HSG C
3,644,832	76	Weighted Average
3,569,781		97.94% Pervious Area
75,051		2.06% Impervious Area
8,255		11.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	100	0.0600	0.26		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
0.7	82	0.0750	1.92		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
0.1	42	0.0100	5.26	6.46	**Pipe Channel, C-D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
0.3	14	0.0100	0.70		**Shallow Concentrated Flow, D-E** Short Grass Pasture Kv= 7.0 fps
1.2	64	0.0150	0.86		**Shallow Concentrated Flow, E-F** Short Grass Pasture Kv= 7.0 fps
1.0	36	0.0150	0.61		**Shallow Concentrated Flow, F-G** Woodland Kv= 5.0 fps
21.2	449	0.0050	0.35		**Shallow Concentrated Flow, G-H** Woodland Kv= 5.0 fps
2.4	243	0.1100	1.66		**Shallow Concentrated Flow, H-I** Woodland Kv= 5.0 fps
33.3	1,030	Total			

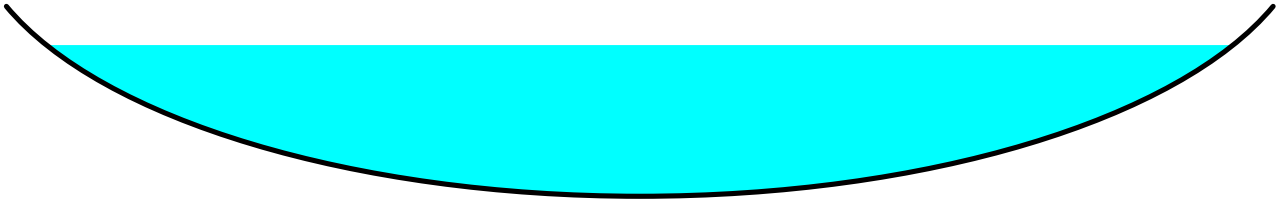
Summary for Reach 1R: Drainage

Inflow Area = 83.674 ac, 2.06% Impervious, Inflow Depth = 3.21" for 25-Year event
Inflow = 146.15 cfs @ 12.47 hrs, Volume= 22.370 af
Outflow = 140.91 cfs @ 12.63 hrs, Volume= 22.370 af, Atten= 4%, Lag= 9.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.73 fps, Min. Travel Time= 5.7 min
Avg. Velocity = 1.32 fps, Avg. Travel Time= 16.1 min

Peak Storage= 48,454 cf @ 12.53 hrs
Average Depth at Peak Storage= 1.59' , Surface Width= 35.67'
Bank-Full Depth= 2.00' Flow Area= 53.3 sf, Capacity= 231.29 cfs

40.00' x 2.00' deep Parabolic Channel, n= 0.040 Winding stream, pools & shoals
Length= 1,281.0' Slope= 0.0094 '/'
Inlet Invert= 42.00', Outlet Invert= 30.00'



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Summary for Pond 1P: 24" Existing Culvert

Inflow Area = 25.706 ac, 1.11% Impervious, Inflow Depth = 3.40" for 25-Year event
Inflow = 52.46 cfs @ 12.39 hrs, Volume= 7.289 af
Outflow = 19.42 cfs @ 12.91 hrs, Volume= 7.285 af, Atten= 63%, Lag= 31.5 min
Primary = 19.11 cfs @ 12.91 hrs, Volume= 7.278 af
Secondary = 0.31 cfs @ 12.91 hrs, Volume= 0.007 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 63.05' @ 12.91 hrs Surf.Area= 54,207 sf Storage= 80,038 cf

Plug-Flow detention time= 49.4 min calculated for 7.285 af (100% of inflow)
Center-of-Mass det. time= 49.0 min (911.3 - 862.2)

Volume	Invert	Avail.Storage	Storage Description
#1	60.00'	141,427 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.00	3,955	0	0
62.00	31,236	35,191	35,191
64.00	75,000	106,236	141,427

Device	Routing	Invert	Outlet Devices
#1	Primary	60.00'	**24.0" Round Culvert** L= 50.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 60.00' / 59.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Secondary	63.00'	**10.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=19.11 cfs @ 12.91 hrs HW=63.05' (Free Discharge)
1=Culvert (Inlet Controls 19.11 cfs @ 6.08 fps)

Secondary OutFlow Max=0.30 cfs @ 12.91 hrs HW=63.05' (Free Discharge)
2=Broad-Crested Rectangular Weir (Weir Controls 0.30 cfs @ 0.60 fps)

Summary for Link AP-1:

Inflow Area = 25.706 ac, 1.11% Impervious, Inflow Depth > 3.40" for 25-Year event
Inflow = 19.42 cfs @ 12.91 hrs, Volume= 7.285 af
Primary = 19.42 cfs @ 12.91 hrs, Volume= 7.285 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Link AP-2:

Inflow Area = 83.674 ac, 2.06% Impervious, Inflow Depth = 3.21" for 25-Year event
Inflow = 140.91 cfs @ 12.63 hrs, Volume= 22.370 af
Primary = 140.91 cfs @ 12.63 hrs, Volume= 22.370 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

APPENDIX F

WELL INFORMATION

SME
SEVEE & MAHER
ENGINEERS

Northeast Laboratory Services

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Winslow Maine, 04901

Administrative Offices
Phone: 1-207-873-7711
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Customer Service
Phone: 1-800-244-8378
Fax: 1-207-873-7022

Certificate of Analysis

Attention: Al Timpson
C/o Sywergosity LLC
173 Spurwink Rd
Scarborough ME 04074

Lab ID Number: 302205138
P.O. Number: 302205138 CC
Date/Time Collected: 6/7/2022 05:30
Date/Time Received: 6/7/2022 15:30
Date Reported: 6/8/2022

Owner: Al Timpson/Restuarant
Location 76 Longwoods Rd Cumberland ME
Sample Type: Potability

Legend
- Meets Acceptable EPA Limits
- See Notation
- Does Not Meet EPA Limits

Parameter:		Your Result:	EPA LIMIT:	Unit:	Method:	Preparation Date/Time	Analysis Date/Time:	Reporting Limit:
Chloride, Total	✓	28	250	mg/L	SM 4500Cl- E		6/8/2022 / 11:28	2.5
A 1/5 dilution was performed in order to bring the concentration of Chloride, Total into the calibration range. The reporting limit has been adjusted accordingly.								
Fluoride	✓	0.29	4.0	mg/L	SM 4500F E		6/8/2022 / 11:46	0.20
Nitrite-Nitrogen, Total	✓	<0.20	1	mg/L	NECi Method 1.0		6/7/2022 / 16:21	0.20
Nitrate-Nitrogen, Total	✓	<0.50	10	mg/L	NECi Method 1.0		6/7/2022 / 16:32	0.50
Sulfate		14		mg/L	SM 4500-SO4 E		6/7/2022 / 16:21	1.0
Arsenic, Total	✗	23.6	10.0	µg/L	EPA 200.8	6/7/2022 / 17:00	6/8/2022 / 11:03	1.000
*This sample is at or above the MCL of 10.0 µg/L of Arsenic established by the USEPA and the MEG of 10 µg/L of Arsenic established by the MECDC. This sample is out of USEPA compliance for public drinking water systems. See Notation 1 and Notation 2.								
Lead Total	✓	<1.000	15.0	µg/L	EPA 200.8	6/7/2022 / 17:00	6/8/2022 / 11:03	1.000
Uranium Total	✓	16.8	30	µg/L	EPA 200.8	6/7/2022 / 17:00	6/8/2022 / 11:03	1.000
Antimony, Total	✓	<1.000	6	µg/L	EPA 200.8	6/7/2022 / 17:00	6/8/2022 / 11:03	1.000
Cadmium, Total	✓	<1.000	5.0	µg/L	EPA 200.8	6/7/2022 / 17:00	6/8/2022 / 11:03	1.000
Copper Total	✓	0.0121	1.3	mg/L	EPA 200.8	6/7/2022 / 17:00	6/8/2022 / 11:03	0.001
Iron Total	✓	0.204	0.3	mg/L	EPA 200.8	6/7/2022 / 17:00	6/8/2022 / 11:03	0.050
Manganese Total	✓	0.00866	.05	mg/L	EPA 200.8	6/7/2022 / 17:00	6/8/2022 / 11:03	0.001
Sodium Total	⚠	37.6		mg/L	EPA 200.8	6/7/2022 / 17:00	6/8/2022 / 11:03	0.001
*This sample is at or above the MEG of 20 mg/L of Sodium established by the MECDC. Sodium is not listed as a primary nor secondary contaminant of concern by the USEPA. See Notation 1.								
Calcium, Total		21.2		mg/L	EPA 200.8	6/7/2022 / 17:00	6/8/2022 / 11:03	1.000
Magnesium, Total		1.60		mg/L	EPA 200.8	6/7/2022 / 17:00	6/8/2022 / 11:03	1.000
Hardness by calculation		60		mg/L	SM 2340B	6/7/2022 / 17:00	6/8/2022 / 11:03	10
Chromium, Total		<0.001	0.10	mg/L	EPA 200.8	6/7/2022 / 17:00	6/8/2022 / 11:03	0.001
pH Electrometric	✓	7.41	6.5 to 8.5	stu@25C	EPA 150.1		6/7/2022 / 16:28	2.0
Total Coliform Colilert18	✓	<1		MPN/100mL	SM9223B	6/7/2022 / 16:12	6/8/2022/ 10:12	1

Northeast Laboratory Services

P.O. BOX 788
Waterville Maine, 04901-0788

227 China Road
Winslow Maine, 04901

Administrative Offices
Phone: 1-207-873-7711
Fax: 1-207-873-7022

Customer Service
Phone: 1-800-244-8378
Fax: 1-207-873-7022

Certificate of Analysis

E.Coli - Colilert Enumeration	✓	<1	1	MPN/100mL	SM9223B	6/7/2022 / 16:12	6/8/2022/ 10:12	1

Comments:

✗ For the above tests only, this water does not meet EPA Limits. See specific comments above.

All samples analyzed for Nitrate-N and/or Nitrite-N samples must be thermally preserved to 4±2°C. However, the Maine CDC Drinking Water Program will accept non-thermally preserved test results.

The following Notations may be referenced above.

Notation 1: The Maximum Exposure Guideline (MEG) is a health-based guideline set by the Maine Center for Disease Control and Prevention (MECDC). MEGs are recommendations for concentrations of chemical contaminants for all drinking water systems below which there is minimal risk of a harmful health effect resulting from long-term ingestion of contaminated water. These recommendations can be found online at <http://www.maine.gov/dhhs/mecdc/environmental-health/eohp/wells/documents/megtable2016.pdf>. Please contact one of the State of Maine's Bureau of Health Toxicologists, toll free, at 1-866-292-3474 for more information.

Notation 2: The Maximum Contamination Level (MCL) is set by the United States Environmental Protection Agency (USEPA) through the National Primary Drinking Water Regulations and are legally enforceable drinking water standards that apply to all public water systems. These regulations can be found online at <http://water.epa.gov/drink/contaminants/index.cfm> or by calling the Safe Drinking Water Hotline at 1-800-426-4791. Contaminants at or above the MCL are considered to impart potential negative health effects.

Notation 3: The Secondary Maximum Contamination Level (SMCL) is set by the United States Environmental Protection Agency (USEPA) through the National Secondary Drinking Water Regulations and these contaminants are not considered to present a risk to human health at the SMCL. These regulations can be found online at <http://water.epa.gov/drink/contaminants/secondarystandards.cfm> or by calling the Safe Drinking Water Hotline at 1-800-426-4791. Contaminants at or above (or below, only for pH) the SMCL may cause aesthetic considerations, such as taste, color and/or odor.

Notation 4: According to the EPA revised total coliform rule (effective April 1st, 2016) total coliform bacteria are no longer considered a primary contaminant. Total coliform bacteria are still used as indicator organisms for the presence of pathogens. Their presence in drinking water may indicate there is a route for pathogens (certain bacteria, viruses or protozoa) to enter the drinking water. Even though there is no longer an EPA limit, the presence of total coliform bacteria in drinking water is a problem requiring further action and investigation. If your water has tested positive for total coliform bacteria it is important to examine your water system and take action to eliminate the total coliform bacteria when possible. Please see the well disinfection procedure for more information @ <http://www.nelabservices.com/pdf/Well-Disinfection-Instructions.pdf>.

If you have any questions regarding your results please call 1-800-244-8378 ext 300

Authorized By

Megan Bushover, Laboratory Technical Director

6/8/2022

Review Date

Winslow lab is accredited by the State of Maine Department of Health and Human Services, Maine Center for Disease Control and Prevention (ME00009) and by the National Environmental Laboratory Accreditation Program (NELAP) through the State of New Hampshire Environmental Laboratory Accreditation Program (#2534). To see a current list of certifications see our website: www.nelabservices.com.

302205138

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

Memo to Accompany Request for Public Water Supply Well Setback Reduction Waiver Review Process The Grange at Longwoods, Cumberland, Maine

Date: February 2, 2022

Purpose of Memo:

The purpose of this memo is to begin the process for a waiver approval for a setback reduction between a proposed drilled, bedrock Public Water System well and septic systems both existing and proposed. The proposed facility will be regulated as an eating and drinking establishment with accommodations for public gatherings and will be a Public Water System.

Location of the property:

The property is a 62-acre parcel at 76 Longwoods Road, Cumberland. It is located on the westerly side of Longwoods Road (Route 9), opposite Woody Creek Lane. There is an existing house on the property, which is served by an old subsurface wastewater disposal system and a drilled bedrock well.

Description of the Re-development of the Property:

Of the existing 60 acres, 52 acres will be put into permanent conservation, with a working farm operating from the existing farmhouse, and public access on 3 miles of walking trails. Adjacent to the farm house a 4,000 square foot hall will be built which will be a farm-to-table, family style restaurant and function facility. This restaurant/facility will be served by a subsurface wastewater disposal system with a Design Flow of under 2,000 gallons per day. A suitable site for this SSWD system is identified on the site plan. The restaurant/facility will need a new drilled, bedrock well. The water supply will be a Public Water System, based upon the anticipated use of the restaurant/facility.

Maine Farm Trust is buying a 54.5-acre Conservation Easement, leaving 7.5 acres for the restaurant/facility. The Public Water Supply well must be on the smaller development parcel. This presents a spatial challenge to the 300-foot setback requirement.

Request for a Waiver:

A waiver to the 300-foot setback between the Public Water System well and the septic systems serving the farmhouse and the restaurant/facility is requested. On-site soil test pits, soil borings, site observations and a search of published literature suggests the setback reduction to distances between 150 and 299 feet are suitable.

Description of geology:

The property is located on a dissected terrace easterly of Piscataqua River (see Figure 1). The ground surface is nearly level. The existing farm house occupies the highest portion of the property. The driveway is roughly a local watershed divide.

Michael J. Retelle (1992) mapped the area as a deposit of Presumpscot Formation, with shallow bedrock in the vicinity of the farmhouse (see Figure 2) on the *Surficial Geology of the Cumberland Center Quadrangle, Maine.* The *National Cooperative Soil Survey* depicts the property as an association of Buxton silt loam, Scantic silt loam and Suffield silt loam (see Figure 3). This is consistent with the surficial geologic mapping.

On *the Bedrock Geology of the Portland 1:100,000 Quadrangle, New Hampshire and Maine* bedrock beneath the site is mapped as granofels of the Hutchins Corner Formation (SOhc) by Berry and Hussey (1998), (see Figure 4). Bedrock was observed as an outcrop in a cluster of trees north of the farmhouse. The Maine Water Well Database contains information from two wells in the area, drilled into the same rock formation. Depth to bedrock is reported as 30 to 70 feet in these wells.

Four soil test pits were dug on the property, to better understand the composition of the subsurface and the characteristics of the bedrock surface. Soil logs are attached. The test pit closest to the bedrock outcrop (TP-2) has an observed bedrock depth of 66 inches below the surface. Bedrock was not found at the preferred water well site (TP-1) to a depth of 102 inches and a test pit located between the preferred water well site and the proposed restaurant SSWD had no bedrock to a depth of 120 inches.

All test pits contained friable topsoils and subsoils and firm, restrictive substrata that was either massive silt clay loam or interbedded silt clay loam and sandy loam to loamy sand. This suggests shallow bedrock is consistent with the depiction by Retelle, and the bedrock surface drops away from its high point. Whereas the surficial material is Presumpscot Formation and the depiction of the soils as Buxton silt loam is generally suitable, the substrata show common facies changes and a complex depositional history. This area is clearly not a simple deep basin

filled with uniform fine textured sediment. That being said, the bedrock surface is everywhere covered with silt clay loam in the substrata.

The test pit at the proposed SSWD is attached (TP-4). It was done with a hand auger and reveals fine sandy loam topsoil and subsoil and a silt clay loam substratum. The Profile and Condition of the site is 8D, with a restrictive horizon at 14 inches. The SSWD site is also located at an elevation lower than the proposed water well location. The groundwater flow direction from the SSWD will be southeasterly and not toward the Public Water System well.

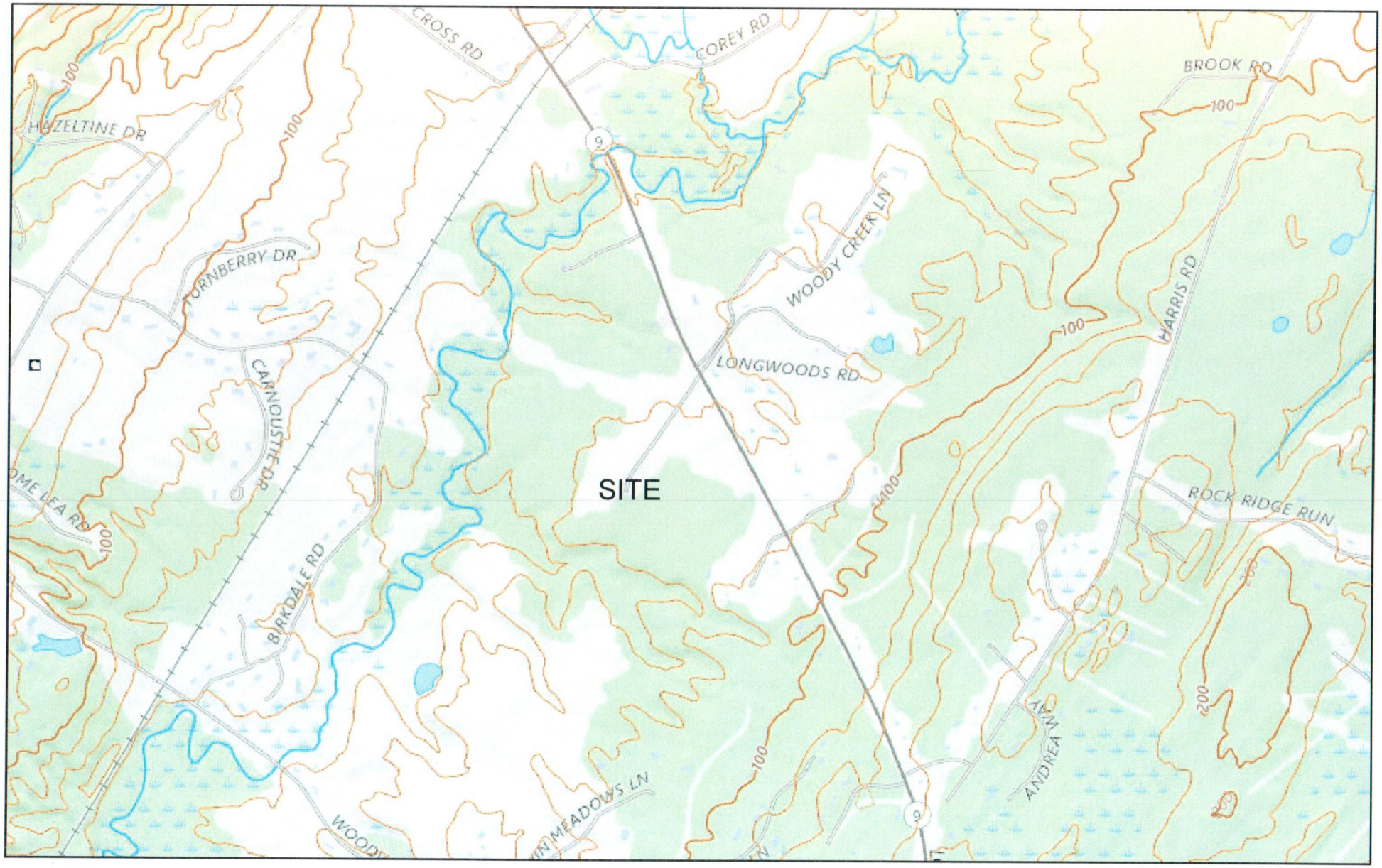
The existing farmhouse is served by a very old SSWD. There is no Permit record of and it is assumed to be a V-plank trench system to the west of the house. The proposal is to upgrade this SSWD and locate it farther to the west on soils that demonstrably have a silt clay loam substratum. The groundwater flow from such a SSWD will flow westerly, away from the proposed Public Water System well and will have a protective silt clay loam horizon above any bedrock.

Conclusions:

On-site and published geologic and soil information shows that a drilled water well located at the preferred site will not be influenced by septic systems on the site. Favorable factors include the structure and texture of the subsoils, the depth of the bedrock and the groundwater flow directions,

Mark Cenci, Licensed Geologist # 467

Figure 1.



2/1/2022 6:27:25 PM

Normal Intermediate Contours

Normal Index Contours

1:18,056

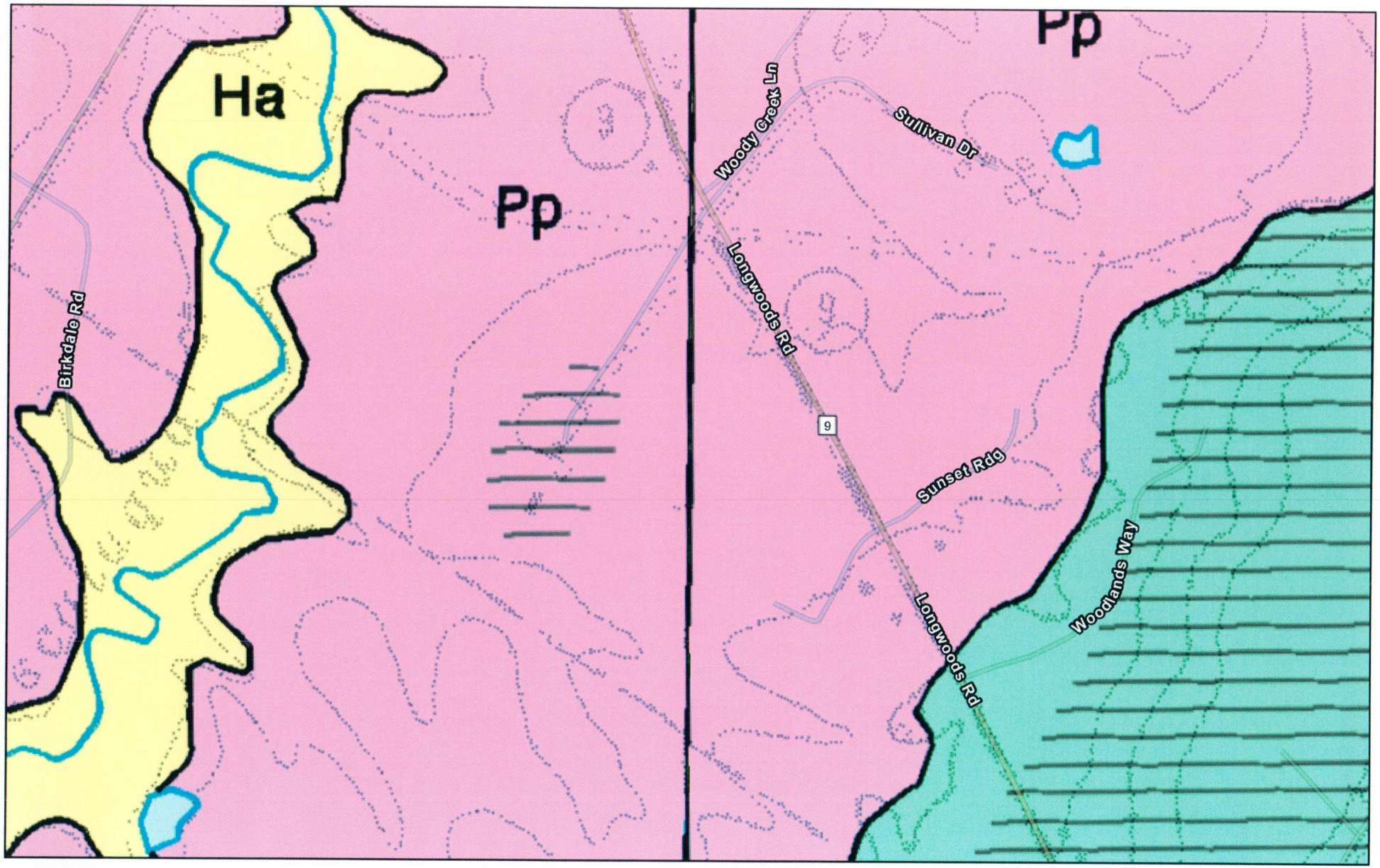
0 0.1 0.2 0.4 mi

0 0.17 0.35 0.7 km

USGS The National Map: National Boundaries Dataset, 3DEP Elevation

USGS

Figure 2. Surficial Geology 1:24,000



2/1/2022, 6:16:50 PM

Image

Red: Band_1

Green: Band_2

Blue: Band_3

1:9,028

0 0.05 0.1 0.2 mi

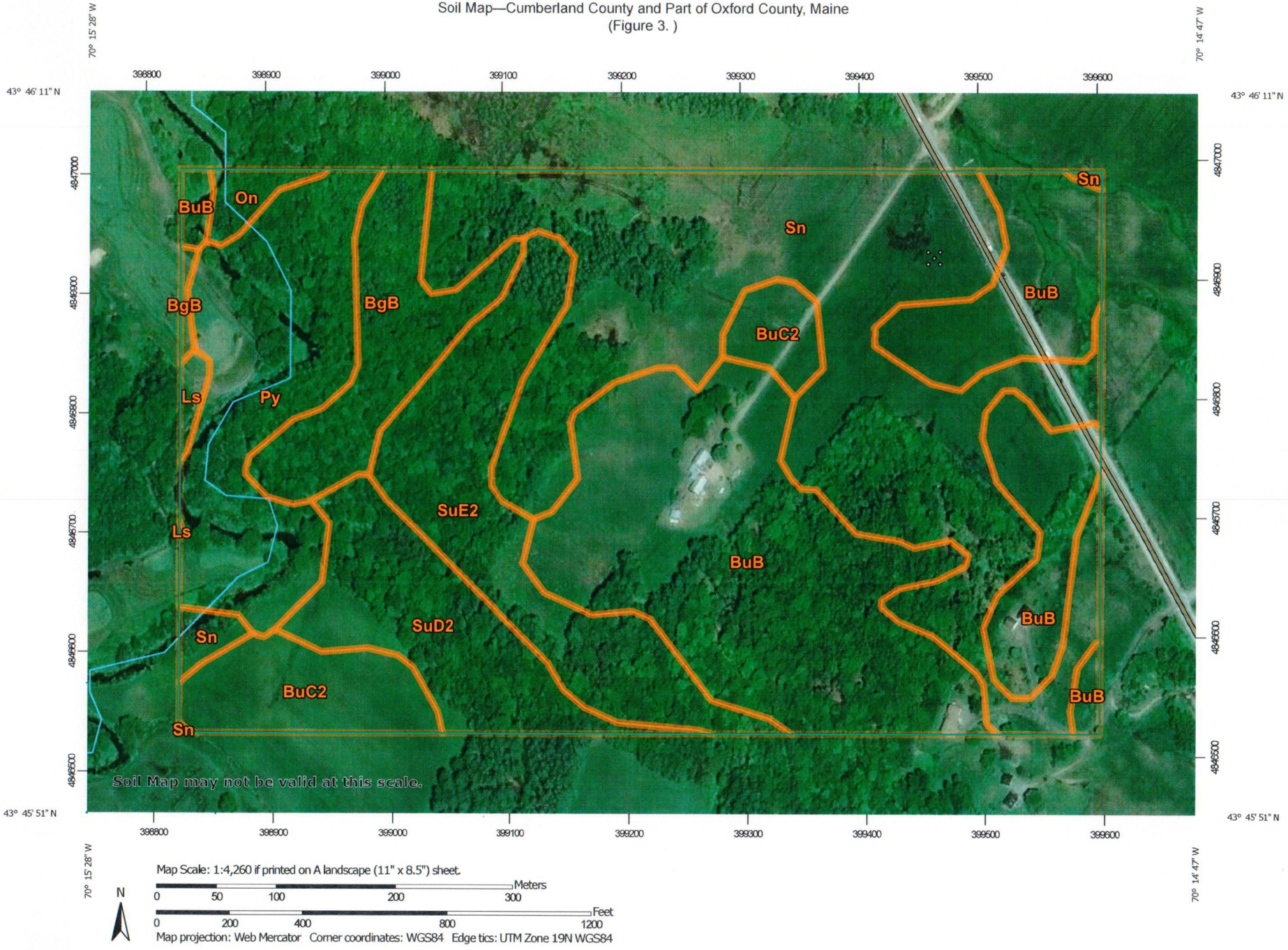
0 0.07 0.15 0.3 km

Esri Community Maps Contributors, © OpenStreetMap, Microsoft, Esri

Maine Geological Survey

Maxar | Esri Community Maps Contributors, © OpenStreetMap, Microsoft, Esri Canada, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA |

Soil Map—Cumberland County and Part of Oxford County, Maine
(Figure 3.)



Map Scale: 1:4,260 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0, 50, 100, 200, 300

Feet: 0, 200, 400, 800, 1200

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

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

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

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

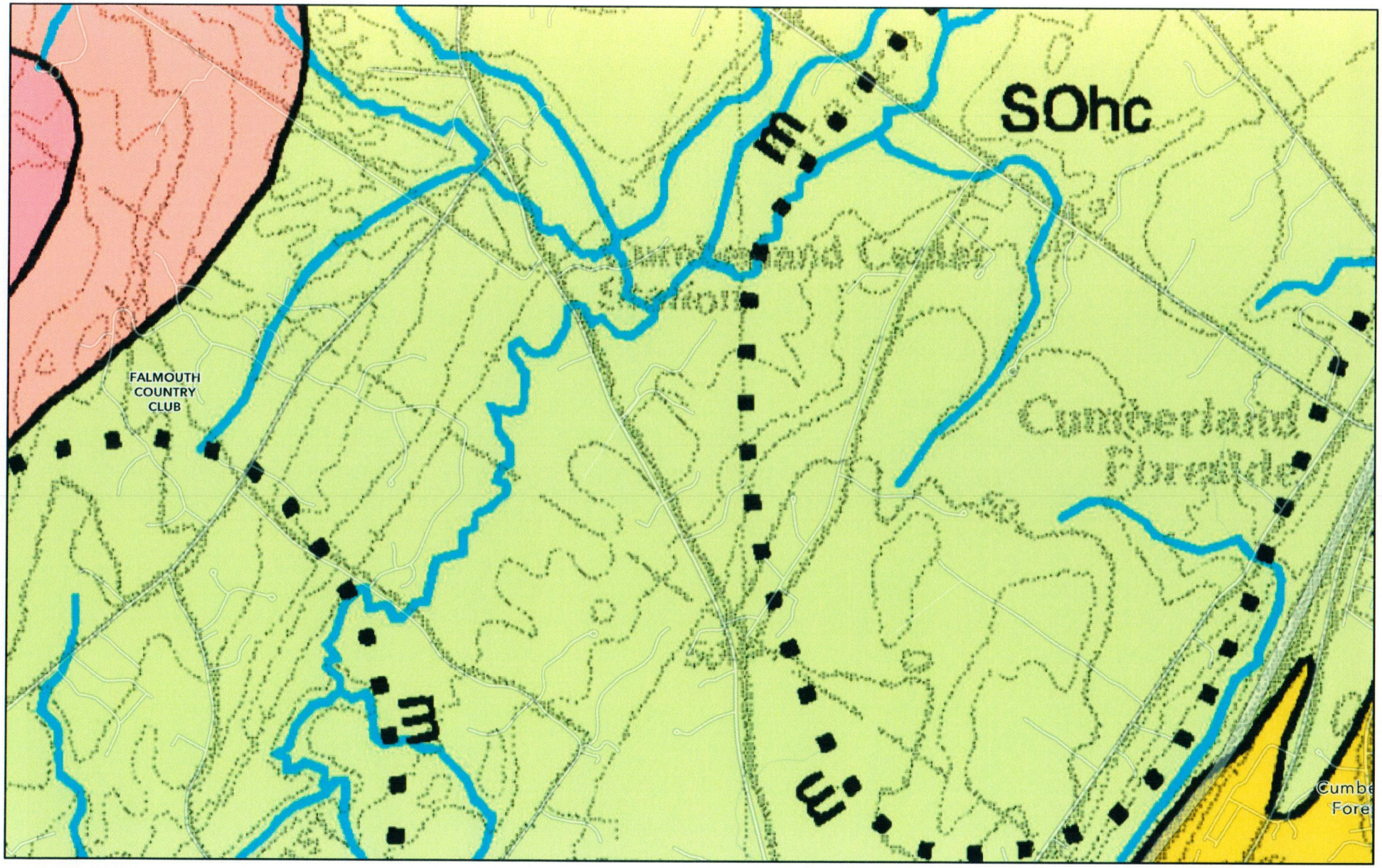
Date(s) aerial images were photographed: Jun 7, 2019—Jul 2, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BgB	Nicholville very fine sandy loam, 0 to 8 percent slopes	5.5	6.1%
BuB	Lamoine silt loam, 3 to 8 percent slopes	26.6	29.3%
BuC2	Buxton silt loam, 8 to 15 percent slopes	5.0	5.5%
Ls	Limerick-Saco silt loams	0.4	0.4%
On	Ondawa fine sandy loam, 0 to 3 percent slopes, occasionally flooded	0.8	0.8%
Py	Podunk fine sandy loam, 0 to 3 percent slopes, occasionally flooded	9.8	10.8%
Sn	Scantic silt loam, 0 to 3 percent slopes	27.1	29.9%
SuD2	Suffield silt loam, 15 to 25 percent slopes, eroded	6.4	7.1%
SuE2	Suffield silt loam, 25 to 45 percent slopes, eroded	9.1	10.1%
Totals for Area of Interest		**90.7**	**100.0%**

Figure 4. Bedrock Geology 100K



2/2/2022, 8:35:43 AM

Image

Red: Band_1

Green: Band_2

1:36,112

0 0.23 0.45 0.9 mi

0 0.35 0.7 1.4 km

Maine Geological Survey, Esri Canada, Esri, HERE, Garmin, SafeGraph,

Maine Geological Survey

Maine Geological Survey | Esri Community Maps Contributors, Esri Canada, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA | Esri Community Maps Contributors, Esri Canada, Esri, HERE, Garmin,

Figure 5. Overburden Thickness Maine Well Database

2/2/2022, 7:21:26 PM

Overburden Thickness (ft)

- 20.1 - 25
- 25.1 - 30
- 50.1 - 75

1:4,514

0 0.03 0.06 0.11 mi

0 0.04 0.09 0.17 km

Esri, HERE, Garmin, iPC, Maxar

Maine Geological Survey
2015

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

Observation Hole # TP-1 ☐ Test Pit ☐ Boring

" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)

	Texture	Consistency	Color	Mottling
0–6	LOAM	FRIABLE	DARK BROWN	
6–12				
12–18	SILT LOAM TO SILT CLAY LOAM	FIRM	OLIVE YELLOW TO OLIVE GRAY	COMMON
18–24				NO BEDROCK TO 102"
24–30				
30–36				
36–42				
42–48				

Soil Profile	Classification Condition	Slope Percent	Limiting Factor Depth	
				☐ Groundwater ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole # TP-2 ☐ Test Pit ☐ Boring

" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)

	Texture	Consistency	Color	Mottling
0–6			DARK BROWN	
6–12	SANDY LOAM	FRIABLE	RED TO YELLOW BROWN	
12–18				
18–24				
24–30				
30–36		FIRM	GRAY BROWN	COMMON
36–42	BEDROCK AT ~66"			
42–48				

Soil Profile	Classification Condition	Slope Percent	Limiting Factor Depth	
				☐ Groundwater ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole # TP-3 ☒ Test Pit ☐ Boring

" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)

	Texture	Consistency	Color	Mottling
0–6	FINE SANDY LOAM	FRIABLE	DARK BROWN	
6–12			RED BROWN	
12–18		FIRM	OLIVE BROWN	COMMON
18–24				
24–30				
30–36	FROM 72" TO 120" SILT AND SAND INTERBEDDED			
36–42	LIMIT OF PIT AT 120"			
42–48				

Soil Profile	Classification Condition	Slope Percent	Limiting Factor Depth	
				☐ Groundwater ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole # TP-4 ☐ Test Pit ☒ Boring

1" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)

	Texture	Consistency	Color	Mottling
0–6	FINE SANDY LOAM	FRIABLE	DARK BROWN	
6–12			OLIVE YELLOW	COMMON
12–18	SILT LOAM	FIRM	TO OLIVE GRAY	
18–24				
24–30				
30–36				
36–42				
42–48				

Soil Profile	Classification Condition	Slope Percent	Limiting Factor Depth	
B	D		14	☒ Groundwater ☒ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Site Evaluator Signature — SE # 262 — Date 2-2-22

SPECIALTY WELL APPLICATION

Maine Well Drillers Commission
Department of Health and Human Services
Division of Environmental Health
#11 State House Station
286 Water Street, 3rd Floor
Augusta, Maine 04333-0011
(207) 287-5699 Fax (207) 287-4172 TDD (207) 287-5550

NOTICE: By completing this application for a Specialty Well the property owner acknowledges the following:
The property owner must initial each bullet to indicate that it has been read and understood

A.T. Well construction which requires approved waivers may increase the risk of contamination. A contaminated well can act as a conduit for contamination into an aquifer which threatens other wells in the vicinity.

A.T. An approved Specialty Well *cannot be drilled* until a Well Variance Deed Covenant has been recorded at the appropriate Registry of Deeds and a copy of the recorded book and page number of the county in which the well is to be drilled is returned to the well driller and forwarded to the Maine Well Drillers Commission.

A.T. Additional well construction requirements may be included as conditions of approval in order to reduce the risk of contamination. Construction requirements may include the installation of additional casing or liner and seals. *For drinking water and open loop geothermal wells proposed less than 40 feet from a leach field the conditions shall include drilling the well large enough to accommodate proper pressure grouting the outside of the casing, usually a hole with a ten (10) inch diameter will be required, casing extended to at least 120 feet, and continuous pressure grouting from bottom to top with a grout identified by the manufacturer as suitable for sealing a well.*

A.T. The Commission may require that its independent inspector be present during the construction of Specialty Wells.

A.T. The owner, by signing this application, authorizes the Maine Well Drillers Commission to inspect the well for compliance with the conditions of approval.

A.T. The owner and well driller, by signing this application, certify that no other reasonable alternative location for a well with greater setback distances exists on this site and the owner absolves the well driller, pump installer, Municipality and the State of Maine from any liability should the requested variance be inadequate to protect the public health, safety and general welfare.

A.T. If a Specialty Well becomes contaminated it shall be the responsibility of the owner to have the well properly abandoned by a licensed well driller.

I hereby certify that, to my knowledge, the information on this form and attachments is true, complete and accurate. **Maine law makes it illegal for persons applying for a Department approval to make false statements upon application with the intent to deceive department officials in the course of their official duties or to create a false impression in a written application for pecuniary or other benefit. Unsworn Falsification is a Class D misdemeanor offence punishable by up to 364 days incarceration, a fine of up to $2,000, or both.**

Art Twin, Manager/Owner 1/31/2022
Signature(s) of Well Owner(s) Date

Signature of Well Driller License # Date

Date Approved Date Denied WDC Commission Chair

SPECIALTY WELL APPLICATION

Owner Information

Name: Synergosity LLC, Alexander Timpson, Manger

Mailing Address: 173 Spurwink Rd (Street) Scarborough (Town) ME (Zip Code) 04074

Phone Number: 207-415-7273 (cell #1) Cell Phone: 207-899-7373 (cell #2)

E-Mail Address: 76Longwoods@gmail.com Alex.Timpson@ampf.com

Well Driller Information

Driller Name: Western Maine Water License Number:

Address: 73 Central Ave. (Street), Limerick (Town), ME 04048 (Zip Code)

Phone Number: 207-793-2201 Cell Phone: 207-831-0805

E-Mail Address: Meaghan@westernmainewater.com

Project Description

Address: 76 Longwoods Rd (Rt 9) Cumberland 04021
(new well location if different from mailing address) (Town) (Zip Code)

Reason for Specialty Well Request: Land owner is under contract to sell a 54 acre Conservation Easement. The Buyer will not allow the proposed well on this conserved area. This restriction, combined with the reality of one existing leach field & 3 proposed leach fields means this speciality well is essencial for the project's viability.

Well Type: Drinking Water _✓__ Open Loop Geoexchange _ _ Closed Loop Geoexchange _ _

Setback Distances:
From Onsite Leach Field: 175 ft. From Onsite Tank(s): 170 ft.
From 1st Neighbor's Leach Field: >600 ft. From Neighbor's Tank(s): >600 ft.
From 2nd Neighbor's Leach Field: >700 ft. From Neighbor's Tank(s): >700 ft.
(*For Geothermal*) From Onsite Well: ft. From Neighbor's Well: >600 ft.

Other: For example - setbacks to gas stations, landfills, heating oil tanks, body shops and manure piles for proposed drinking water/open loop geo-exchange wells, and setbacks to drinking water wells for all proposed geo-exchange wells.

125 ft. Desc. existing Res. Well (720 depth)
N/A ft. Desc.
N/A ft. Desc.

Well Construction Information: Casing or Liner Seal Depth Proposed/Required: 80 (+/-) ft. Below Grade

Is Grouting Proposed or Required?: Yes ✓* No

* As needed or required. The first 8' of surface soils have moderate to heavy clay and favorable topo.

SPECIALTY WELL APPLICATION

Please complete a site plan for this application. The site plan should be to scale and must identify all of the septic system components and drinking water wells, both onsite and on neighboring properties, within 100 feet of the proposed well location. Also include structures, general ground slope, water bodies and any other potential sources of contamination within 100 feet of the well. If required, attach additional information separately.

Scale: 1 square = 50 feet

* SEE Attached site plan.

Please note the favorable topo and soils. Specifically, the existing leach field and the 3 proposed leach fields all flow away from the proposed well location

APPENDIX G

WASTEWATER

SME
SEVEE & MAHER
ENGINEERS

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

May 25, 2022

Alex Timpson
Synergosity, LLC
173 Spurwink Road
Scarborough, ME 04074

RE: Waiver request for hydrogeologic study, 76 Longwoods Road, Cumberland

Alex:

I believe a request to waive the hydrogeologic study of the two proposed septic systems is appropriate for this site. Both systems are in the interior of the parcel. The travel distances of both wastewater plumes are hundreds of feet to any abutting property. Forested wetlands are present at the base of the knolls. These will bio-chemically remove nutrients from the ground water. These site-specific conditions are sufficient to justify the waiver.

Mark Cenci, LG #467

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: 76 LONGWOODS ROAD
Subdivision, Lot #: LONGWOODS PRESERVE

OWNER/APPLICANT INFORMATION

Name (last, first, MI): SYNERGOSITY LLC ☒ Owner ☐ Applicant
Mailing Address of Owner/Applicant: ALEX FIMSON, 173 SPURWINK ROAD, SCARBOROUGH, ME 04074
Daytime Tel. #: 415-7273

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.

Local Plumbing Inspector Signature _____ (1st) date approved _____ (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: _____
☐ 12. Miscellaneous Components

SIZE OF PROPERTY

7.5 ☐ 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: ____
☒ 3. Other: RESTAURANT (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

☒ A. Concrete
☐ a. Regular
☐ b. Low Profile 1500 PLUS
☐ 2. Plastic 1000 PLUS
☐ 3. Other: _____
CAPACITY: _____ GAL.
1000 GAL. GREASE TRAP

DISPOSAL FIELD TYPE & SIZE

☐ 1. Stone Bed ☐ 2. Stone Trench
☒ 3. Proprietary Device
☒ a. cluster array ☐ b. Linear
☒ c. regular load ☐ d. H-20 load
☐ 4. Other: _____
SIZE: 11520 ☒ sq. ft. ☐ in. ft.

GARBAGE DISPOSAL UNIT

☒ 1. 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

1608 gallons per day
BASED ON:
☐ 1. Table 4A (dwelling unit(s))
☒ 2. Table 4C(other facilities)
SHOW CALCULATIONS for other facilites
15 SEATS @ 20 GPD EACH
9 EMPLOYEES @ 12 GPD EAC
☐ 3. Section 4G (meter readings)
ATTACH WATER METER DATA

SOIL DATA & DESIGN CLASS

PROFILE CONDITION
B / C
at Observation Hole # TP1+2
Depth 15 "
of Most Limiting Soil Factor

DISPOSAL FIELD SIZING

☐ 1. 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

☐ 1. 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 45 m 59 s 69
Lon. 70 d 15 m 08 s 57
if g.p.s, state margin of error: _____

SITE EVALUATOR STATEMENT

I certify that on 4-22-22 (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).

Site Evaluator Signature _____ SE # 262 Date 4-27-22
Site Evaluator Name Printed: MARK CENCI
Telephone Number: 329-3524
E-mail Address: _____

Note : Changes to or deviations from the design should be confirmed with the Site Evaluator.

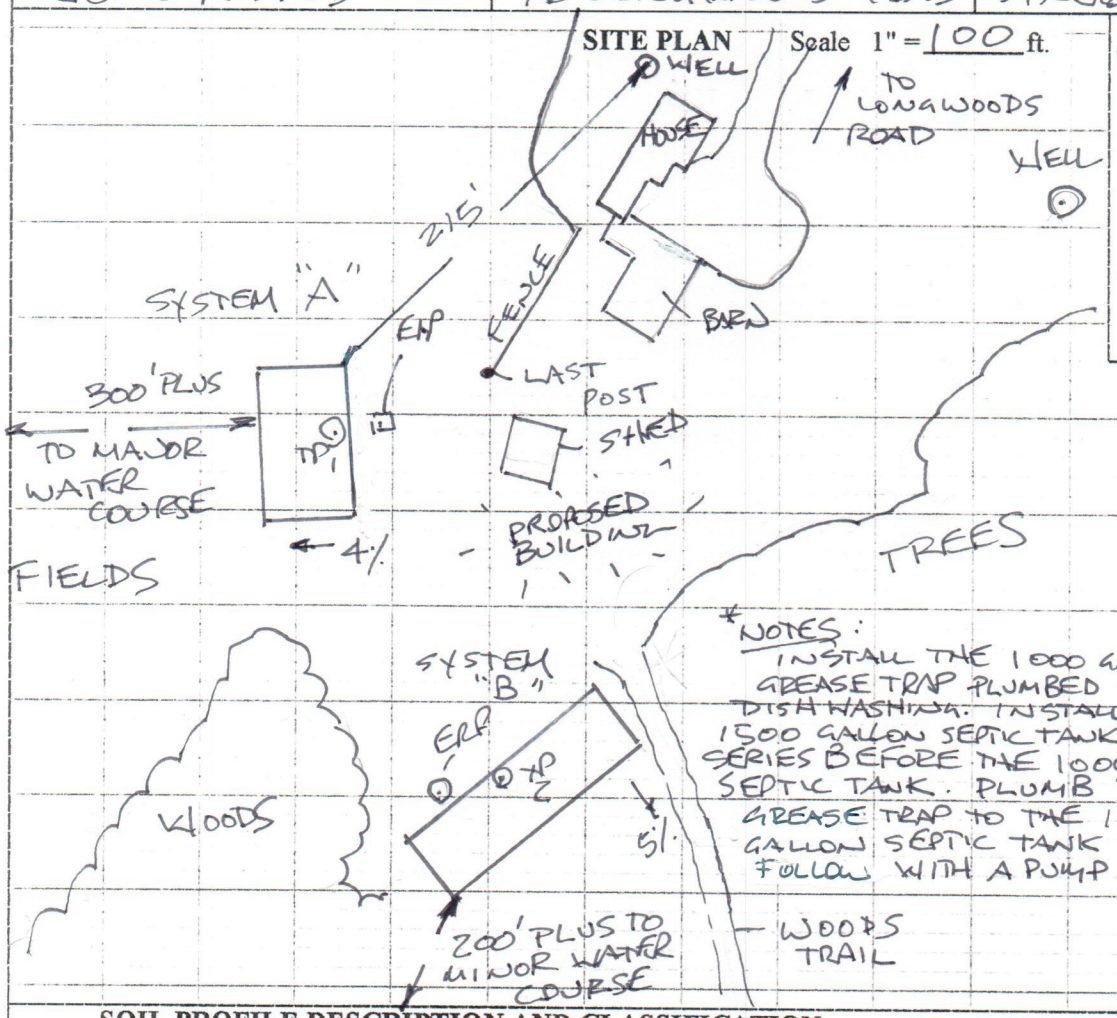
SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

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	76 LONGWOODS ROAD	SYNERGOSITY LLC

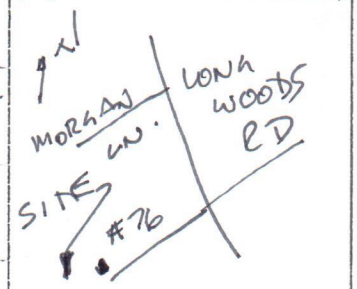
SITE PLAN

Scale 1" = 100 ft.



SITE LOCATION PLAN

(map from Maine Atlas recommended)



*NOTES:
INSTALL THE 1000 GALLON GREASE TRAP PLUMBED TO DISH WASHING. INSTALL THE 1500 GALLON SEPTIC TANK IN SERIES BEFORE THE 1000 GAL. SEPTIC TANK. PLUMB THE GREASE TRAP TO THE 1500 GALLON SEPTIC TANK AND FOLLOW WITH A PUMP TANK.

SOIL PROFILE DESCRIPTION AND CLASSIFICATION

(Location of Observation Holes Shown Above)

Observation Hole # TP-1 ☐ Test Pit ☒ Boring

" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	FINE SANDY LOAM	FRIABLE	DARK BROWN OLIVE YELLOW	
6				
12				
18	SILT LOAM	FIRM	OLIVE GRAY	COMMON
24				
30				
36				
42				
48				

Soil Profile	Classification Condition	Slope Percent	Limiting Factor Depth	
8	C	2-4	15	☒ Groundwater ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole # TP-2 ☐ Test Pit ☒ Boring

" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	FINE SANDY LOAM	FRIABLE	DARK BROWN OLIVE YELLOW	
6				
12				COMMON
18	SILT LOAM	FIRM	OLIVE GRAY	
24				
30				
36				
42				
48				

Soil Profile	Classification Condition	Slope Percent	Limiting Factor Depth	
8	C	5	15	☒ Groundwater ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Site Evaluator Signature | SE # 202 | Date 4-27-22

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

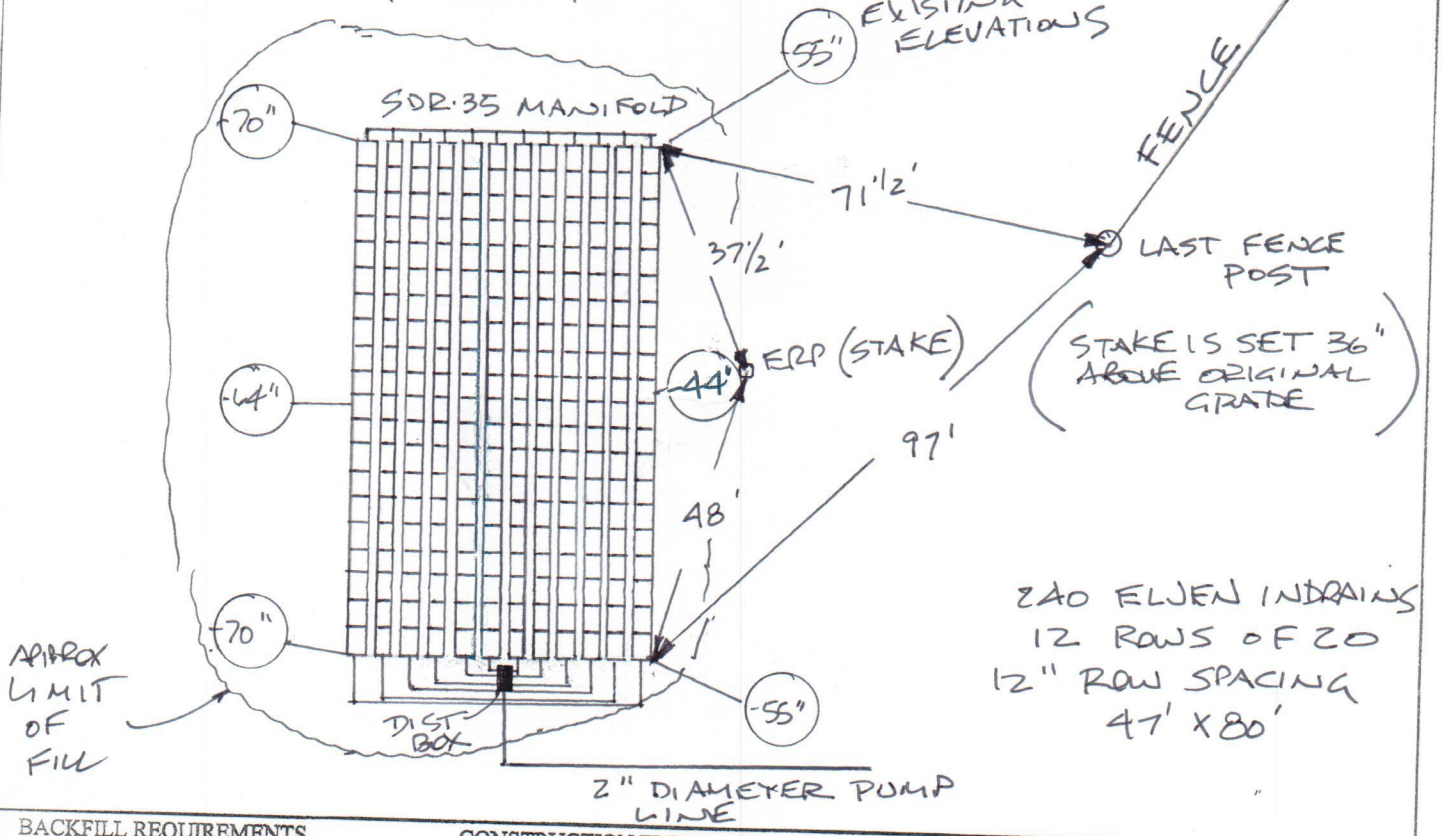
Maine Department of Human Services
Division of Health Engineering, Station 10
(207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation	Street, Road, Subdivision	Owner or Applicant Name
CUMBERLAND	76 LONGWOODS ROAD	SYNERGOSITY, LLC.

SUBSURFACE WASTEWATER DISPOSAL PLAN

SYSTEM "A"

Scale: 1" = 20 ft

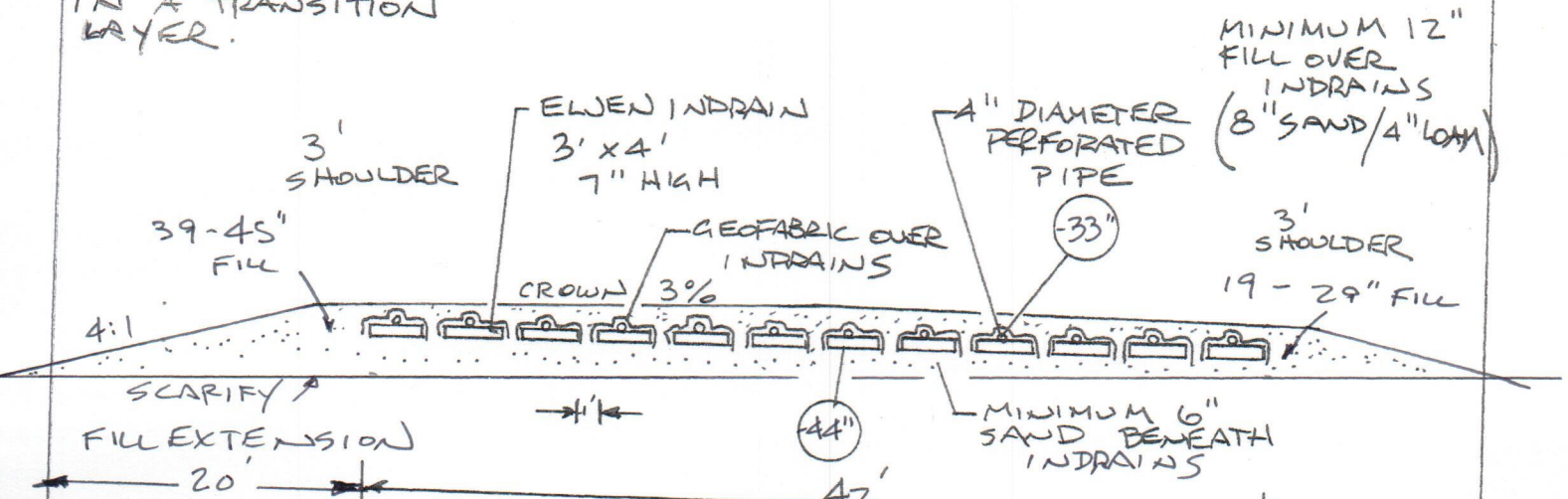


BACKFILL REQUIREMENTS ABOVE GRADE		CONSTRUCTION ELEVATIONS		ELEVATION REFERENCE POINT
Depth of Backfill (upslope) 19-29"	Finished Grade Elevation	-25"	Location & Description: TOP OF WOOD GRADE STAKE SET 36"	
Depth of Backfill (downslope) 39-45"	Top of Proprietary Device	-33"		
	Bottom of Disposal Field	-44"	Reference Elevation is 0.0" or: HIGH	

SCARIFY ALL GROUND TO BE FILLED. USE GRAVELLY COARSE SAND FILL. MIX IN A TRANSITION LAYER.

DISPOSAL FIELD CROSS SECTION

Scales:
Verticle: 1" = 10
Horizontal: 1" = 10



Site Evaluator Signature | 262 SE # | 4-27-22 Date

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	76 LONGWOODS ROAD
Subdivision, Lot #	LONGWOODS PRESERVE

OWNER/APPLICANT INFORMATION

Name (last, first, MI)	SYNERGOSITY LLC ☒ Owner ☐ Applicant
Mailing Address of Owner/Applicant	ALEX FIMSON 173 SPURWINK ROAD SCARBOROUGH, ME 04074
Daytime Tel. #	415-7273

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 authoirzed 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: _____
☐ 12. Miscellaneous Components

SIZE OF PROPERTY

7.5 ☐ SQ. FT. ☒ ACRES

DISPOSAL SYSTEM TO SERVE

☐ 1. Single Family Dwelling Unit, No. of Bedrooms: ____
☐ 2. Multiple Family Dwelling, No. of Units: ____
☒ 3. Other: RESTAURANT (specify)
Current Use ☐ Seasonal ☐ Year Round ☒ Undeveloped

TYPE OF WATER SUPPLY

☒ 1. Drilled Well ☐ 2. Dug Well ☐ 3. Private
☐ 4. Public ☐ 5. Other

SHORELAND ZONING

☐ Yes ☒ No

DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3)

TREATMENT TANK

☒ a. Concrete
☐ a. Regular
☐ b. Low Profile 1500 PLUS
☐ 2. Plastic 1000 PLUS
☐ 3. Other: _____
CAPACITY: _____ GAL.
1000 GAL. GREASE TRAP

DISPOSAL FIELD TYPE & SIZE

☐ 1. Stone Bed ☐ 2. Stone Trench
☒ 3. Proprietary Device
☒ a. cluster array ☐ c. Linear
☒ b. regular load ☐ d. H-20 load
☐ 4. Other: _____
SIZE: 11520 ☒ sq. ft. ☐ in. ft.

GARBAGE DISPOSAL UNIT

☒ 1. 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

1608 gallons per day
BASED ON:
☐ 1. Table 4A (dwelling unit(s))
☒ 2. Table 4C(other facilities)
SHOW CALCULATIONS for other facilites
75 SEATS @ 20 GPD EACH
9 EMPLOYEES @ 12 GPD EACH
☐ 3. Section 4G (meter readings)
ATTACH WATER METER DATA

SOIL DATA & DESIGN CLASS

PROFILE CONDITION
8 / C
at Observation Hole # TP1+2
Depth 15 "
of Most Limiting Soil Factor

DISPOSAL FIELD SIZING

☐ 1. 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

☐ 1. 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 45 m 59 s 69
Lon. 70 d 15 m 08 s 57
if g.p.s, state margin of error: _____

SITE EVALUATOR STATEMENT

I certify that on 4-22-22 (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).

Site Evaluator Signature _____ SE # 262 Date 4-27-22

Site Evaluator Name Printed MARK CENCI Telephone Number 329-3524 E-mail Address _____

Note : Changes to or deviations from the design should be confirmed with the Site Evaluator.

HHE-200 Rev. 08/2011

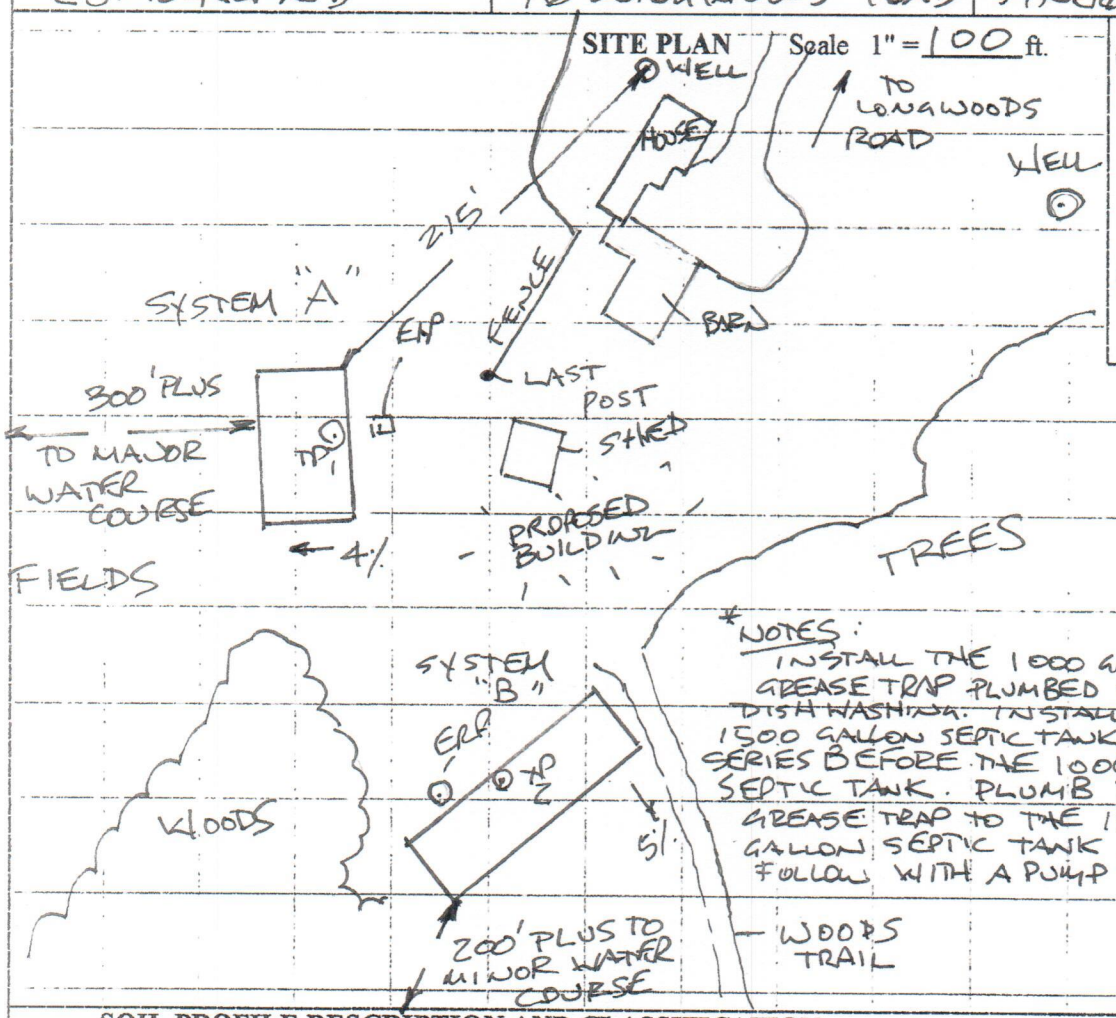
SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

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	76 LONGWOODS ROAD	SYNERGOSITY, LLC

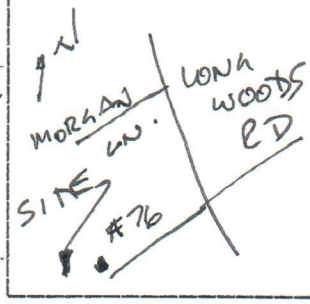
SITE PLAN

Scale 1" = 100 ft.



SITE LOCATION PLAN

(map from Maine Atlas recommended)



*NOTES:
INSTALL THE 1000 GALLON GREASE TRAP PLUMBED TO DISHWASHER. INSTALL THE 1500 GALLON SEPTIC TANK IN SERIES BEFORE THE 1000 GAL. SEPTIC TANK. PLUMB THE GREASE TRAP TO THE 1500 GALLON SEPTIC TANK AND FOLLOW WITH A PUMP TANK.

SOIL PROFILE DESCRIPTION AND CLASSIFICATION

(Location of Observation Holes Shown Above)

Observation Hole # TP-1 ☐ Test Pit ☒ Boring

" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	FINE SANDY LOAM	FRIABLE	DARK BROWN	
6			OLIVE YELLOW	
12				
18	SILT LOAM	FIRM	OLIVE GRAY	COMMON
24				
30				
36				
42				
48				

Soil Profile	Classification Condition	Slope Percent	Limiting Factor Depth	
8	C	2-4	15	☒ Groundwater ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole # TP-2 ☐ Test Pit ☒ Boring

" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Mottling
0	FINE SANDY LOAM	FRIABLE	DARK BROWN	
6			OLIVE YELLOW	
12				COMMON
18	SILT LOAM	FIRM	OLIVE GRAY	
24				
30				
36				
42				
48				

Soil Profile	Classification Condition	Slope Percent	Limiting Factor Depth	
8	C	5	15	☒ Groundwater ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Site Evaluator Signature | SE # 262 | Date 4-27-22

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Department of Human Services
Division of Health Engineering, Station 10
(207) 287-5672 Fax: (207) 287-3165

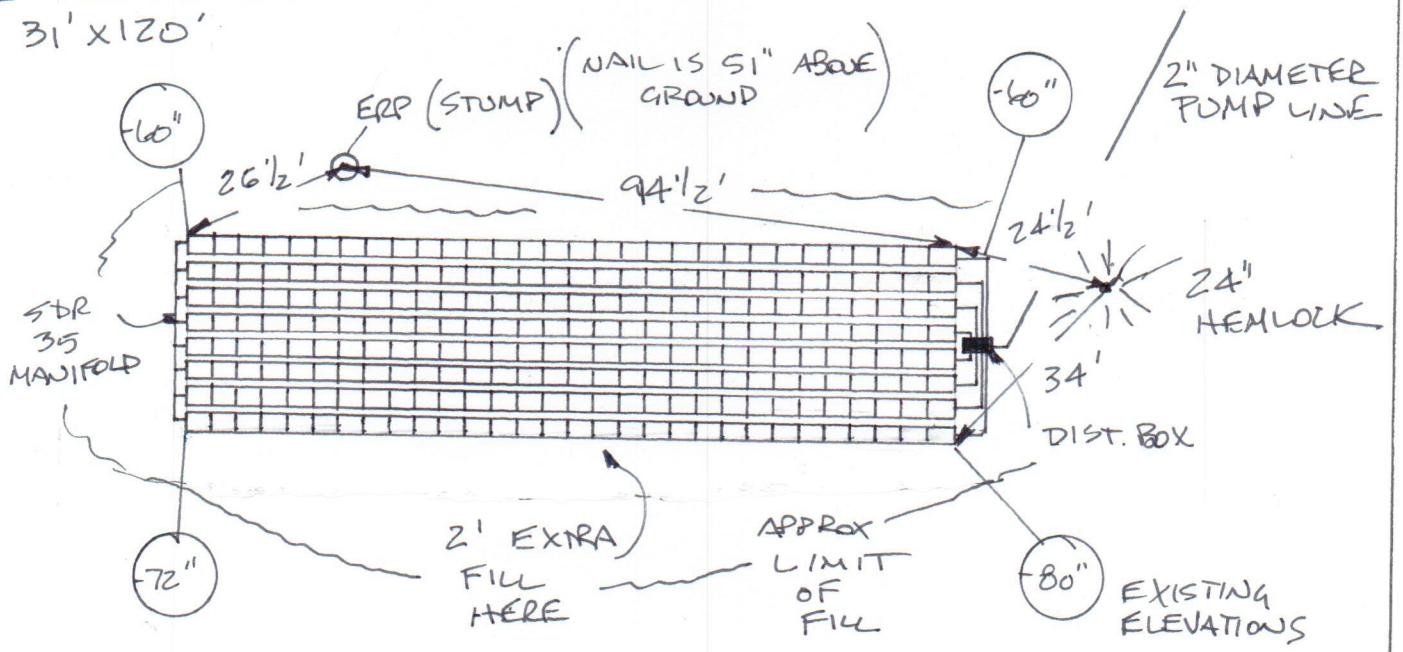
Town, City, Plantation	Street, Road, Subdivision	Owner or Applicant Name
CUMBERLAND	76 LONGWOODS ROAD	SYNERGOSITY, LLC

SUBSURFACE WASTEWATER DISPOSAL PLAN

SYSTEM "B"

Scale: 1" = 30 ft

240 ELJEN INDRAINS
8 ROWS OF 30
12" ROW SEPARATION
31' X 120'



BACKFILL REQUIREMENTS
ABOVE GRADE

Depth of Backfill (upslope) 19"
Depth of Backfill (downslope) 31"-39"

CONSTRUCTION ELEVATIONS

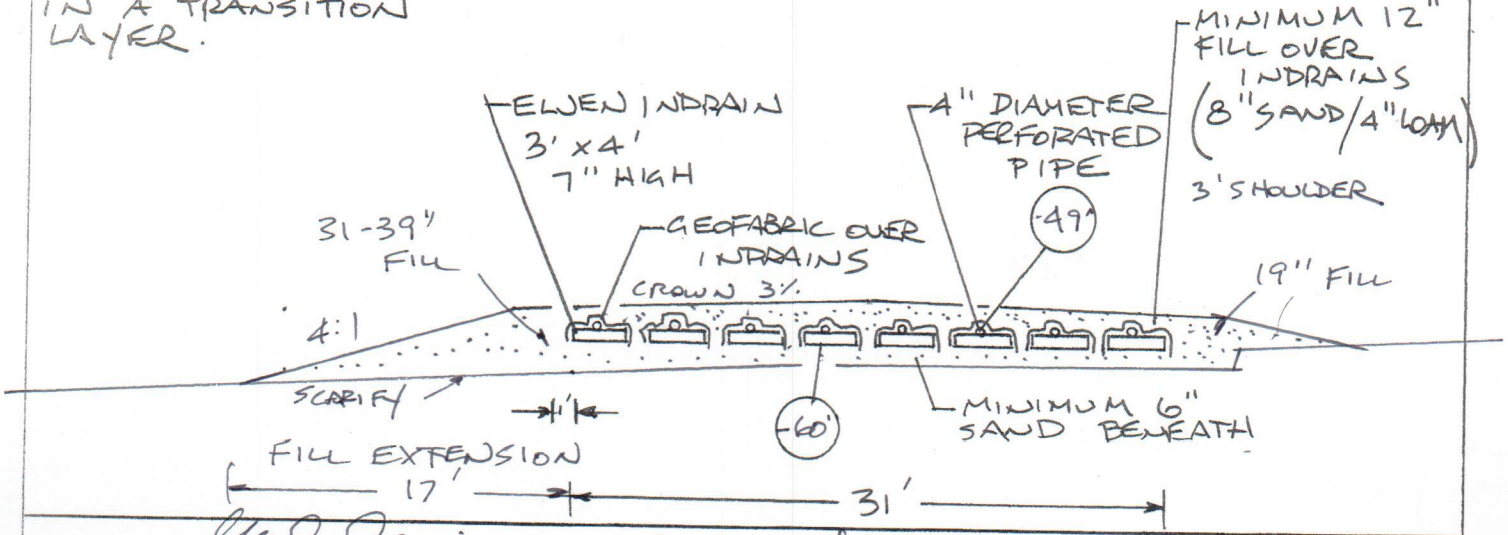
Finished Grade Elevation	-41"
Top of Proprietary Device	-49"
Bottom of Disposal Field	-60"

ELEVATION REFERENCE POINT
Location & Description: NAIL IN 15" DIAMETER PINE STUMP
Reference Elevation is 0.0" or: _____

SCARIFY ALL GROUND TO BE FILLED. USE GRAVELLY COARSE SAND FILL. MIX IN A TRANSITION LAYER.

DISPOSAL FIELD CROSS SECTION

Scales:
Verticle: 1" = 10
Horizontal: 1" = 10



Site Evaluator Signature

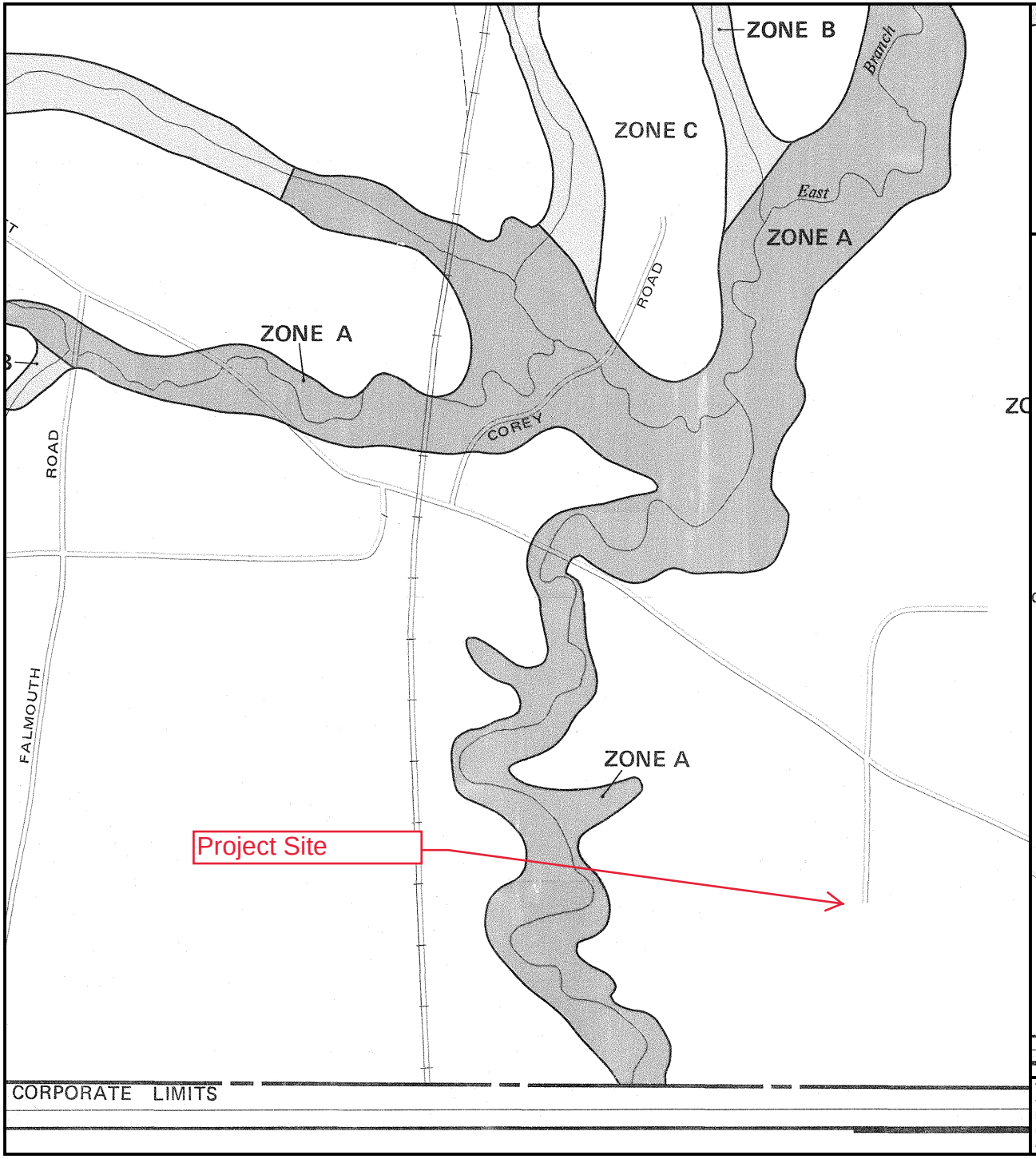
262
SE #

4-27-22
Date

APPENDIX H

FEMA FIRM MAP

SME
SEVEE & MAHER
ENGINEERS



Program at (800) 638-6620, or (800) 42

APPROXIMATE S

800 0

ONE C

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

APPENDIX I

MHPC REVIEW LETTER

SME
SEVEE & MAHER
ENGINEERS

SME
SEVEE & MAHER
ENGINEERS

4 Blanchard Road, P.O. Box 85A
Cumberland, ME 04021
Tel: 207.829.5016 • Fax: 207.829.5692
info@smemaine.com
smemaine.com

May 16, 2022

Mr. Kirk F. Mohney, Director
Maine Historic Preservation Commission
55 Capitol Street
65 State House Station
Augusta, Maine 04333-0065

Subject: Longwoods Preserve
76 Longwoods Road, Cumberland, Maine

Dear Mr. Mohney:

Synergosity, LLC is seeking approval for construction of a community gathering hall with approximately 43 parking spaces and associated site improvements in Cumberland, Maine under a Maine Department of Environmental Protection (MEDEP) Stormwater Management Permit. We are requesting a review by the Maine Historic Preservation Commission to support the MEDEP permit application.

PROJECT DESCRIPTION

Synergosity, LLC will maintain the parcel and existing farm buildings to provide a gathering place for the community. The project will preserve approximately 55 acres of land for a working farm and public trail network. Proposed development will include a new 4,000-square-foot (sf) restaurant and grange hall and farm-to-table restaurant to present live music and host community events such as farmers markets, educational events, and fundraisers to support local businesses and agriculture.

The 61-acre parcel is bordered by Longwoods Road and a Central Maine Power (CMP) corridor to the north, undeveloped property in the Town of Falmouth to the south, residential properties to the east, and the East Branch of the Piscataqua River and undeveloped forested land to the west.

HISTORICAL FINDINGS

A search of the National Register of Historic Places online maps did not identify any historic places adjacent to the parcel.

In addition to searching the National Register of Historic Places, records of neighboring properties were searched for any buildings over fifty (50) years old. All properties with such buildings are listed below with photos attached and their location keyed to the Conceptual Site Plan.

- 34 Longwoods Road, Cumberland, ME (1820)
- 261 Woodville Road, Falmouth, ME (1850)

SME
SEVEE & MAHER
ENGINEERS

Please feel free to contact me at 207.829.5016 or jtr@smemaine.com if you have any questions or need additional information.

Sincerely,

SEVEE & MAHER ENGINEERS, INC.

Jeff Read, P.E., LPA
Project Manager

Attachments: Figure 1 – Site Location Map
Conceptual Site Plan
Historic Property Cards

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, 5/25/22
Kirk F. Mohney, Date
State Historic Preservation Officer
Maine Historic Preservation Commission

MHPC # 0794-22

APPENDIX J

LIST OF ABUTTERS

SME
SEVEE & MAHER
ENGINEERS

THE GRANGE AT LONGWOODS
LIST OF ABUTTERS WITHIN 200 FEET
JUNE 2022

MAP	LOT	NAME	LOCATION	ADDRESS
R3	4	Central Maine Power Company	Winn Road	One City Center, Portland, ME 04101
R3	14	Russell Theriault	59 Longwoods Road	58 Sullivan Drive, Cumberland, ME 04021
R3A	15	Falmouth on the Green Homeowners Association.	11 Turnberry Drive	PO Box 600, Bath, ME 04530
R3	15E	Sunset Ridge Open Space	Sunset Ridge	Sunset Ridge
R3	16C	Thomas & Bonni'Lyn Stanhope	24 Stanhope Lane	24 Stanhope Lane, Cumberland, ME 04021
R3	16D	Andrew & Karen Stanhope	23 Stanhope Lane	23 Stanhope Lane, Cumberland, ME 04021
R3	17B	Roberto Bonechi	34 Longwoods Road	34 Longwoods Road, Cumberland, ME 04021
R3	33	Central Maine Power Company	Longwoods Road	One City Center, Portland, ME 04101
R3	25	Elwin Hansen	261 Woodville Rd	261 Woodville Road, Falmouth, ME 04105
R3	26-3	David Tamulevich	29 Twin Meadows Lane	29 Twin Meadows Lane, Falmouth, ME 04105
R3	26-4	Carill Wilkinson	27 Twin Meadows Lane	27 Twin Meadows Lane, Falmouth, ME 04105
U65	52	Falmouth on the Green Homeowner Assocation	Congressional Drive	1 Congressional Drive, Falmouth, ME 04105
U66	52	Daniel Villacci	Winn Road	76 Longwoods Road, Cumberland, ME 04021

APPENDIX K

ARCHITECTURAL DRAWINGS

SME
SEVEE & MAHER
ENGINEERS

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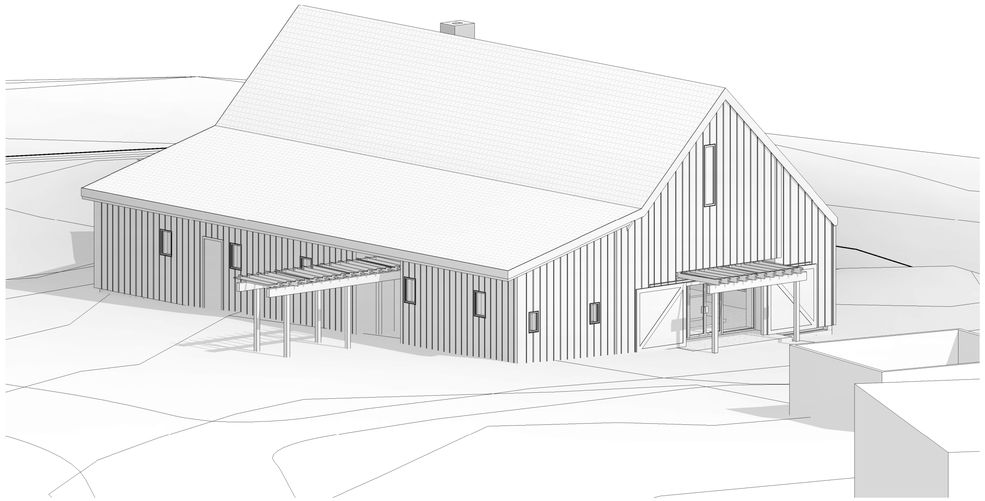
Longwoods Preserve Grange Hall
76 Longwoods Road, Cumberland, ME

Cover

A000

Scale

6.10.2022



Sheet List	
Sheet Number	Sheet Name
A000	Cover
A001	Code Information
A002	Occupancy Calculation
A100	Foundation Plan
A101	Floor Plan
A102	Roof Plan
A150	Reflected Ceiling Plan
A200	Elevations
A201	Elevations
A300	Sections
A400	Enlarged Plans - Bathroom
A401	Interior Elevations - Kitchen
A402	Interior Elevations - Dining
A403	Enlarged Plan - Bar
A500	Details
A501	Details - Enlarged
A503	Details - Canopy
A600	Window/Door Schedule
A601	Door and Window Details
A602	Room Finish Schedule + Specifications
L100	Site Plan

Longwoods Preserve

76 Longwoods Rd, Cumberland Maine

80% Pricing Set

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Code Information

A001

Scale As indicated 6.10.2022

CODE SUMMARY

APPLICABLE CODES

Maine Uniform Building and Energy Code "MUBEC"
Consists of the following applicable codes:

2015 International Building Code (IBC)
2015 International Existing Building Code (IEBC)
2009 International Energy Conservation Code (IECC)
2007 ASHRAE 62.1 (Ventilation for Acceptable Indoor Air Quality)
2007 ASHRAE 90.1 (Energy Standard for Buildings except Low-Rise Residential Buildings) editions without addenda
Maine State Internal Plumbing Code based on the 2009 Uniform Plumbing Code
2011 National Electric Code (NEC)

Fire/Life Safety

NFPA Life Safety Code as adopted by the State of Maine
Including but not limited to:

2009 NFPA 001: Fire Code
2009 NFPA 101: Life Safety Code

NOTE: All Codes shall include changes/amendments by the State of Maine

OCCUPANCY CLASSIFICATION (IBC Sec 302.1.8, 310.1)

Proposed Residential A-2 Permanant Residency

BUILDING INFORMATION AND ALLOWABLE BUILDING HEIGHTS AND AREA
(IBC Chapter 5, Table 504.4, 506.2)(NFPA)

Construction Date	2022
Architect	Paul Lewandowski
Building Height	1 Story
Construction Type (existing)	TYPE IV
Occupancy Classification (Existing)	-
Occupancy Classification (New - no change)	A-2 Assembly Bar
Sprinkler System -	Non-Sprinklered

FIRE RESISTIVE RATINGS (IBC Table 601), (NFPA Table A.8.2.1.1)

Structural Frame	0 hour
Bearing Walls, Exterior and Interior	0 hours
Non-Bearing Walls and partitions, Interior	0 hours
Non-Bearing Walls and partitions, exterior	0 hours
Floor Construction and Secondary Members	0 hours
Roof Construction and Secondary Members	0 hours
Total Square Footage	3,711 sf
A-2	
Occupancy - Unconcentrated Assembly	15/Person
Total Occupancy	See A002
Fixture Count (UPC 2902.1)	1/75
92 / 2 = 46	
46 Male -	1 WC
46 Female -	1 WC
	1 LAV PER

IBC Table 504.3
Type VB Construction NS
Assembly 40 ' Height

6,000 SF Max

GENERAL NOTES

1: DRAWING NOTES: CONTRACTOR TO FURNISH AND INSTALL ALL NOTED LABOR AND MATERIALS UNLESS OTHERWISE NOTED.

2: CODE COMPLIANCE: ALL WORK SHALL CONFORM TO THE LATEST EDITION OF STATE, LOCAL AND OTHER CODES WHICH APPLY TO THIS PROJECT OR HAVE JURISDICTION.

3: COORDINATION: IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL DISCIPLINES AND TRADES SO THAT ALL BUILDING SYSTEMS AND COMPONENTS CAN BE ASSEMBLED WITHOUT CONFLICTS. IN THE EVENT THAT THE CONSTRUCTION DOCUMENTS DEFINE CONDITIONS WHICH PROHIBIT, OR MAY PROHIBIT, SUCH ASSEMBLY, THE CONTRACTOR SHALL BRING TO THE ARCHITECTS ATTENTION, IN WRITING AND IN A TIMELY FASHION, SUCH CONDITION. THE CONTRACTOR AND HIS/HER SUBCONTRACTORS SHALL BE RESPONSIBLE FOR PROVIDING MATERIALS AND SYSTEMS SHOWN IN THE CONSTRUCTION DOCUMENTS REGARDLESS OF WHERE THE INFORMATION IS LOCATED. WHERE COMPONENTS OF A SYSTEM ARE INDICATED THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL LABOR AND MATERIALS NECESSARY TO COMPLETE THE SYSTEM.

4: DISCREPANCIES & CLARIFICATIONS: THIS PROJECT INVOLVES THE FIT-UP OF AN EXISTING BUILDING. EXISTING DIMENSIONS SHOWN ON THE DRAWINGS ARE BELIEVED TO BE ACCURATE, BUT CANNOT BE GUARANTEED, MEASURE AND VERIFY DIMENSIONS IN FIELD PRIOR TO FABRICATION AND CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BRING TO THE ARCHITECTS ATTENTION ANY DISCREPANCIES OR AMBIGUITIES IN THE DRAWINGS AND/OR SPECIFICATIONS.

5: LAYOUT: UNLESS INDICATED OTHERWISE, CENTER WALL FRAMING AND PARTITION FRAMING ON COLUMN LINES. FLOOR PLAN DIMENSIONS ARE TO CENTER OF FRAMING, CENTER OF CONCRETE, FACE OF CMU, OR FROM COLUMN CENTERLINES, UNLESS INDICATED OTHERWISE.

6: ACCESSIBILITY: ALL HANDICAPPED ACCESSIBLE BATHROOMS, GRAB BARS, AND DOOR OPENINGS SHALL MEET THE REQUIREMENTS OF TITLE 94-348, CHAPTER 5 OF THE MAINE HUMAN RIGHTS COMMISION TITLE LATEST EDITION & THE DEPARTMENT OF JUSTICE ADA STANDARDS FOR ACCESSIBLE DESIGN.

7: DRAWING SCALES: WORK FROM THE GIVEN DIMENSIONS ONLY. SCALE IS INDICATED ON THE DRAWINGS FOR CONVENIENCE ONLY. IT IS NOT INTENDED THAT INFORMATION BE DETERMINED BY SCALING THE DRAWINGS SINCE SOME ITEMS MAY NOT BE TO SCALE.

8: WATER-RESISTANT GWB: INSTALL WATER-RESISTANT GYPSUM WALL BOARD IN ALL REST ROOMS & TOILET ROOMS OR AT ANY WALL WITH PLUMBING FIXTURES.

9: BUILDING INSULATION: PROVIDE AS INDICATED IN WALL SECTIONS AND IN ACCORDANCE WITH PARTITION TYPES, WHETHER OR NOT SHOWN IN DETAILS AND OTHER DRAWINGS. FOR CLARITY, INSULATION MAY NOT BE SHOWN IN SOME CASES, EVEN IF IT IS TO BE PROVIDED.

10: BLOCKING: INSTALL BLOCKING BEHIND ALL SURFACE-APPLIED FIXTURES TRIM, CASEWORK, SHELVES, BRACKETS, TOILET ACCESSORIES, CHAIR RAILS, PICTURE RAILS, GRAB BARS, BASE MOLDINGS, AND AS OTHERWISE REQUIRED, WHEN SUCH ITEMS ARE APPLIED ON STUD WALLS.

11: PENETRATIONS AT STRUCTURAL MEMBERS: BEFORE PENETRATING JOISTS, BEAMS OR OTHER STRUCTURAL MEMBERS, CONSULT WITH THE ARCHITECT.

12: DAMAGED WORK: BUILDING OR SITE COMPONENTS WHICH ARE AFFECTED BY NEW WORK, DEMOLITION, OR WHICH MAY BE DAMAGED BY THE GENERAL CONTRACTOR OR ANY SUB-CONTRACTOR SHALL BE REPLACED OR RESTORED TO ORIGINAL CONDITION AND COLOR TO MEET THE APPROVAL OF THE ARCHITECT.

13: RATED CONSTRUCTION: PROVIDE RATED CONSTRUCTION AS REQUIRED BY CODE, AS SPECIFIED, AND AS INDICATED ON DRAWINGS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AND INSTALL ALL COMPONENTS REQUIRED TO CREATE SUCH RATED CONSTRUCTION, REGARDLESS OF WHETHER OR NOT SUCH COMPONENTS ARE INDICATED. PROVIDE CONTINUITY OF SUCH RATED CONSTRUCTION AROUND AND BETWEEN SPACES, INCLUDING AT CHASES AND AT FLOORS, TO MAINTAIN COMPLETE SEPARATIONS, EVEN IF NOT SPECIFICALLY INDICATED.

14: INTERIOR FINISHES: ALL INTERIOR FINISHES AND FURNISHINGS ARE TO BE CLASS 'A' FIRE-RATED AND ARE TO COMPLY WITH IBC CHAPTER-8 (INTERIOR FLAME SPREAD).

15: TEMPORARY FACILITIES: PROVIDE ALL TEMPORARY FACILITIES AND SERVICES, CONSTRUCTION AND SUPPORT FACILITIES, AND SECURITY AND PROTECTION AS NEEDED TO PROTECT NEW AND EXISTING CONSTRUCTION FOR THE DURATION OF A COMPLETE INSTALLATION.

16: MANUFACTURERS INSTRUCTIONS: ALL MATERIALS & EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

17: ASBESTOS: ALL MATERIAL USED FOR THE CONSTRUCTION OF THIS PROJECT, WHETHER BUILDING MATERIALS OR APPURTENANCES, SHALL BE NON-ASBESTOS CONTAINING MATERIAL.

18: HAZARDOUS FUMES: THE GENERAL CONTRACTOR SHALL CONFIRM THAT ALL MATERIAL AND FINISHES SPECIFIED AND THEIR FABRICATION OR INSTALLATION WILL NOT RELEASE FUMES OR AROMAS DURING CONSTRUCTION WHICH MAY BE A HAZARD OR NUISANCE TO PERSONNEL.

19: PEST CONTROL: SEAL AND CAULK AROUND ALL PENETRATIONS, CRACKS AND CREVICES AND ANY OPENINGS CAPABLE OF HARBORING INSECTS/RODENTS.

20. EXPOSED UTILITIES: ALL EXPOSED UTILITY WIRES AND PIPES (ELECTRICAL, PLUMBING, ETC.) SHALL BE INSTALLED IN A WAY THAT DOES NOT OBSTRUCT OR PREVENT THE CLEANING OF FLOORS, WALLS, AND CEILING AREAS. THEY SHALL BE INSTALLED A MINIMUM OF 6" OFF FLOORS AND 1" OFF WALLS, CEILINGS AND ADJACENT PIPES.

21. OWNER SUPPLIED EQUIPMENT: EQUIPMENT SUPPLIED BY THE OWNER AND INSTALLED BY THE GENERAL CONTRACTOR. EQUIPMENT INFORMATION AND SPECIFICATIONS ARE TO BE THE MOST CURRENT AVAILABLE AT THE TIME OF DOCUMENTATION PREPARATION. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING WITH THE OWNER THE EXACT DIMENSIONS AND EQUIPMENT CONNECTION REQUIREMENTS (INCLUDING ELECTRICAL CIRCUIT REQUIREMENTS) OF EQUIPMENT TO BE SUPPLIED. THE GENERAL CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS AS NOTED ON THE DRAWINGS, INSTALL THE SET UP IN WORKING ORDER, CHECK WARRANTIES, TEST AND NOT VOID WARRANTIES. THE GENERAL CONTRACTOR SHALL COORDINATE WITH THE OWNER DELIVERY, STORAGE AND INSTALLATION OF ALL OWNER SUPPLIED EQUIPMENT. THE GENERAL CONTRACTOR SHALL STORE EQUIPMENT IF REQUESTED BY THE OWNER UNTIL INSTALLATION. SEE DRAWINGS FOR OTHER OWNER SUPPLIED/GENERAL CONTRACTOR INSTALLED ITEMS.

22: FIRE PROTECTION NOTE: EXISTING SPRINKLERHEADS, ALARM SYSTEM AND DETECTORS ARE TO BE MODIFIED TO CONFORM. WITH THE PROPOSED PLAN. COORDINATE WITH THE ARCHITECT, ANY MODIFICATION OR LOCATIONS WHERE EXISTING SYSTEMS ARE AFFECTED BY THE NEW DESIGN.

23: SOILS AT FOOTINGS: REPORT THE LOCATION OF ALL UNSUITABLE SOILS AND MATERIALS BELOW ANTICIPATED LEVEL OF FOOTING TO THE ARCHITECT PRIOR TO THE SETTING OF FORMS.

24: ACCESS PANELS: CONTRACTOR IS RESPONSIBLE FOR COORDINATING QUANTITY AND LOCATION OF ALL REQUIRED ACCESS PANELS FOR ALL MEP CONTROLS, CLEANOUTS, DAMPERS, PULL BOXES, ETC.

25: EXISTING HAZARDOUS MATERIALS: ALL HAZARDOUS MATERIALS INCLUDING BUT NOT LIMITED TO ASBESTOS AND LEAD PAINT ARE TO BE HANDLED, ENCAPSULATED, ABATED AND DISPOSED OF IN ACCORDANCE WITH ANY AND ALL FEDERAL, STATE AND LOCAL REQUIREMENTS AND REGULATIONS.

26. P**ROVIDE GRADE SLOPE** AWAY FROM HOUSE FOR DRAINAGE AT ALL SIDES OF FOUNDATION

27. FOUNDATION PAINTING - EXISTING AND NEW EXPOSED FOUNDATION TO BE PAINTRED WITH CONCRETE PAINT, COLOR:TBD

28. PLUMBING - ADD NEW PLUMBING LINE TO WATER METER FOR IRRIGATION

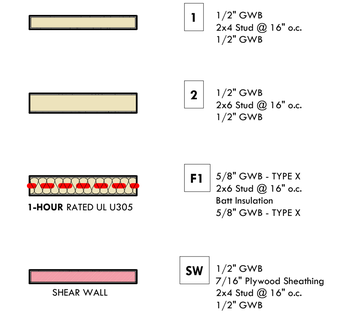
MECHANICAL
PROVIDE EXHAUST FAN IN BATHS. COORDINATE LOCATION OF DUCTS AND VENTS REQUIRED FOR HVAC SYSTEM WITH ARCHITECT. COORDINATE LOCATION OF PLUMBING VENT STACK WITH ARCHITECT.

ELECTRICAL
ALL ELECTRICAL WORK TO COMPLY WITH THE NATIONAL ELECTRICAL CODE FIXTURES INSTALLED IN AN INSULATED CAVITY SHOULD BE RATED FOR SUCH APPLICATION. COORDINATE LOCATION OF ALL CEILING AND ELECTRICAL DEVICES WITH ARCHITECT.

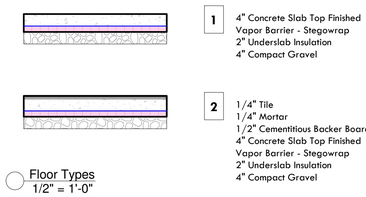
STRUCTURAL
INCLUDING BUT NOT LIMITED TO ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" AND ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE."

CONCRETE SHALL BE READY-MIXED CONCRETE, PROPORTIONED, MIXED, AND PLACED IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN ACI 318. JOB-SITE MIXING OF CONCRETE WILL NOT BE PERMITTED. REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60 DEFORMED BARS AND SHALL BE DETAILED, FABRICATED, AND PLACED IN ACCORDANCE WITH ACI 315. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 AND SHALL BE PROVIDED IN FLAT SHEETS. LAP TWO SQUARES AT ALL JOINTS AND TIE AT 3'-0" ON CENTER.

CONCRETE MIX DESIGN: INTERIOR SLABS-ON-GRADE:
- STRENGTH: 3,000 PSI @ 28 DAYS
- AGGREGATE: 3/4"
- W/C RATIO: 0.55 MAX
- ENTRAPPED AIR ONLY (NO ENTRAINMENT): 3% MAX
- SLUMP: 4" MAX
- TYPICAL FLOOR SLAB SHALL BE CONCRETE SLAB ON GRADE W/ 6X6 – 1.4 X 1.4 WWF

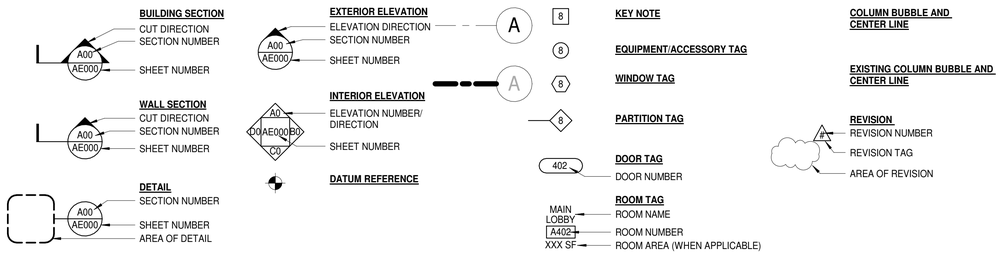


Wall Types
1/2" = 1'-0"



Floor Types
1/2" = 1'-0"

SYMBOL LEGEND:



ABBREVIATIONS:

AB	ANCHOR BOLT
A/C	AIR CONDITIONING
ACCU	AIR CONDITIONING CONDENSER UNIT
ACPLAS	ACCOUSTICAL PLASTER
ACT	ACOUSTIC CEILING TILE
AFF	ABOVE FINISH FLOOR
AGG	AGGREGATE
ALT	ALTERNATE
AP	ACCESS PANEL
APROX	APPROXIMATE
ARCH	ARCHITECTURAL
BCX	BOTTOM CORD EXTENSION
BD	BOARD
BIT	BITUMINOUS
BLDG	BUILDING
BLP	BORROWED LIGHT PANEL
BO	BOTTOM OF
BOF	BOTTOM OF FOOTING
BOS	BOTTOM OF STEEL
BOT	BOTTOM
BRDG	BRIDGING
BRG	BEARING
BS	BOTH SIDES
BSE	BRICK SHELF ELEVATION
C	CHANNEL
CB	CATCH BASIN / CHALKBOARD
CEM BD	CEMENTITIOUS BACKER BOARD
CFM	CUBIC FEET PER MINUTE
CIP	CAST IN PLACE
CJ	CONTROL JOINT / CONSTRUCTION JOINT
CL	CENTER LINE
CLL	CONTRACT LIMIT LINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
CT	CERAMIC TILE
CUH	CABINET UNIT HEATER
D	DIAMETER
DBL	DOUBLE
DF	DRINKING FOUNTAIN
DL	DEAD LOAD
DR	DISPLAY RAIL
DTL	DETAIL
DW	DISHWASHER
DWG	DRAWING

EA	EACH
EF	EXHAUST FAN / EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
EOP	EDGE OF PAVEMENT
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
EQ	EQUAL
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FB	FLAT BAR
FBO	FURNISHED BY OTHERS
FCO	FLOOR CLEA-OUT
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FINISH FLOOR / FAR FACE
FFE	FINISH FLOOR ELEVATION
FO	FRAMED OPENING
FRP	FIBER REINFORCED PLASTIC
FS	FAR SIDE
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GDT	GYPSUM DROP-IN TILE
GV	GRAVITY VENT
GWB	GYPSUM WALL BOARD
H	HORIZONTAL
HC	HANDICAPPED / HOLLOW CORE
HORIZ	HORIZONTAL
HM	HOLLOW METAL
HRU	HEAT RECOVERY UNIT
H&V	HEATING AND VENTILATING
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
I	INCLUDED ANGLE
ID	INSIDE DIAMETER
IF	INSIDE FACE
IJ	ISOLATION JOINT
IMP	IMPACT RESISTANT
INS	INSULATED
INV	INVERT
JS	JOINT SUBSTITUTE
K	KIPS

L	ANGLE / LENGTH
LF	LEFT
LINO	SHEET LINOLEUM
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LP	LIGHTING PANEL / LIQUIFIED PROPANE
MAX	MAXIMUM
MB	MARKER BOARD
MDO	MEDIUM DENSITY OVERLAY
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MR	MOISTURE-RESISTANT
MUA	MAKE-UP AIR
N	NOSING
NCB	NEW CATCH BASIN
NDMH	NEW DRAIN MANHOLE
NFM	NEW FORCE MAIN
NIC	NOT IN CONTRACT
NS	NEAR SIDE
NSD	NEW STORM DRAIN LINE
NSS	NEW SANITARY SEWER LINE
NTS	NOT TO SCALE
NW	NEW WATER LINE
OC	ON CENTER
OF	OUTSIDE FACE
OH	OVERHEAD
PA	PUBLIC ADDRESS
PAF	POWER-ACTUATED FASTENER
PDU	POOL DEHUMIDIFICATION UNIT
PL	PLATE / PROPERTY LINE
PLAM	PLASTIC LAMINATE
PLF	POUNDS PER LINEAR FOOT
PP	POWER PANEL
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE-TREATED
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
R	RISER / RADIUS
RB	RESILIENT BASE
RD	ROOF DRAIN
REINF	REINFORCED
REQ'D	REQUIRED
RT	RIGHT
RO	ROUGH OPENING
ROW	RIGHT OF WAY
RR	RUB-RAIL
RTU	ROOF TOP UNIT (HVAC)

SACT	SUSPENDED ACOUSTIC TILE CEILING
SC	SOLID CORE
SF	SQUARE FOOT / SUPPLY FAN
SFRM	SPRAYED FIRE-RESISTIVE MATERIAL
SHT	SHEET
SIM	SIMILAR
SK	SHEAR KEY
SN	SANITARY NAPKIN (DISPENSER)
SP	SPECIAL
SS	STAINLESS STEEL
STA	STATION
STL	STEEL
STRUC	STRUCTURAL
T	TREAD
TB	TACKBOARD
T&B	TOP AND BOTTOM
TBM	TEMPORARY BENCHMARK
TCE	TOP CHORD EXTENSION
TJ	TIE JOIST
TO	TOP OF
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOM	TOP OF MASONRY
TOP	TOP OF PIER
TOS	TOP OF STEEL
TOW	TOP OF WALL
TP	TOILET PAPER (DISPENSER) / TEST PIT
TS	TUBE STEEL
TYP	TYPICAL
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
V	VENT PIPE / VERTICAL
VB	VAPOR BARRIER
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VP	VISION PANEL
VTR	VENT THROUGH THE ROOF
W/	WITH
WC	WATER CLOSET
WD	WOOD
WF	WIDE FLANGE
WH	WATER HEATER
W/O	WITH OUT
WP	WORKING POINT
WS	WEB STIFFENER
WWF	WELDED WIRE FABRIC

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Longwoods Preserve Grange Hall
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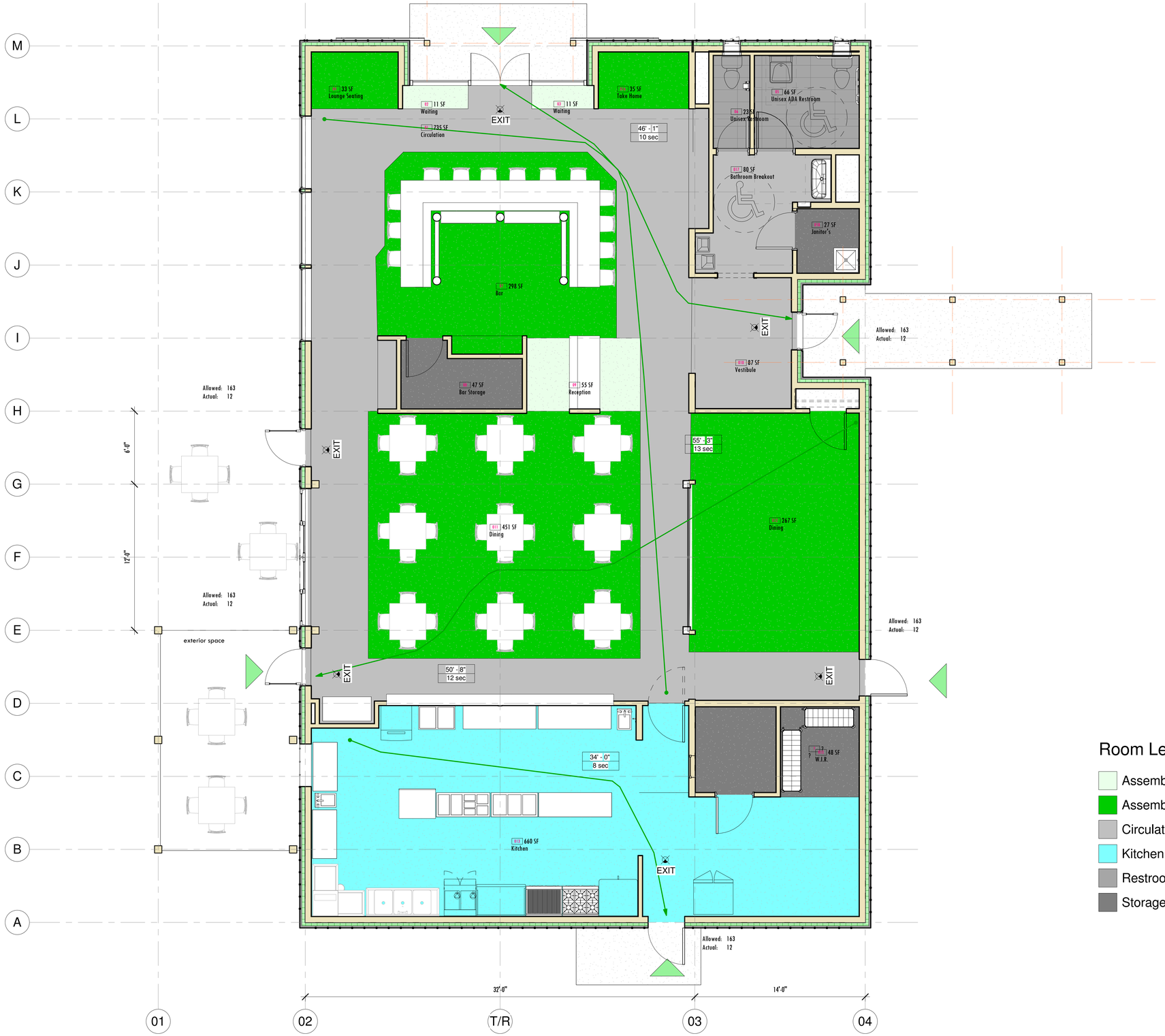
Occupancy Calculation
Actual: 25

A002

Scale 1/4" = 1'-0"

6.10.2022



1 00 Ground - Dining Layout
1/4" = 1'-0"

Room Legend

- Assembly 5
- Assembly 15
- Circulation
- Kitchen
- Restroom
- Storage

Table 1004.1.2

Storage, Mechanical		300 gross
Assembly	Concentrated (chairs only)	7 net
	Standing Space	5 net
	Unconcentrated (tables & Chairs)	15 net
Business		100 gross
Kitchens	Commercial	200 gross
Mercantile		60 gross
Stages and Platforms		15 net

Occupancy Schedule

Number	Name	Department	Area	Occupancy Count
01	Circulation	Circulation	735 SF	0
02	Waiting	Assembly 5	11 SF	2
03	Waiting	Assembly 5	11 SF	2
04	Lounge Seating	Assembly 15	33 SF	3
05	Unisex ADA Restroom	Restroom	66 SF	0
06	Unisex Restroom	Restroom	23 SF	0
07	Bar	Assembly 15	298 SF	14
08	Bar Storage	Storage	47 SF	1
09	Reception	Assembly 5	55 SF	6
010	Vestibule	Circulation	87 SF	0
011	Dining	Assembly 15	451 SF	21
012	Dining	Assembly 15	267 SF	33
013	Kitchen	Kitchen	660 SF	3
014	Office	Storage	47 SF	1
015	W.I.R.	Storage	48 SF	1
016	Take Home	Assembly 15	35 SF	2
017	Bathroom Breakout	Circulation	80 SF	0
018	Janitor's	Storage	27 SF	0
019	Mechanical Room	Loft	708 SF	3
19				92

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Longwoods Preserve Grange Hall
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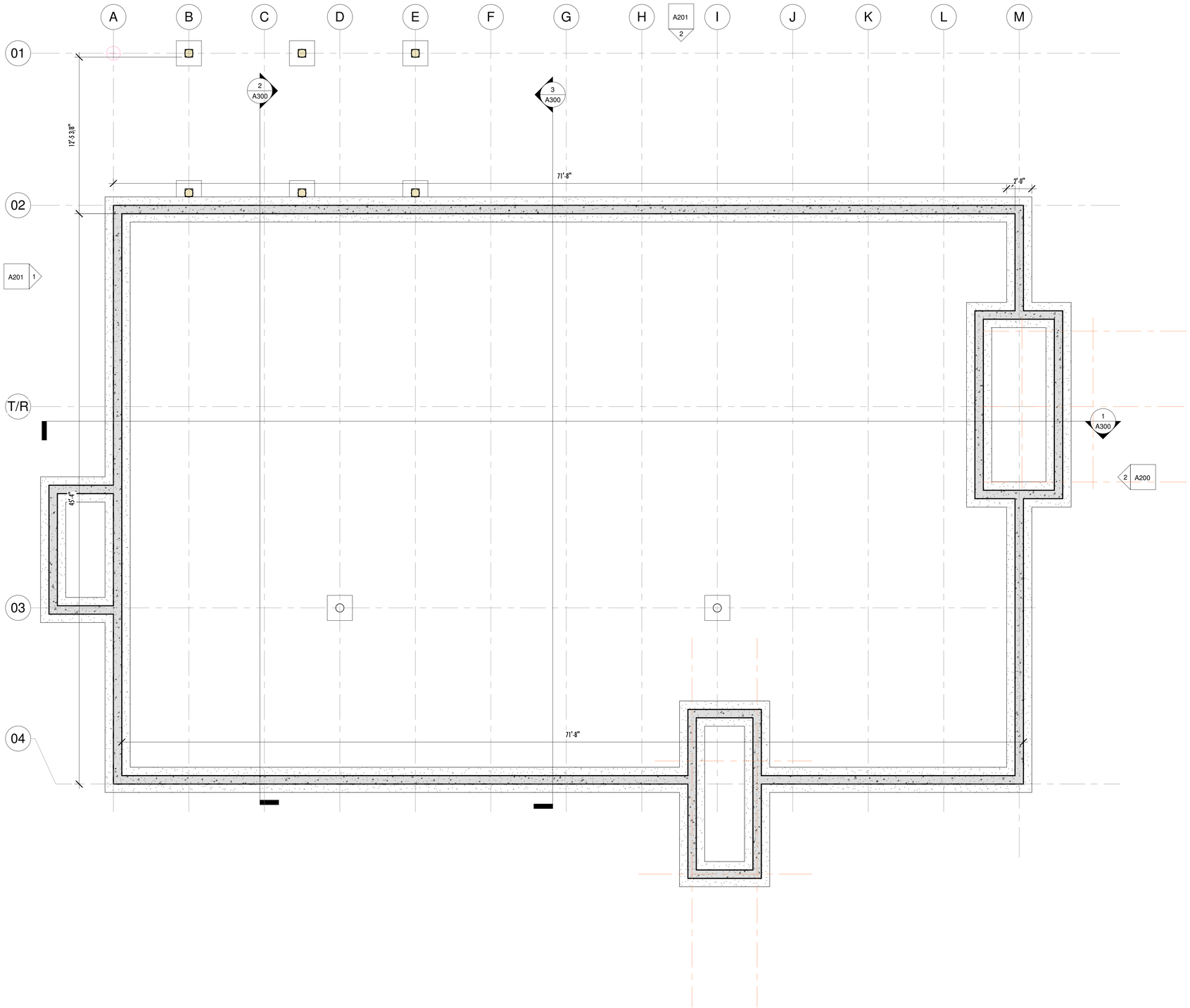
Foundation Plan

A100

Scale 1/4" = 1'-0"

6.10.2022



1 Foundation Plan
1/4" = 1'-0"

Sheet Size: 24 in x 36 in

6/10/2022 11:45:19 AM

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Longwoods Preserve Grange Hall
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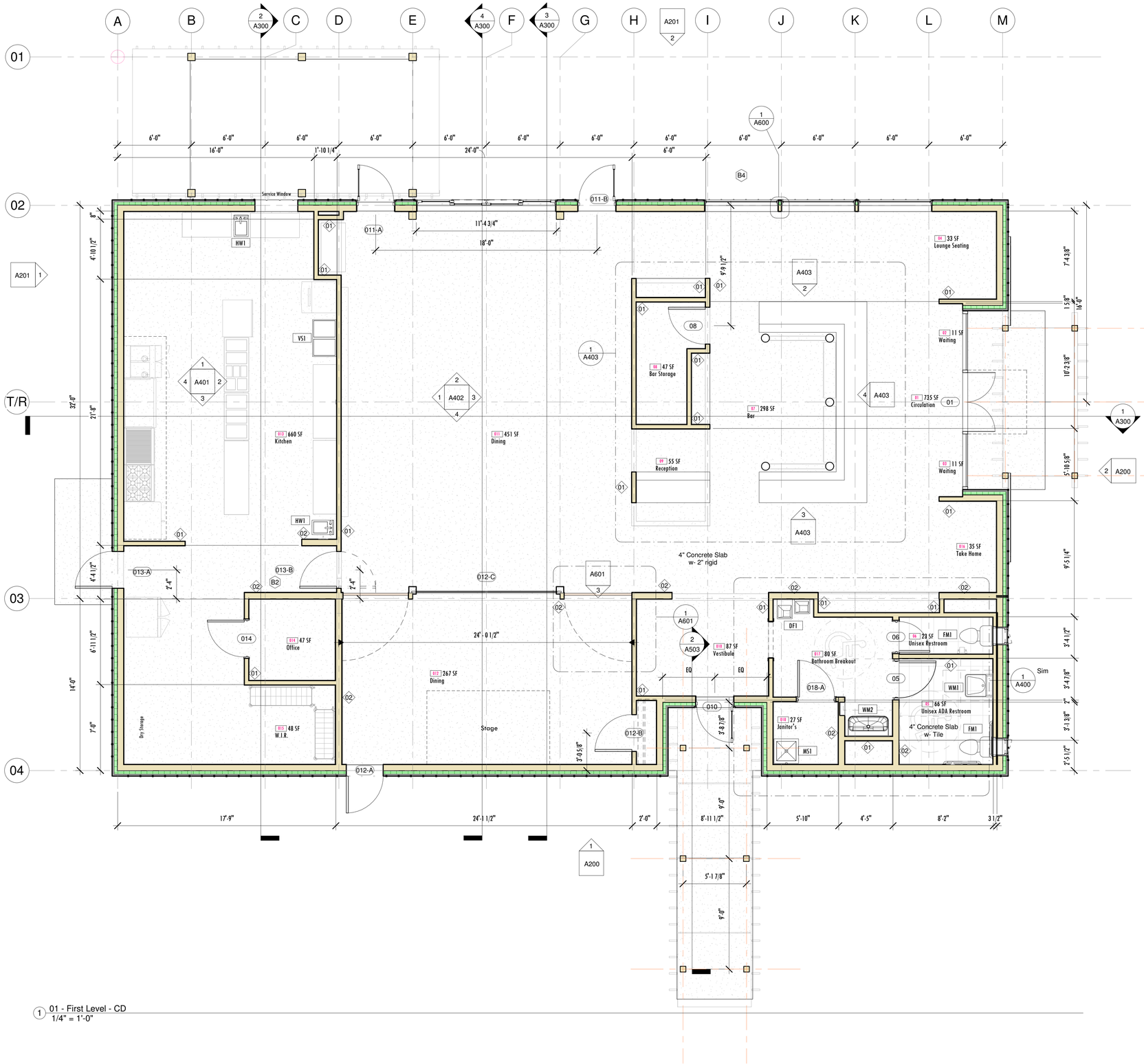
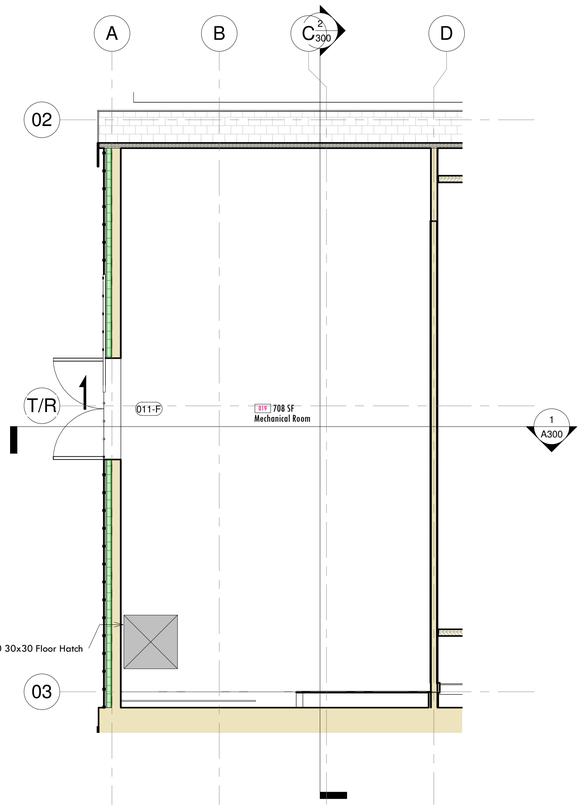
Floor Plan

A101

Scale 1/4" = 1'-0" 6.10.2022



1 01 - First Level - CD
1/4" = 1'-0"



2 02 - Mezzanine - CD
1/4" = 1'-0"

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Longwoods Preserve Grange Hall
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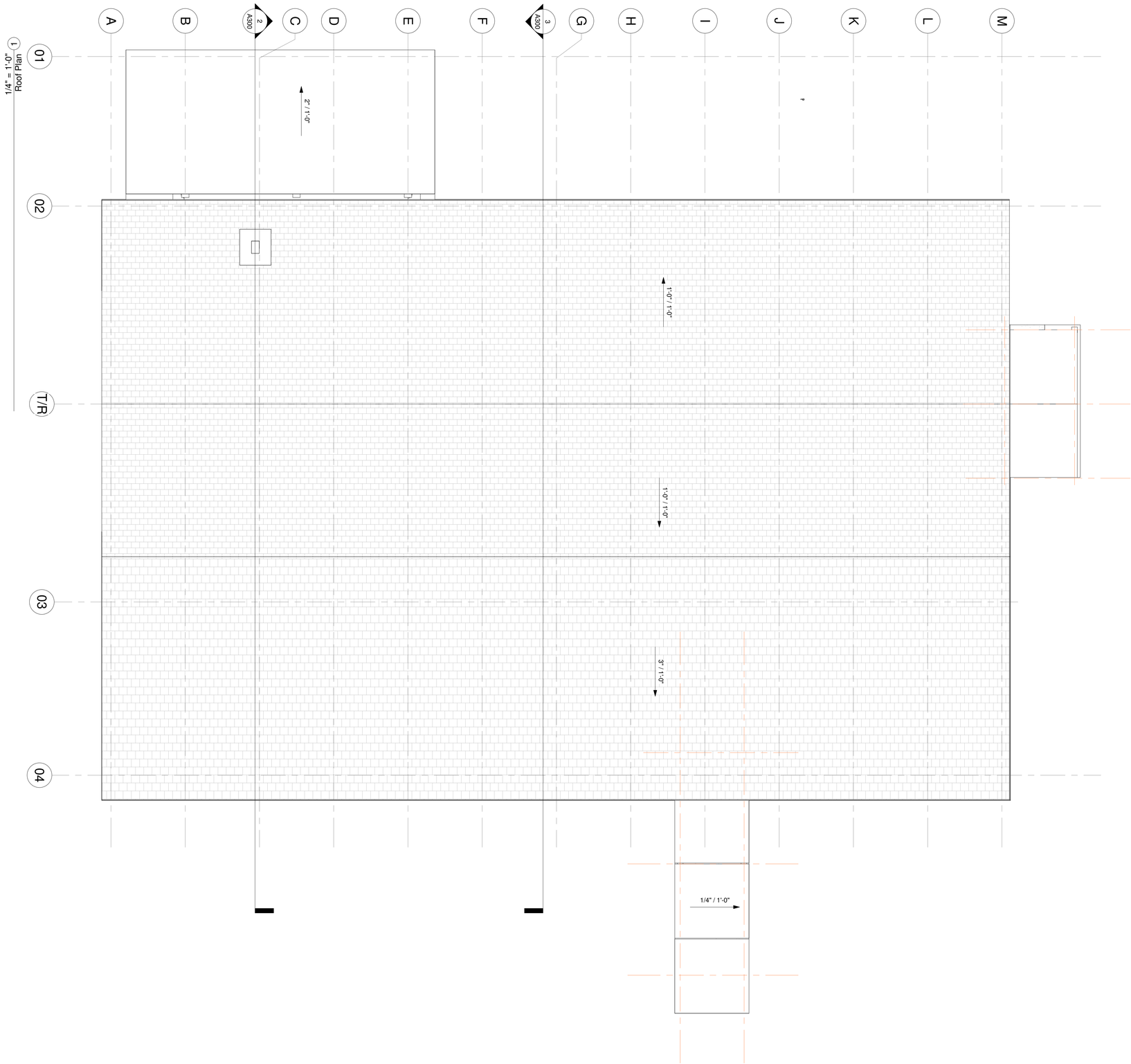
Roof Plan

A102

Scale 1/4" = 1'-0"

6.10.2022



 Sheet Size: 24 in x 36 in

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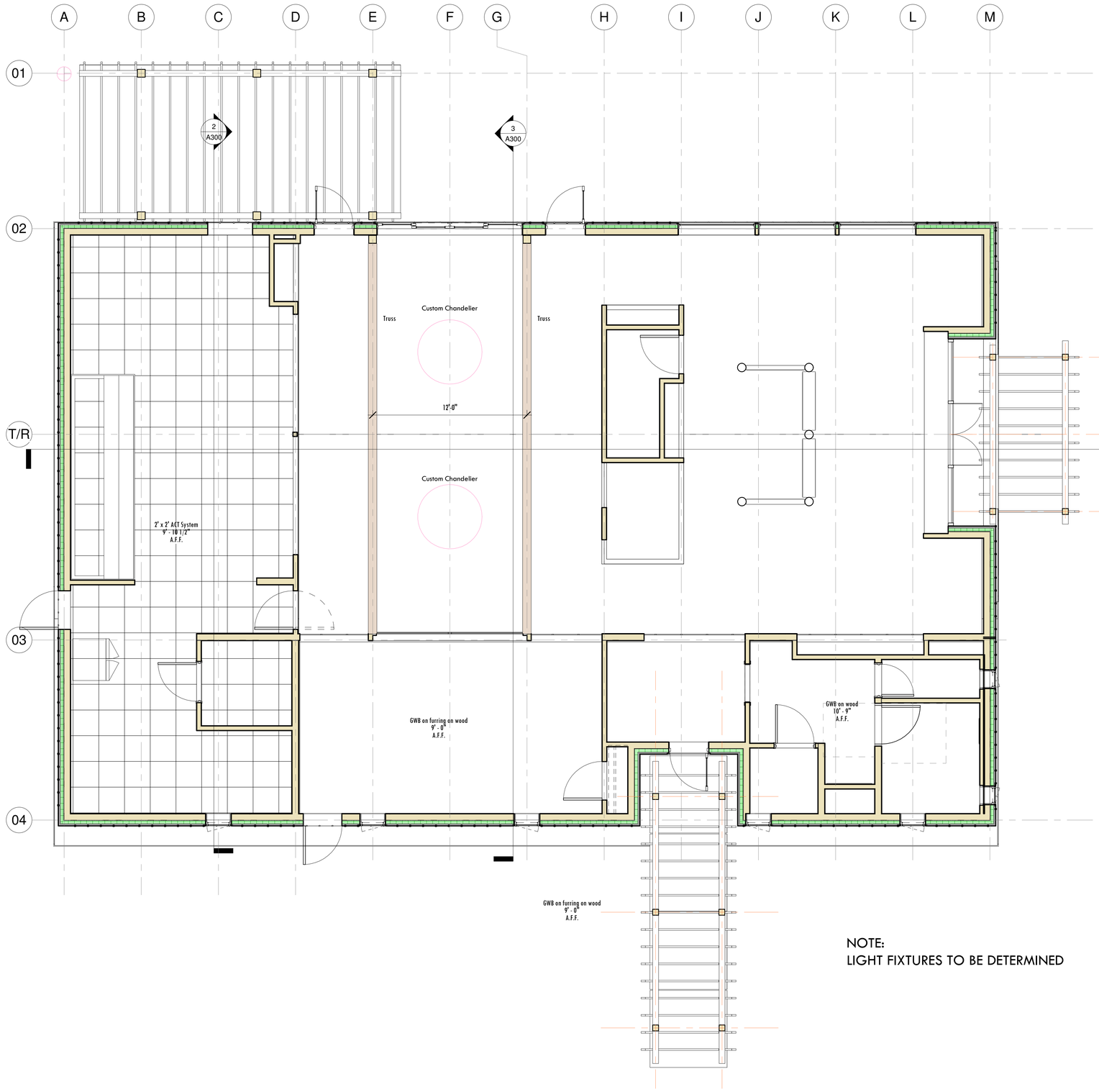
Reflected Ceiling Plan

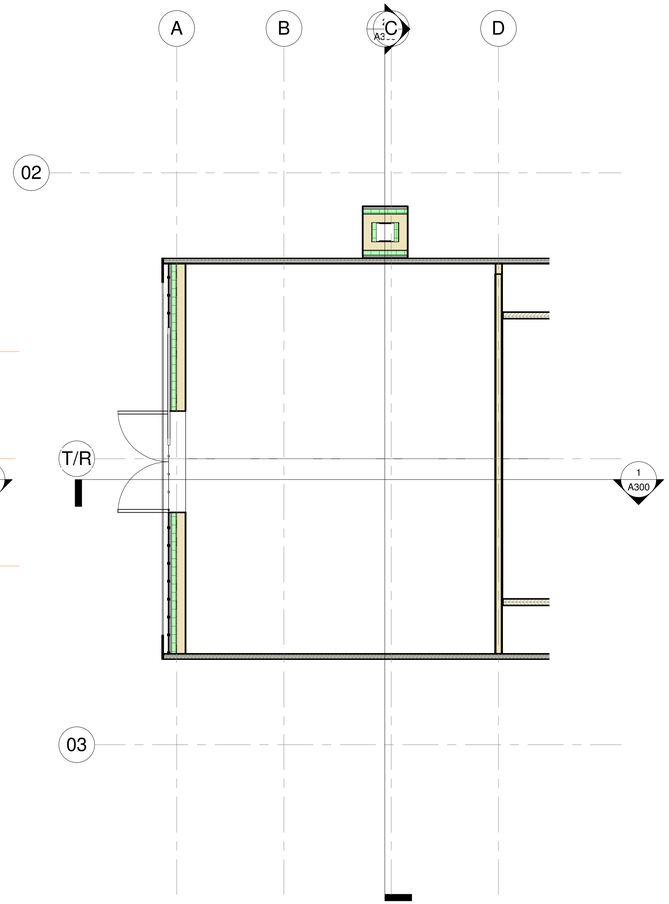
A150

Scale 1/4" = 1'-0"

6.10.2022



1 01 - Main Level RCP - CD
1/4" = 1'-0"



2 02 - Mezzanine RCP - CD
1/4" = 1'-0"

NOTE:
LIGHT FIXTURES TO BE DETERMINED

CUSTOM CHANDELIER

Sheet Size: 24 in x 36 in

6/10/2022 11:45:22 AM

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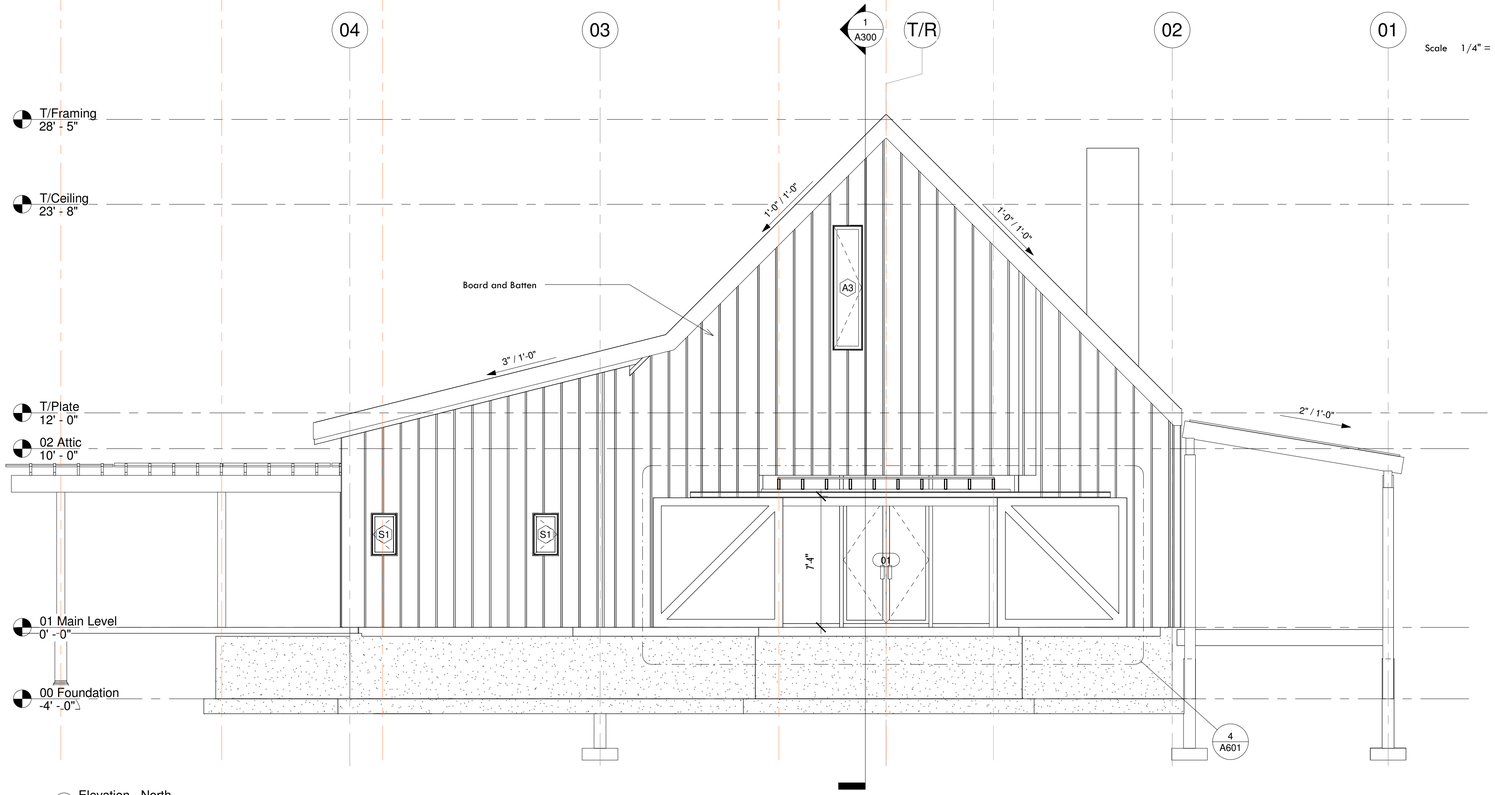
Elevations

A200

Scale 1/4" = 1'-0"

6.10.2022



2 Elevation - North
1/4" = 1'-0"

1 Elevation - East
1/4" = 1'-0"

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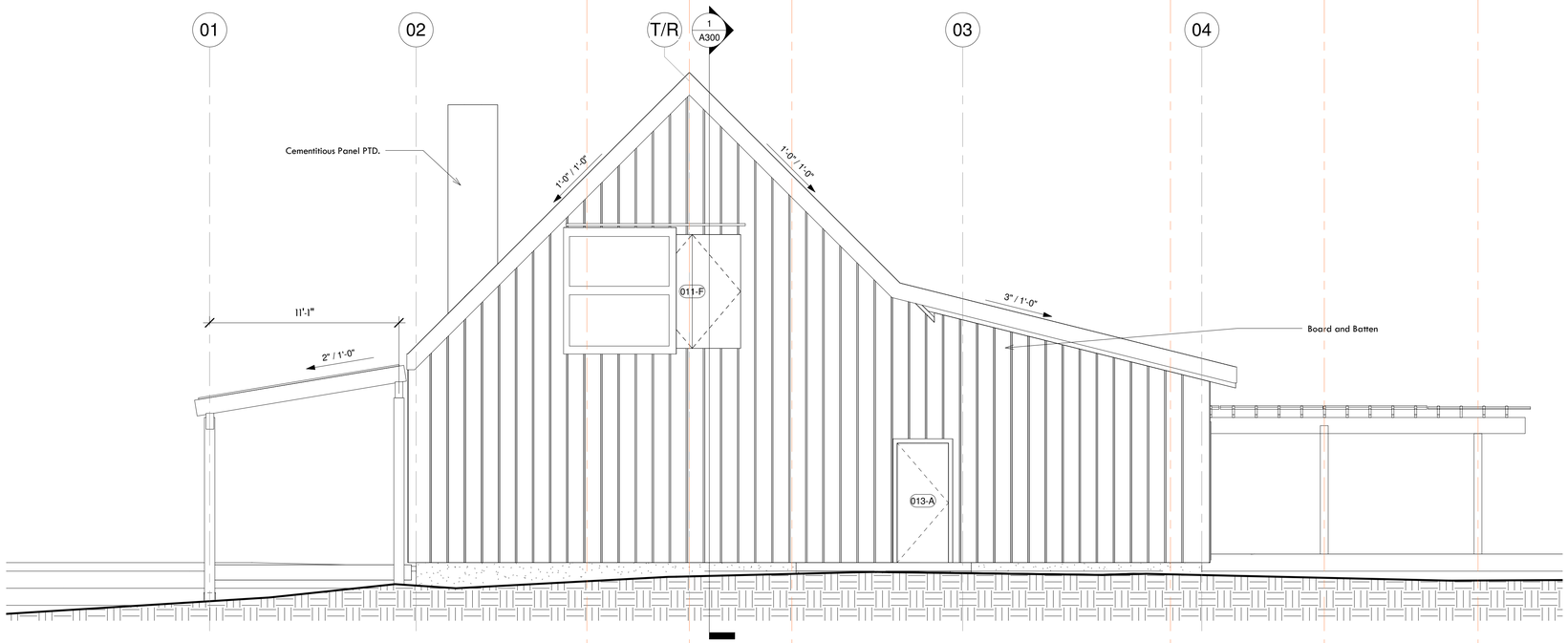
Elevations

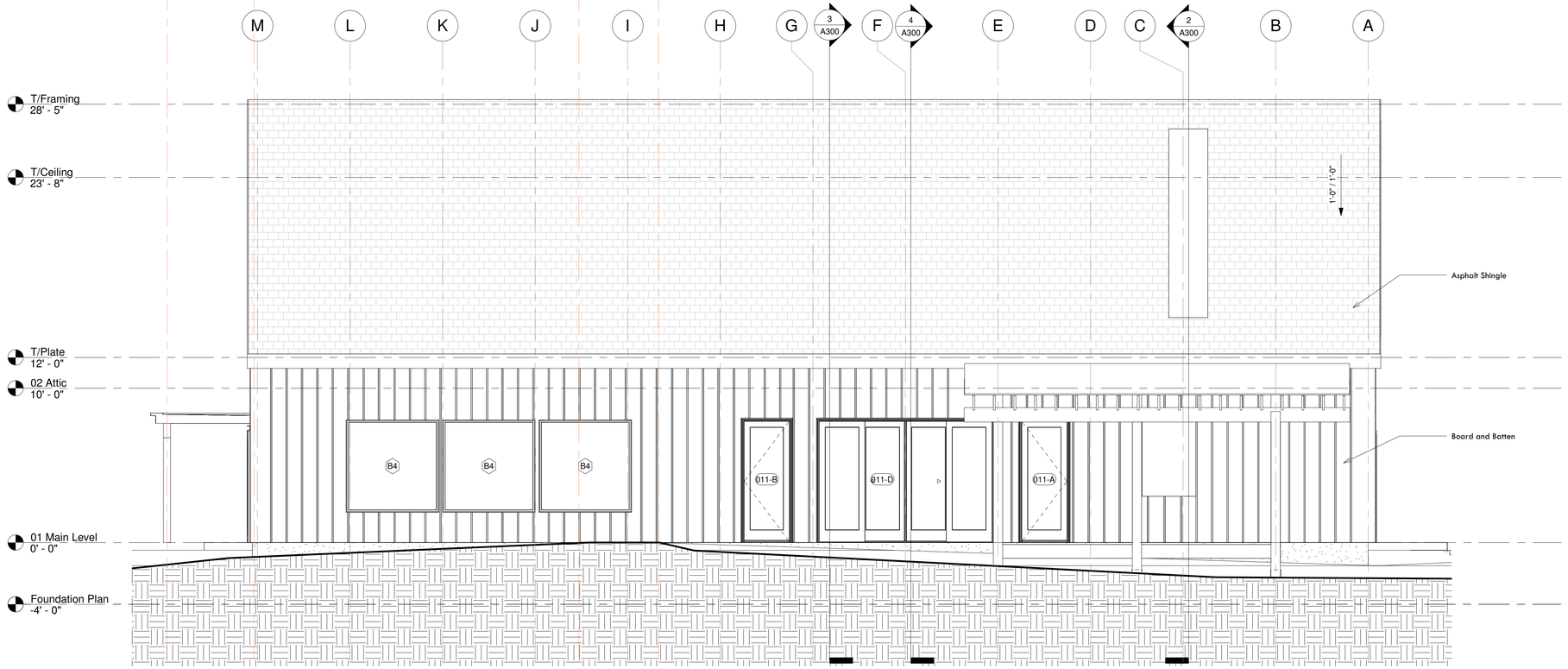
A201

Scale 1/4" = 1'-0"

6.10.2022



1 Elevation - South
1/4" = 1'-0"



2 Elevation - West
1/4" = 1'-0"

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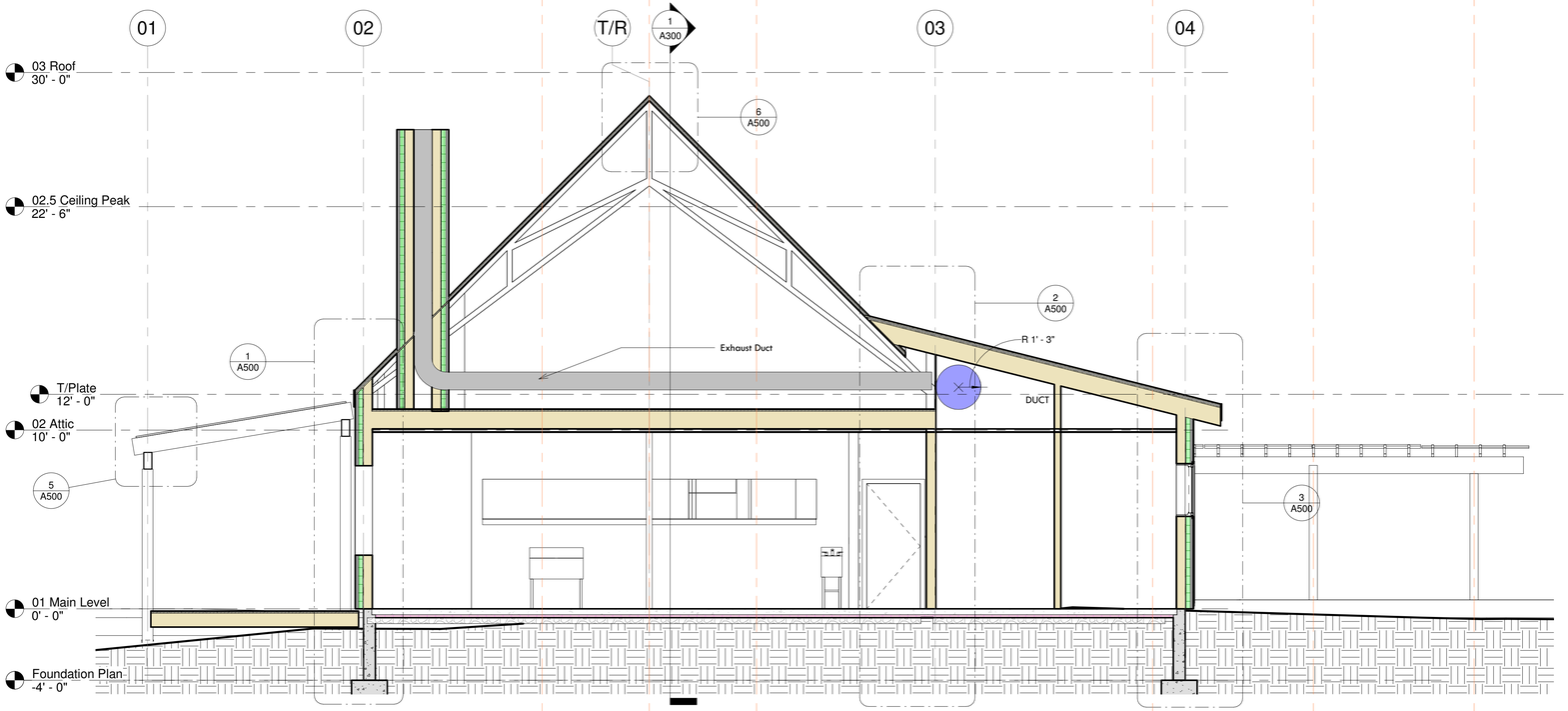
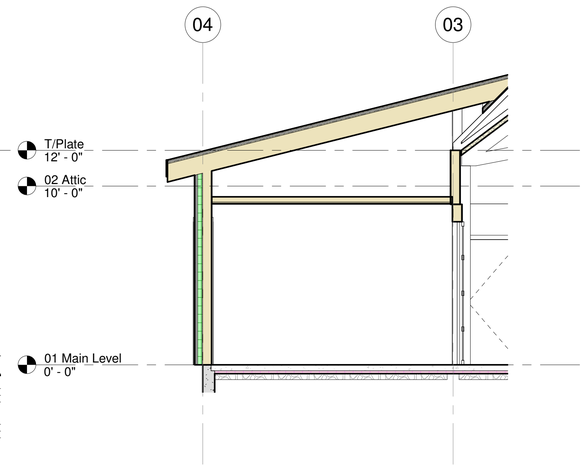
Sections

A300

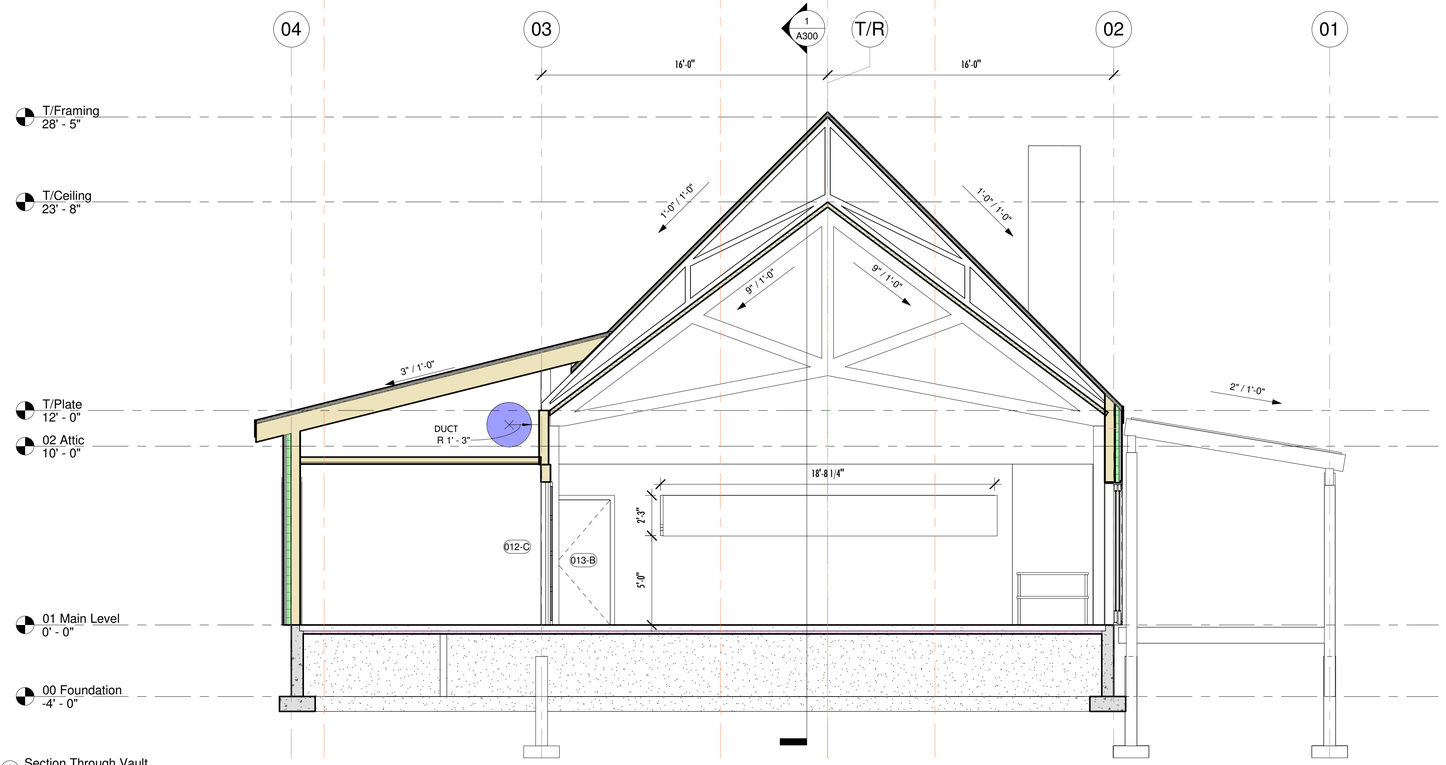
Scale 1/4" = 1'-0" 6.10.2022



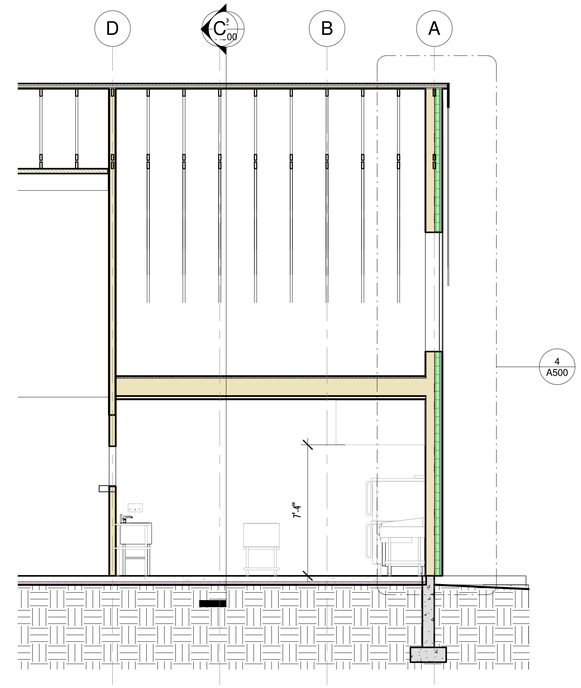
2 Section Through Soffit
1/4" = 1'-0"



4 Section 2
1/4" = 1'-0"



3 Section Through Vault
1/4" = 1'-0"



1 Section - Longitudinal B
1/4" = 1'-0"

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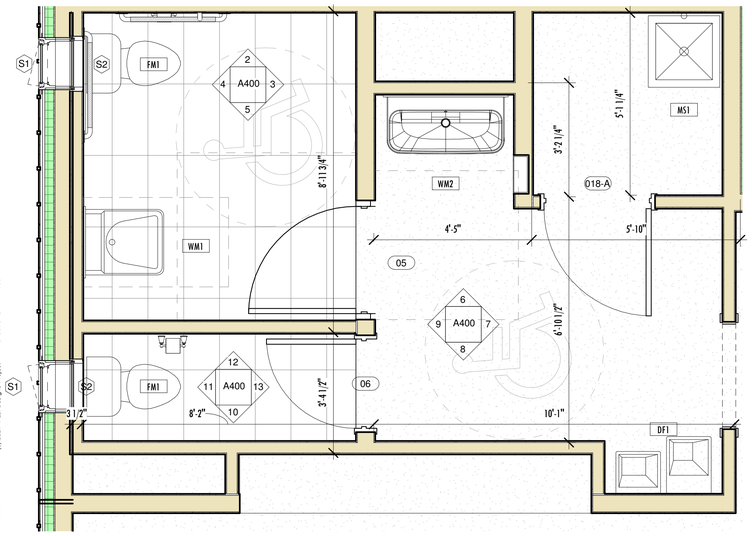
Enlarged Plans - Bathroom

A400

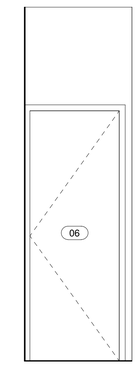
Scale 1/2" = 1'-0" 6.10.2022

Plumbing Fixture Schedule					
Type Mark	Count	Type Comments	Model	Manufacturer	Comments
DF1	1	Drinking Fountain			
FM1	2	Floor Mouth Toilet			
HW1	2	Hand Wash Sink			
MS1	1	Mop Sink			
VS1	1	Vegetable Sink			
WM1	1	Wall Mount Sink			
WM2	1	Wall Mount Trough Sink	231810	Duravit	Sink By Owner

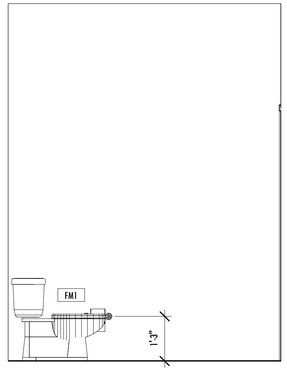
Specialty Equipment Schedule		
Type Mark	Count	Model
	1	B-306
GB-V	1	B-5806
BS1	1	KB100-ST-05
M1	1	B-290 2448
M2	1	B-290 1836



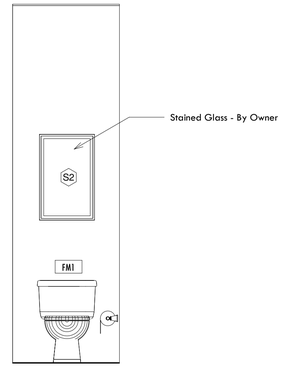
1 Enlarged Plan - Bathrooms
1/2" = 1'-0"



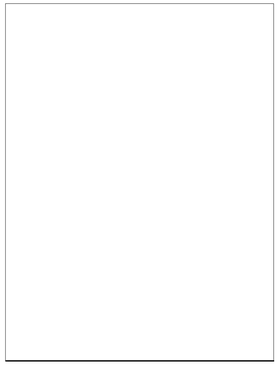
13 Typ. Stall - A
1/2" = 1'-0"



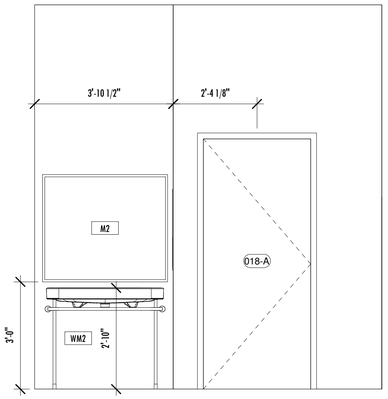
12 Typ. Stall B
1/2" = 1'-0"



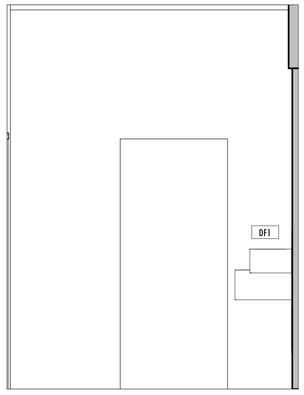
11 Typ. Stall - C
1/2" = 1'-0"



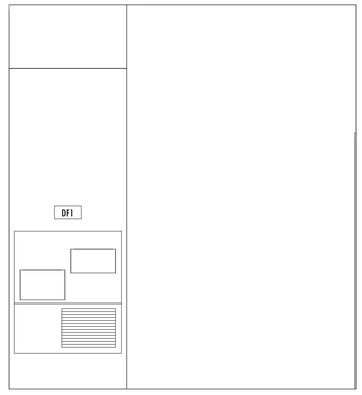
10 Typ. Stall - D
1/2" = 1'-0"



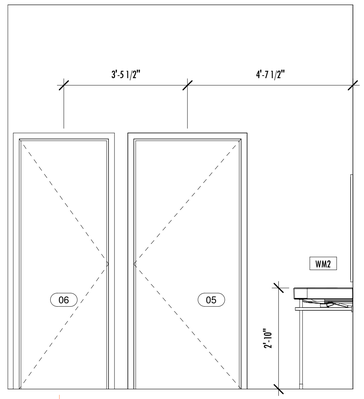
6 Unisex Bathroom - A
1/2" = 1'-0"



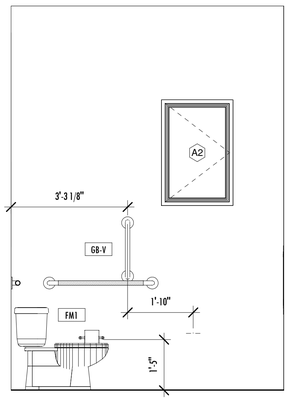
7 Unisex Bathroom - B
1/2" = 1'-0"



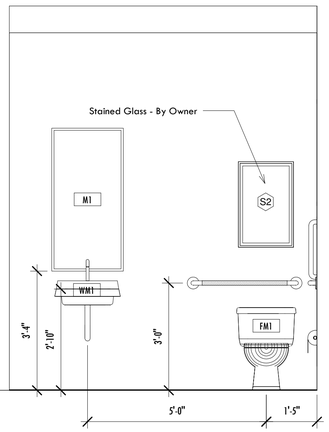
8 Unisex Bathroom - C
1/2" = 1'-0"



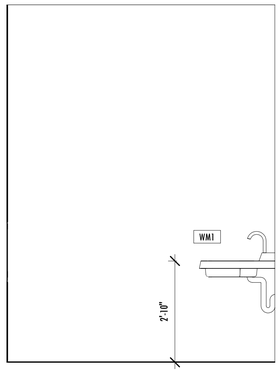
9 Unisex Bathroom - D
1/2" = 1'-0"



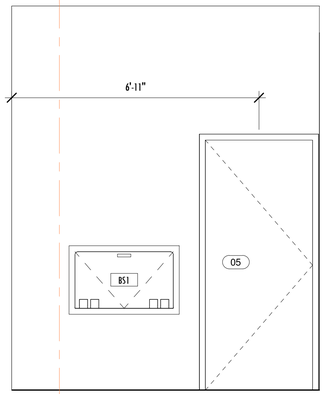
2 ADA Bathroom - A
1/2" = 1'-0"



4 ADA Bathroom - B
1/2" = 1'-0"



5 ADA Bathroom - C
1/2" = 1'-0"



3 ADA Bathroom - D
1/2" = 1'-0"

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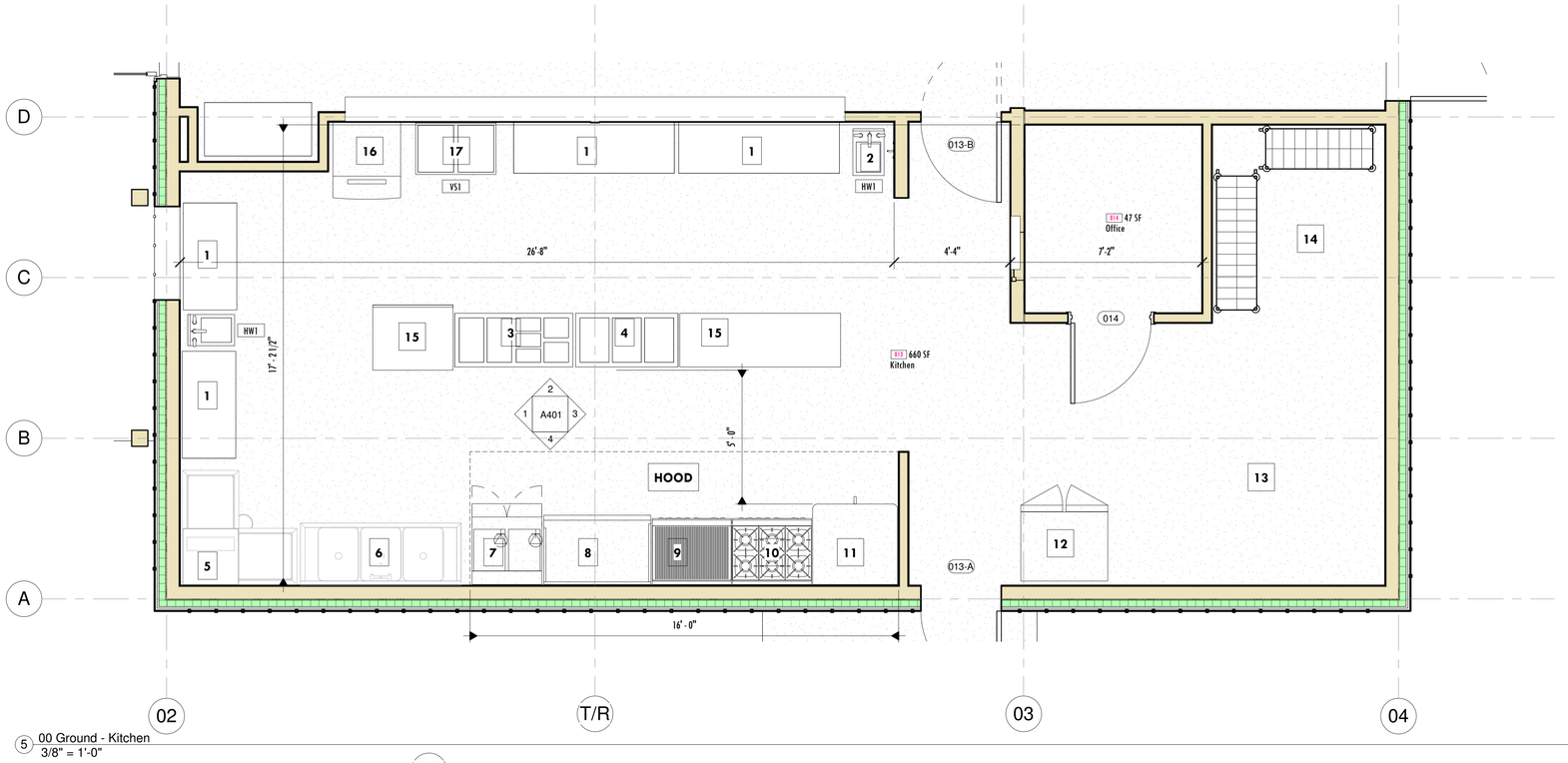
Interior Elevations - Kitchen

A401

Scale 3/8" = 1'-0" 6.10.2022

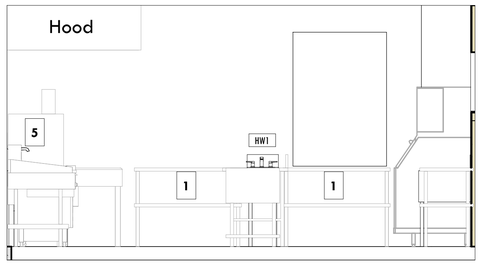


5 00 Ground - Kitchen
3/8" = 1'-0"

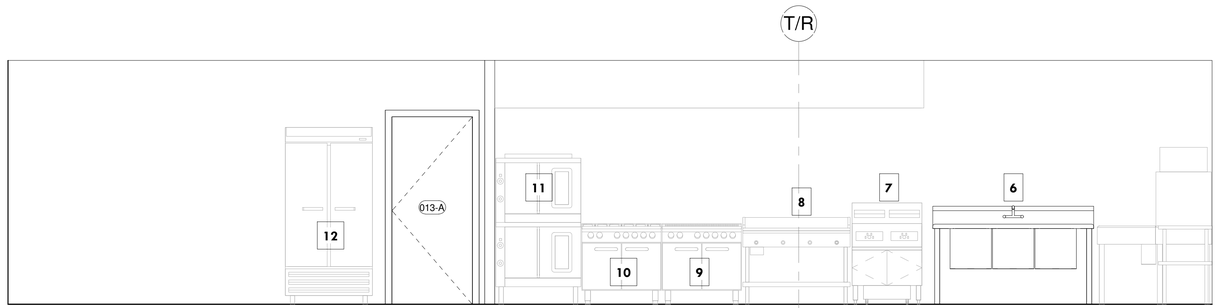
1 Work Table 24" x 72"
2 Hand Wash Sink
3 Steam Table 58"
4 Cold Table 46"
5 Dish Wash - Corner
6 3 Bay Sink
7 Fryer - double
8 Flat Top - 48"
9 Grill - 36"
10 6 Burner Range
11 Convection Oven
12 Freezer
13 Dry Storage
14 Walk-In Refrigerator
15 Prep Table 24" x 30"
16 Ice Maker
17 Produce Sink

NOTE
Kitchen Equipment shown for coodination only. Final appliance package by owner.

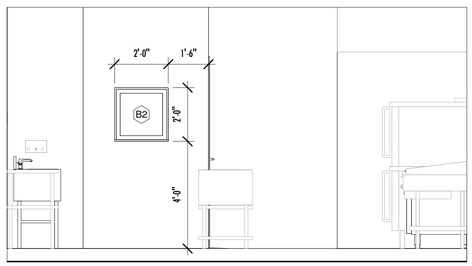
2 Kitchen C
3/8" = 1'-0"



1 Kitchen A
3/8" = 1'-0"



4 Kitchen D
3/8" = 1'-0"



3 Kitchen B
3/8" = 1'-0"

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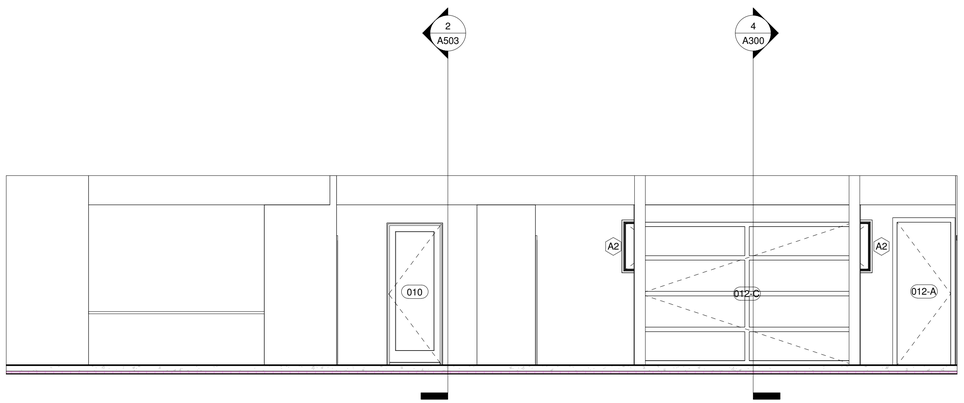
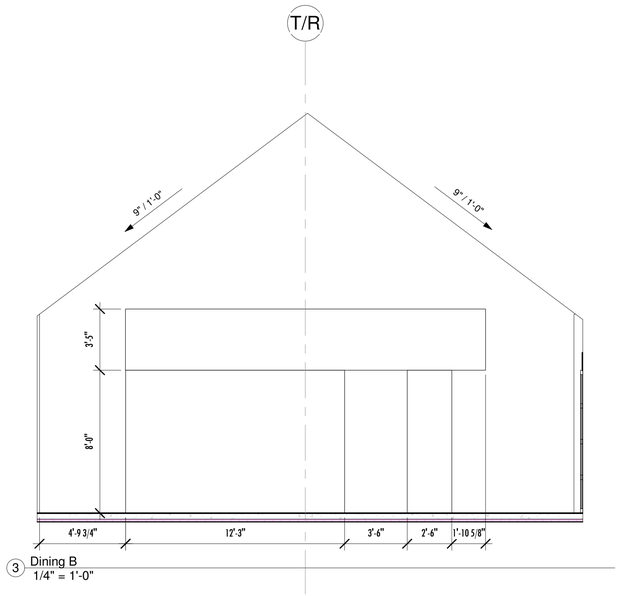
Interior Elevations - Dining

A402

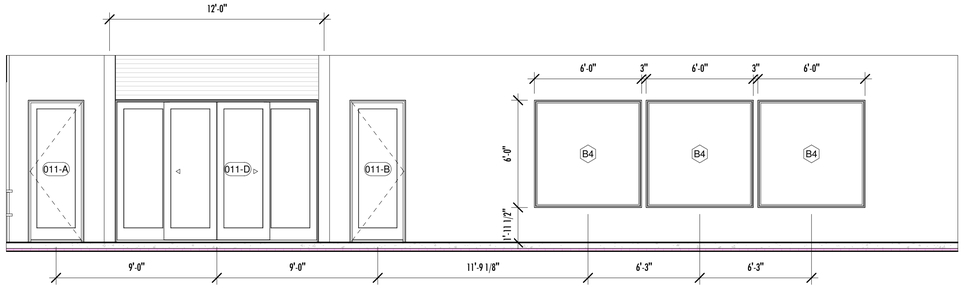
Scale 1/4" = 1'-0" 6.10.2022



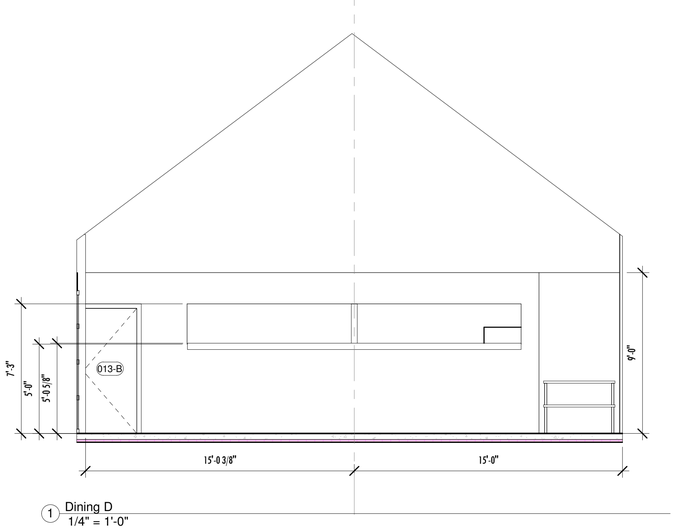
4 Dining A
1/4" = 1'-0"



3 Dining B
1/4" = 1'-0"



2 Dining C
1/4" = 1'-0"



1 Dining D
1/4" = 1'-0"

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Longwoods Preserve Grange Hall
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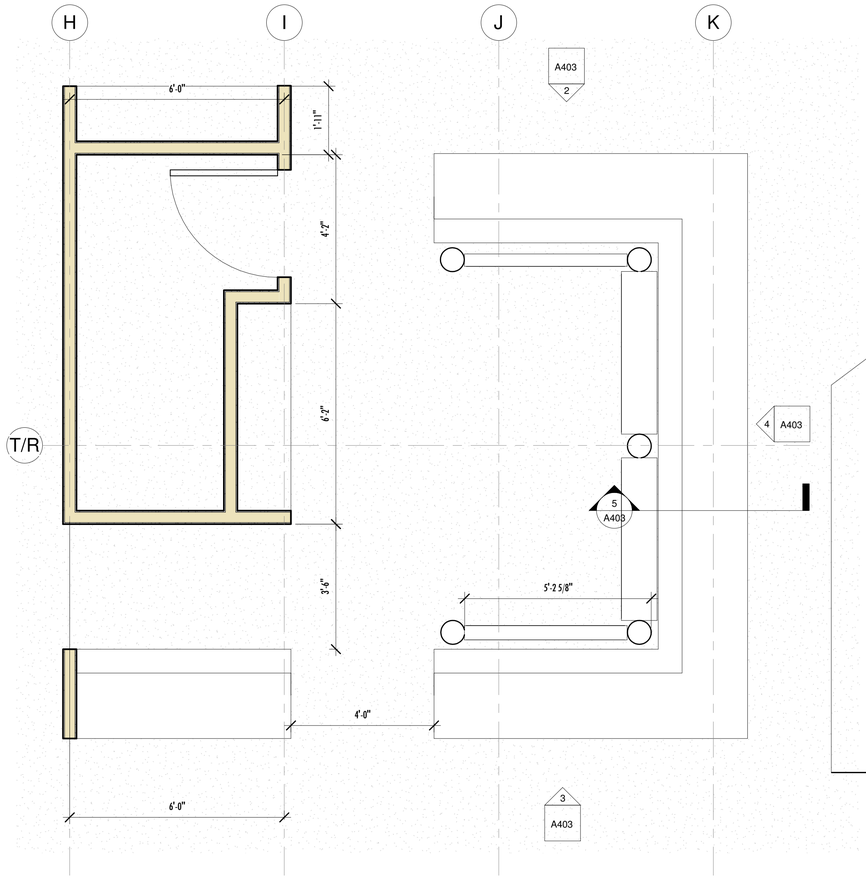
Enlarged Plan - Bar

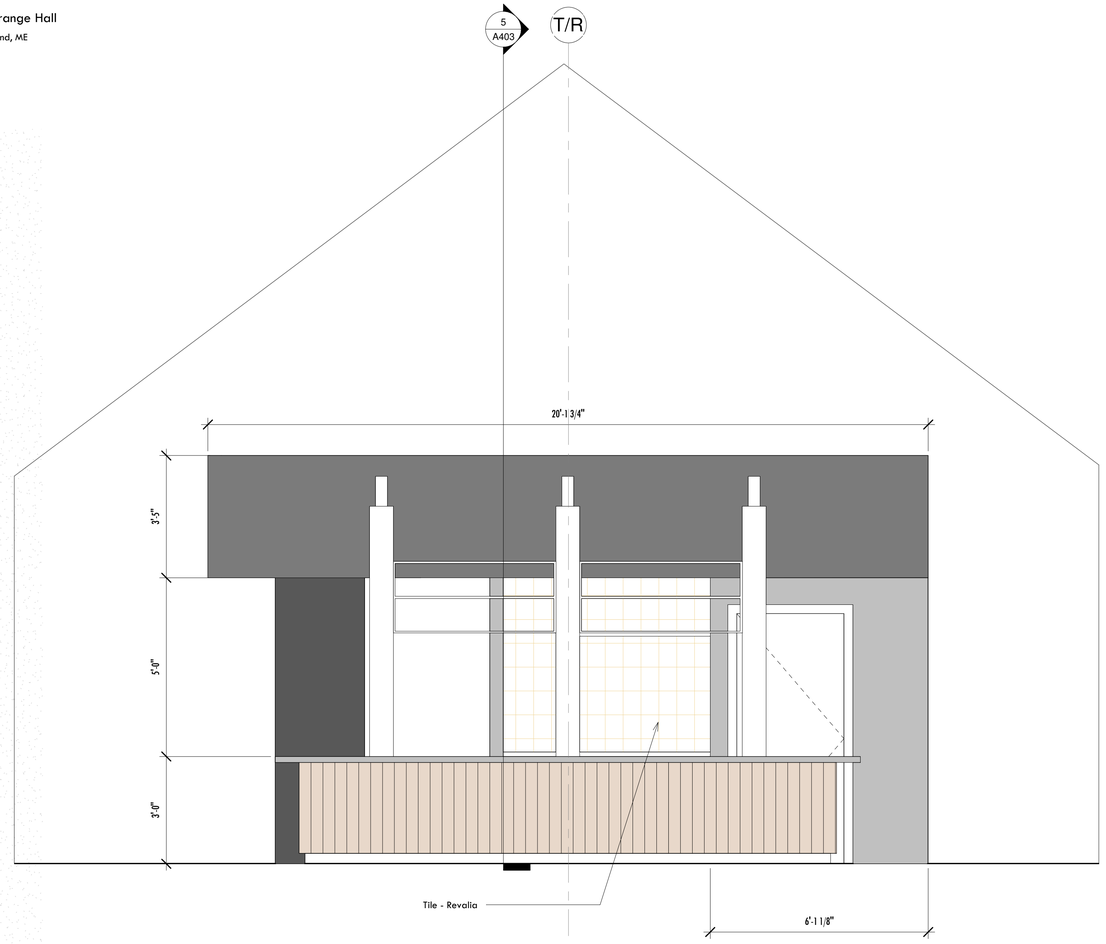
A403

Scale As indicated

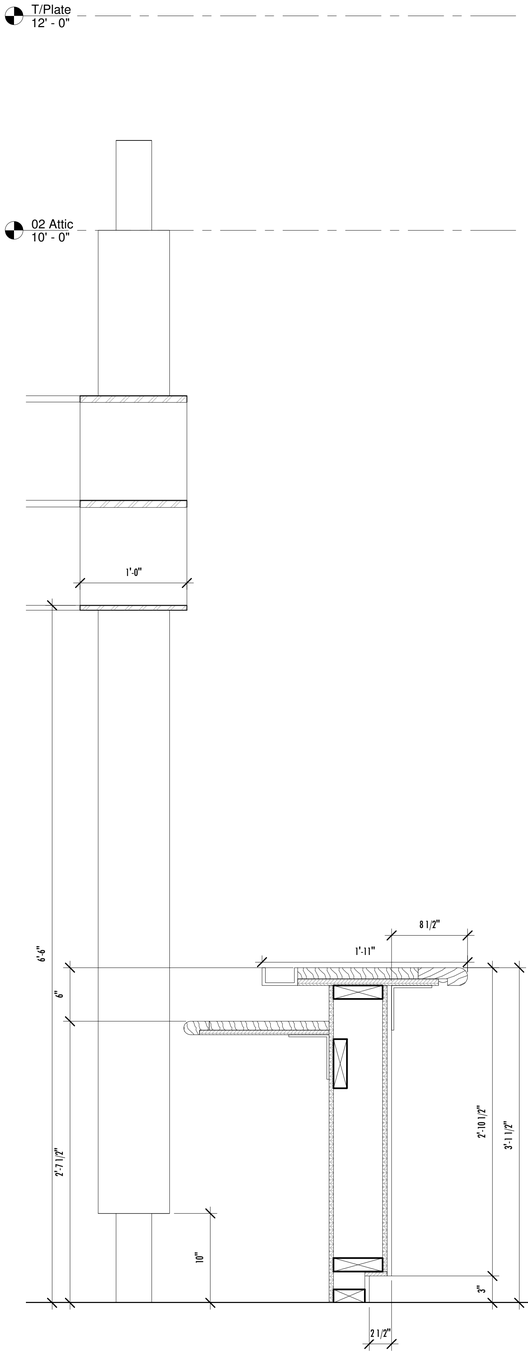
6.10.2022



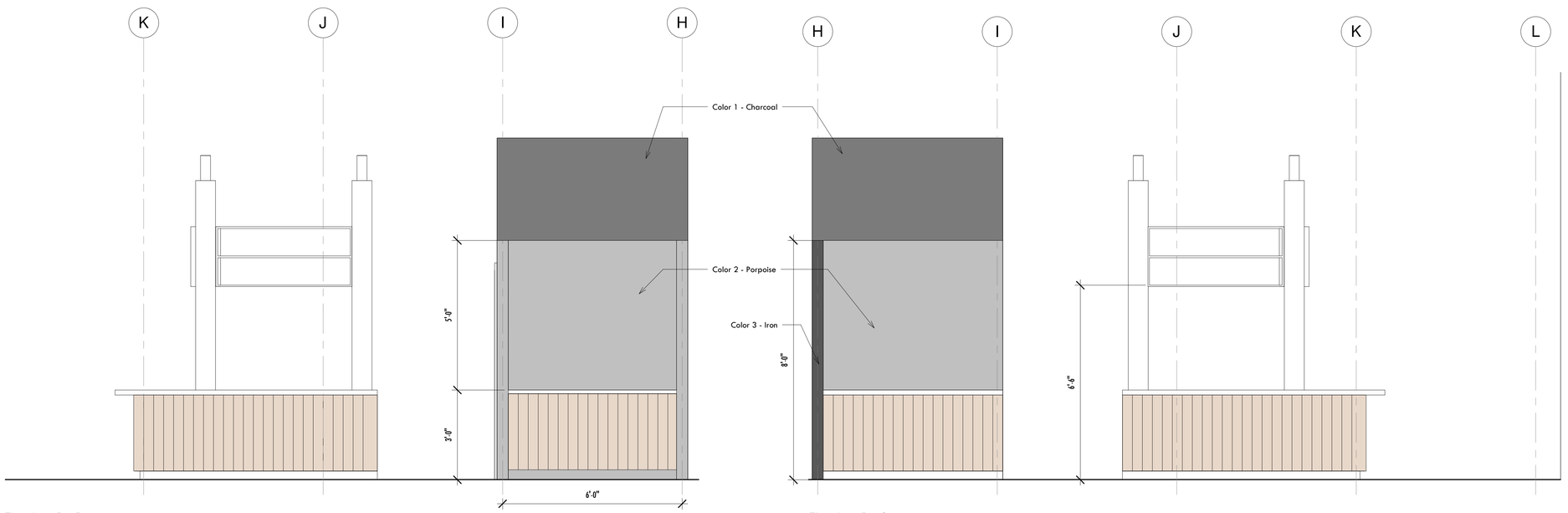
1 Enlarged Plan - Bar
1/2" = 1'-0"



4 Elevation - Bar A
1/2" = 1'-0"



5 Section @ Bar
1 1/2" = 1'-0"



2 Elevation - Bar B
1/2" = 1'-0"

3 Elevation - Bar C
1/2" = 1'-0"

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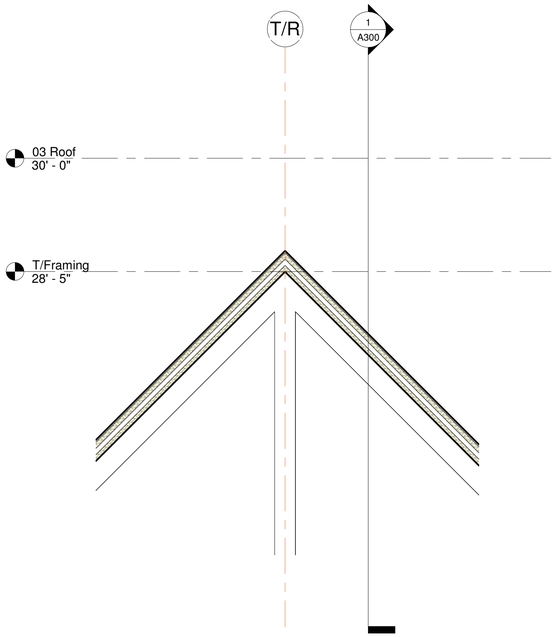
Details

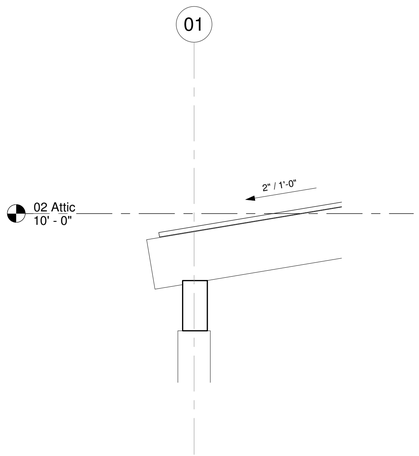
A500

Scale As indicated

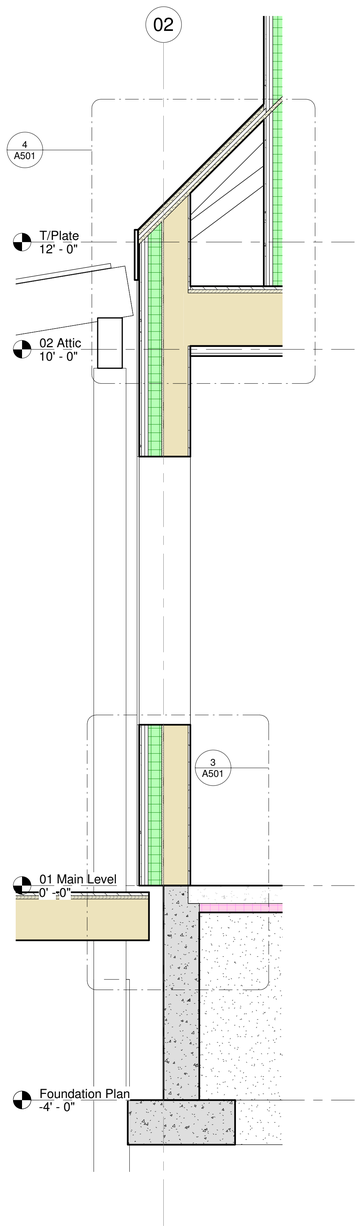
6.10.2022



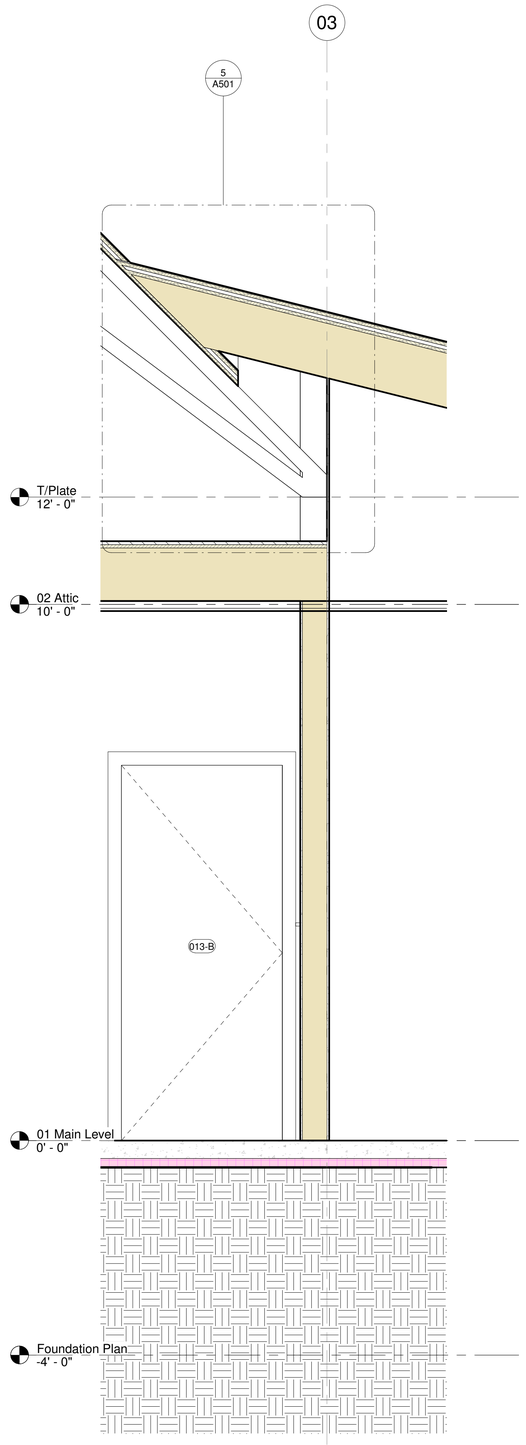
6 Detail @ Ridge
1" = 1'-0"



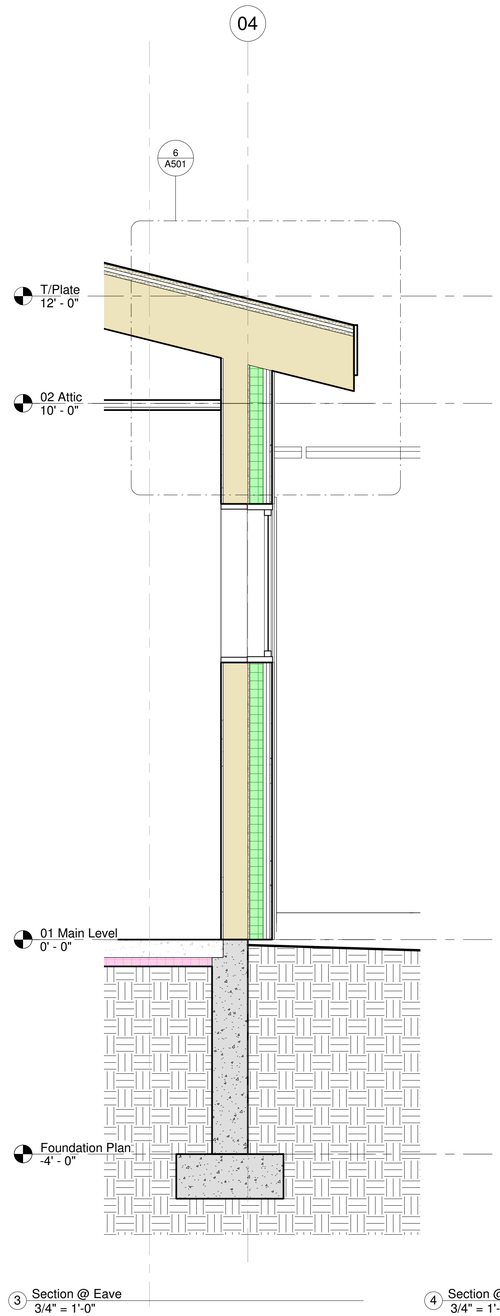
5 Detail @ 3 Season
3/4" = 1'-0"



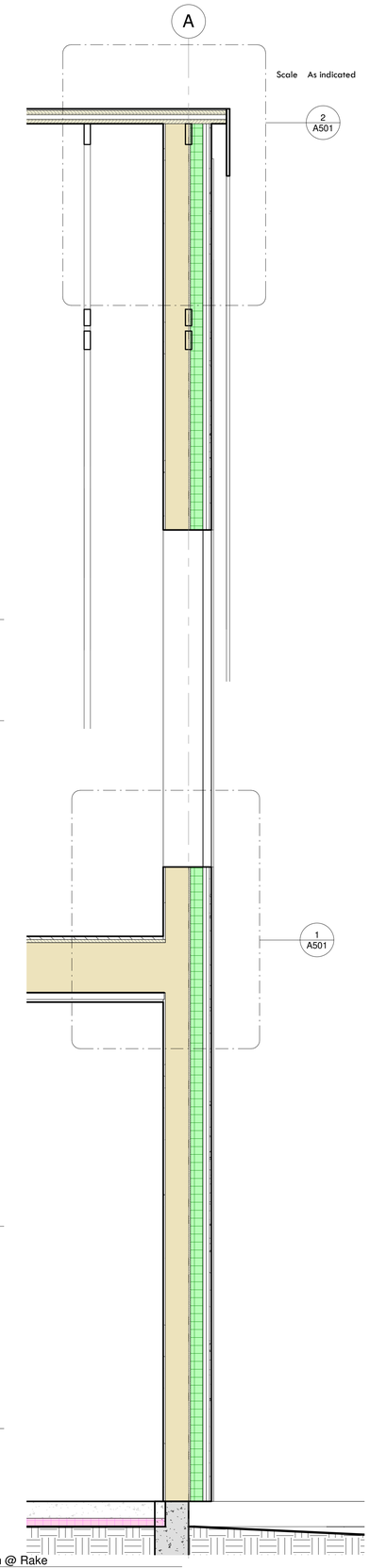
1 Section @ 3 Season
3/4" = 1'-0"



2 Section @ Shed
3/4" = 1'-0"



3 Section @ Eave
3/4" = 1'-0"



4 Section @ Rake
3/4" = 1'-0"

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Longwoods Preserve Grange Hall
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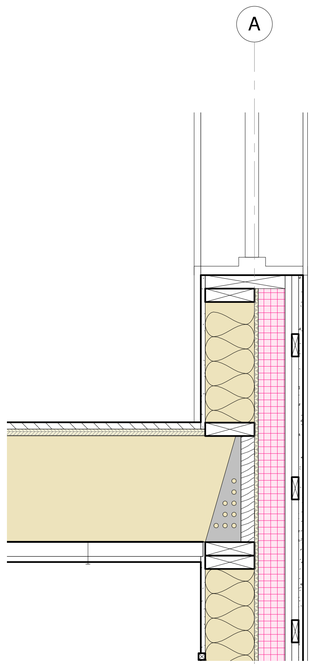
Details - Enlarged

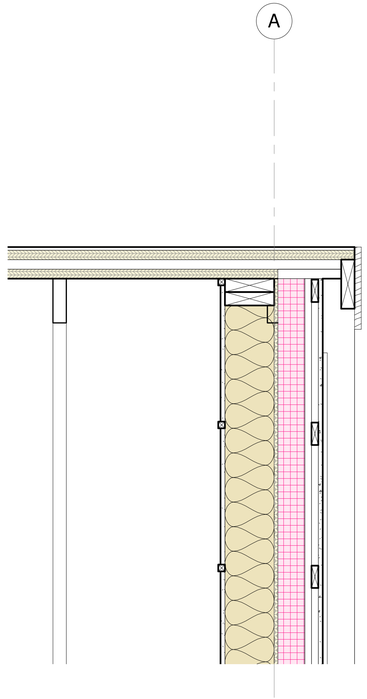
A501

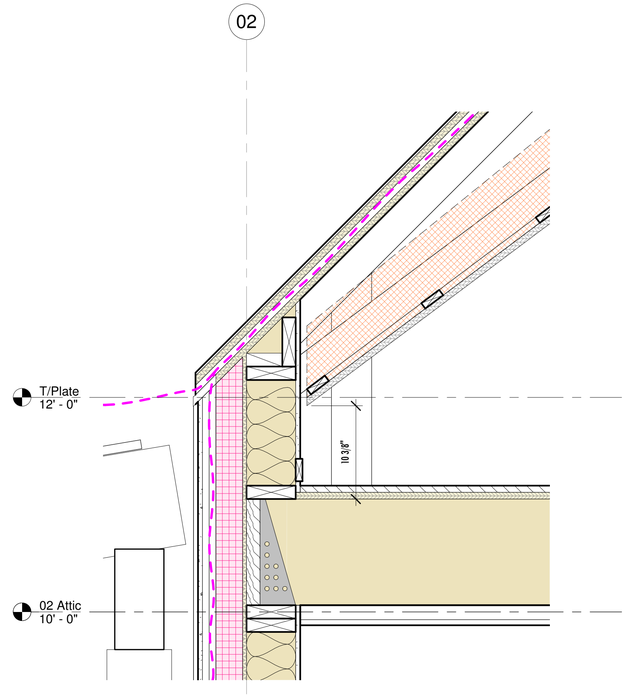
Scale 1 1/2" = 1'-0" 6.10.2022



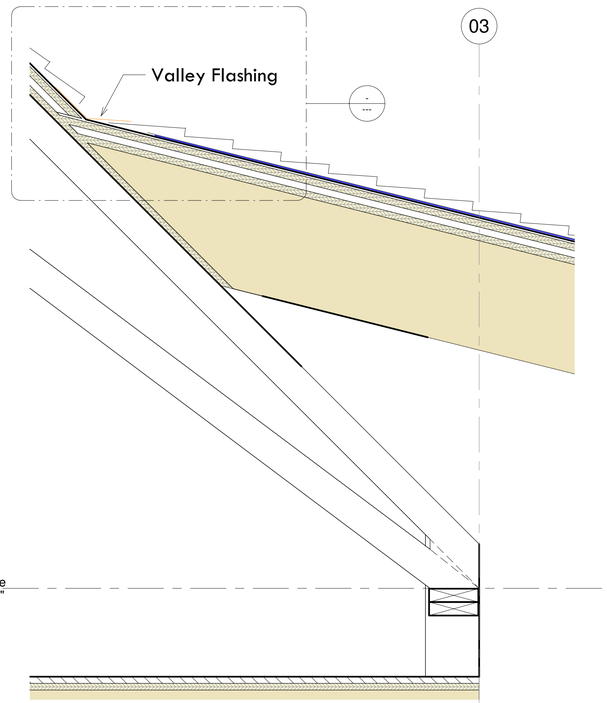
TYPICAL WALL ASSEMBLY

EXTERIOR
1x Batten 10" O.C.
10" Vertical Wood Siding
1x3 Horizontal Furring
1x Vertical Furring
3" Rigid Insulation
WRB Membrane
3/4" Plywood Sheathing
2x6 Stud w/ Cavity Insulation
1/2" Gypsum Wall Board
INTERIOR



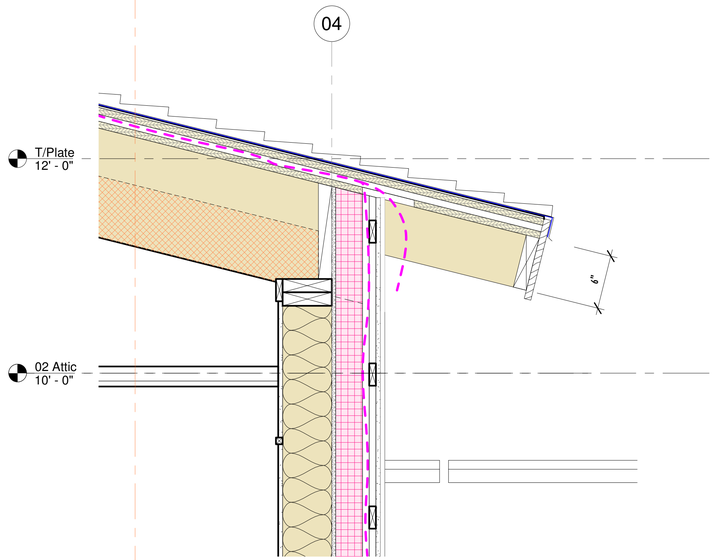


1 Detail @ Mezzanine
1 1/2" = 1'-0"



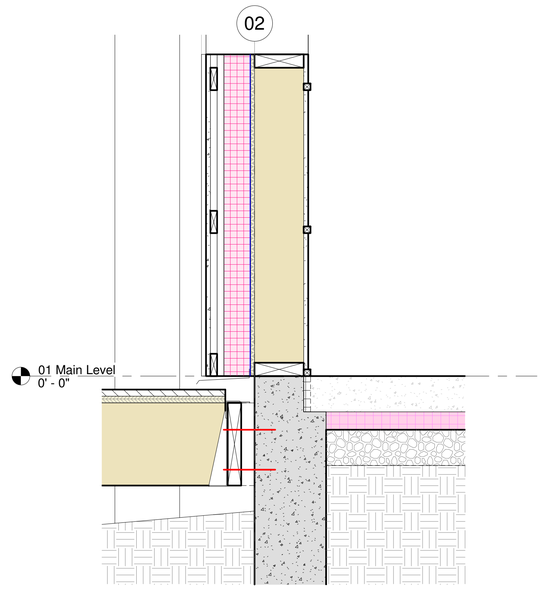
5 Detail @ Shed
1 1/2" = 1'-0"

2 Detail @ Rake Typ.
1 1/2" = 1'-0"



6 Detail @ Eave Typ.
1 1/2" = 1'-0"

4 Detail @ Edge Typ.
1 1/2" = 1'-0"



3 Detail @ Porch
1 1/2" = 1'-0"

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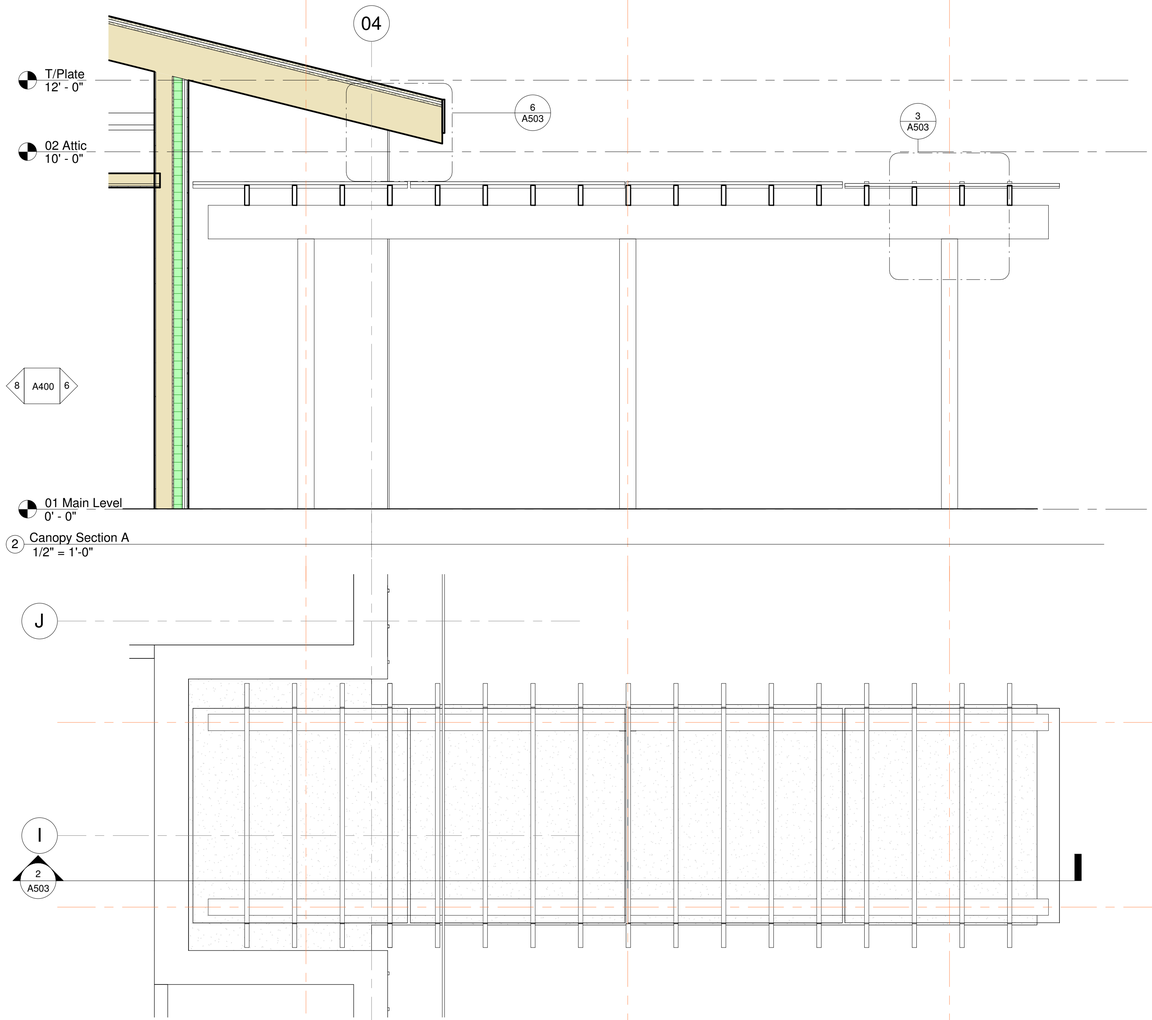
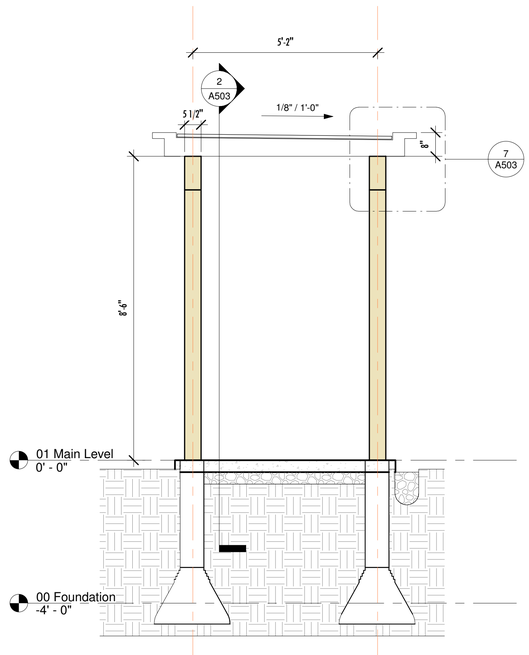
Details - Canopy

A503

Scale As indicated 6.10.2022



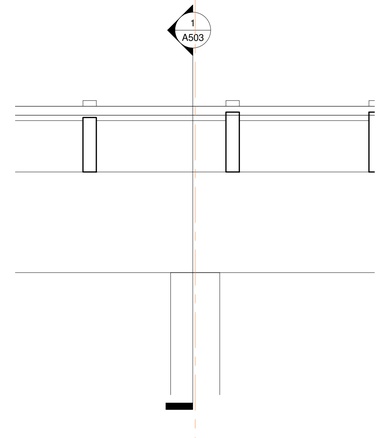
2 Canopy Section A
1/2" = 1'-0"



1 Canopy Section B
1/2" = 1'-0"

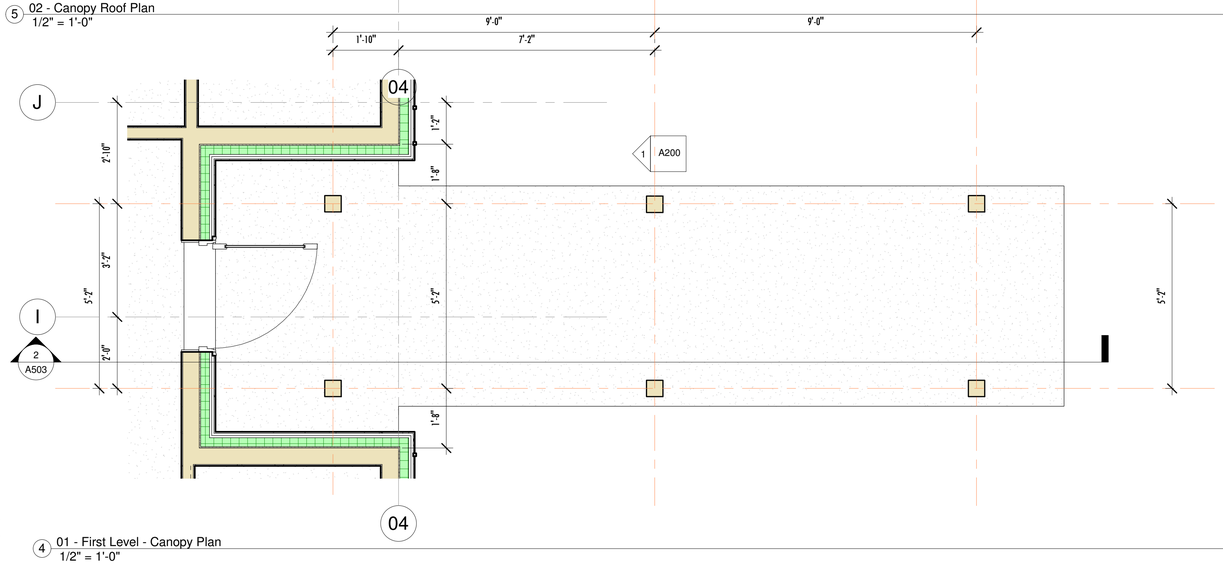
NOTE:
All connections to be exposed metal
Simpson/Strong Tie - Outdoor Accents
Avant Collection

https://www.strongtie.com/products/go/connectos/outdooraccents/avant-collection

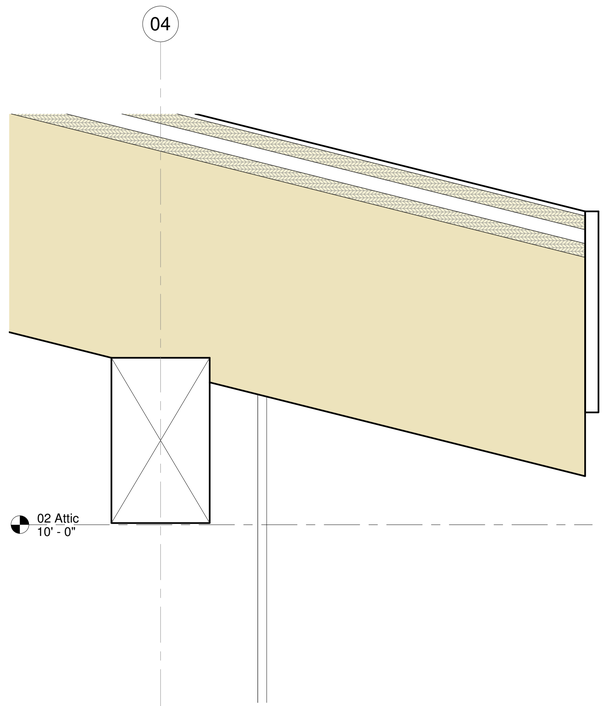


3 Canopy - Connection
1 1/2" = 1'-0"

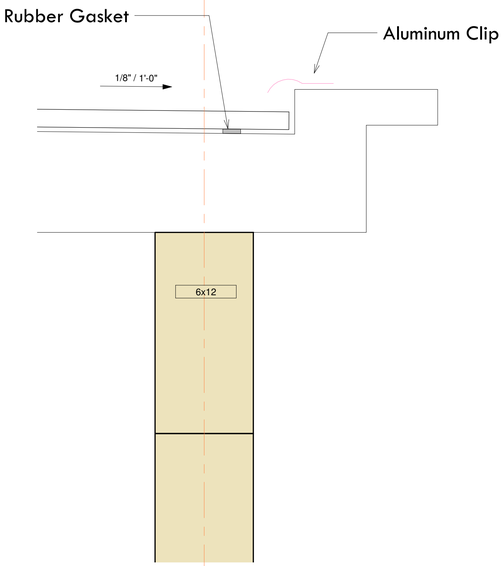
5 02 - Canopy Roof Plan
1/2" = 1'-0"



4 01 - First Level - Canopy Plan
1/2" = 1'-0"



6 Detail @ Beam
3" = 1'-0"



7 Detail @ Rafter Tail
3" = 1'-0"

PAULDESIGNSPROJECT
www.pauldesignsproject.com
207.747.5080
615 Congress Street | Suite 623 | Portland, ME | 04101

Longwoods Preserve Grange Hall
76 Longwoods Road, Cumberland, ME

Window/Door Schedule

A600

Scale As indicated

6.10.2022

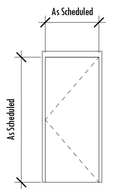
Door Schedule									
Door #	Door Style	Width	Height	Thickness	Door Elevation	Mat'l	Function	Hardware Group	Comments
01	E	4' - 9 1/2"	7' - 1 1/2"						
05	A						Privacy		
06	A	2' - 6"	7' - 0"	0' - 1 3/4"			Privacy		
08	A	3' - 0"	7' - 0"	0' - 2"					
010	E	3' - 1 7/16"	7' - 11 1/2"	0' - 1 3/4"					Door by Owner
011-A	E	3' - 1 7/16"	7' - 11 1/2"	0' - 1 3/4"					
011-B	E	3' - 1 7/16"	7' - 11 1/2"	0' - 1 3/4"					
011-D	G	11' - 4"	7' - 11 1/2"	0' - 1 3/4"					
011-F	F-2	5' - 8"	6' - 8"	0' - 2"					
012-A	F	3' - 0"	8' - 0"	0' - 2"					
012-B	A	3' - 0"	7' - 0"	0' - 2"					
012-C	D	12' - 0"	8' - 0"						
013-A	G	3' - 0"	7' - 0"	0' - 2"					
013-B	B	3' - 0"	7' - 0"	0' - 2"					
014	A	3' - 0"	7' - 0"	0' - 1 3/4"					
018-A	A	3' - 0"	7' - 0"	0' - 1 3/4"					

HARDWARE GROUPS

INTERIOR

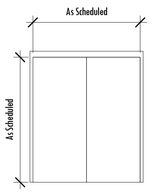
EXTERIOR

A



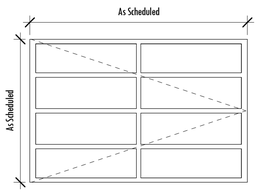
Interior Door: TruStile
Single Acting

B



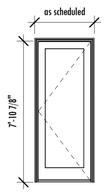
Interior Door: TruStile
TS 2020
Panel A- 2 raised panel w/ Roman Ogee edge
Primed - Painted
bi-pass slidding door track

C



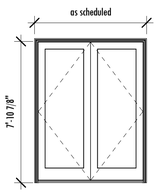
Rolling Overhead Door
Color - Charcoal

D



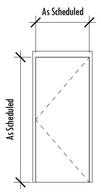
Entry : JeldWen Smooth-Pro
a. Fiberglass - Full View
b. Glass Clear Insulated
c. Color : Black

E



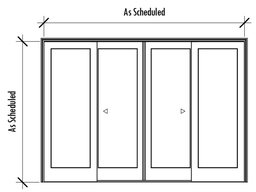
French Pair : JeldWen Smooth-Pro
a. Fiberglass - Full View
b. Glass Clear Insulated
c. Color : Black
d. Dead bolt lock.
e. Hardware TBD

F (F-2)



Entry (F-2 Two Swing)
a. Solid Panel
b. Finished to match exterior

G



4 Panel Slider
a. Fiberglass - Full View
b. Glass Clear Insulated
c. Color : Black

Door Types
1/4" = 1'-0"

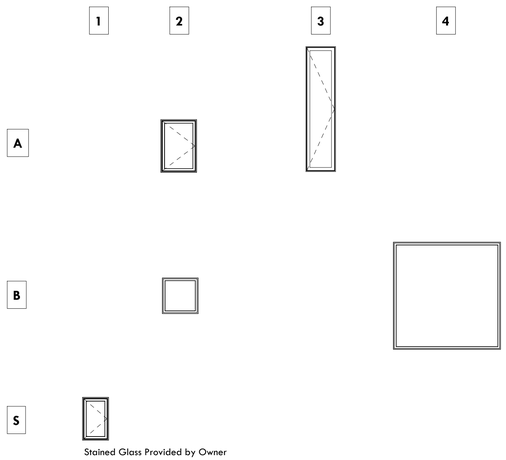
Window Schedule						
Type Mark	Count	Type Comments	Width	Height	Sill Height	Comments
A2	5		2' - 0"	2' - 11 1/2"	5' - 2"	
A3	1		1' - 4"	7' - 0"	5' - 6"	
B2	1	Fixed	2' - 0"	2' - 0"	4' - 0"	
B4	3	Fixed	6' - 0"	6' - 0"	1' - 11 1/2"	
S1	2		1' - 5 1/2"	2' - 4 3/4"	4' - 0"	Stained Glass - Provided By Owner
S2	2		1' - 6 1/2"	2' - 4 3/4"	4' - 0"	

WINDOW NOTES

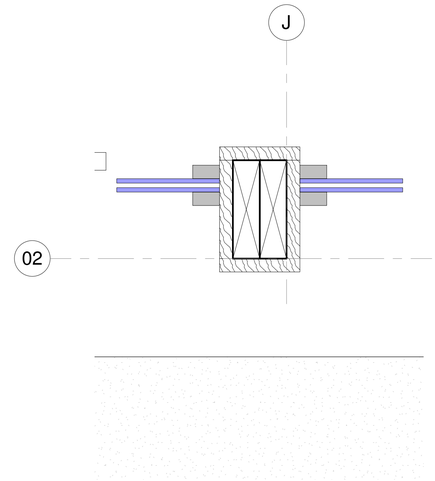
Marvin Elevate, Pella Impervia or accepted equal
Interior Finish - White (to be selected from manufacturer's standard colors)
Exterior Finish - White (to be selected from manufacturer's standard colors)
Hardware - Satin Nickel
Grille Pattern - NONE
Glazing - Low-E Insulating w/Argon

All type Cx (casement) windows shall be egress windows with a clear opening of 24" high x 20" wide and 5.7sf min area. Sill height to be not greater than 4'-0" aff

Install according to manufacturer's recommendations. Provide pressure treated wood blocking and flashing as necessary.



Window Types
1/4" = 1'-0"



1 Window - Custom Jamb Typ.
3" = 1'-0"

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207.747.5080
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Longwoods Preserve Grange Hall
76 Longwoods Road, Cumberland, ME

Room Finish Schedule + Specifications

A602

Scale

6.10.2022

Room Finish Schedule								
Num.	Name	Area	Ceiling Height	Ceiling Mat'l	Floor Mat'l	Base Mat'l	Wall Finish	Comments
01	Circulation	735 SF		Open	Concrete		WD	
02	Waiting	11 SF		Open	Concrete		WD	
03	Waiting	11 SF		Open	Concrete		WD	
04	Lounge Seating	33 SF		Open	Concrete		WD	
05	Unisex ADA Restroom	66 SF	10'	GWB	Concrete	Tile Base	MR GWB + Tile	
06	Unisex Restroom	23 SF	10'	GWB	Concrete	Tile Base	MR GWB + Tile	
07	Bar	298 SF		Open	Concrete		WD	
08	Bar Storage	47 SF	10'	GWB	Concrete		GWB	
09	Reception	55 SF		Open	Concrete		WD	
010	Vestibule	87 SF	10'	GWB	Concrete		WD	
011	Dining	451 SF		Open	Concrete		WD	
012	Dining	267 SF		Open	Concrete		WD	
013	Kitchen	660 SF	10'	GWB	Concrete		MR GWB	
014	Office	47 SF	10'	GWB	Concrete		GWB	
015	W.I.R.	48 SF	10'	GWB	Concrete		GWB	
016	Take Home	35 SF		Open	Concrete		WD	
017	Bathroom Breakout	80 SF	10'	GWB	Concrete	Tile Base	MR GWB + Tile	
018	Janitor's	27 SF	10'	GWB	Concrete		GWB	
019	Mechanical Room	708 SF						

FINISH NOTES

GWB - Gypsum Wall Board
MR GWB - Moisture Resistant Gypsum Wall Board
Wood Base -
Tile base - Tile Base to match floor w/Schleuter Jolly cap - color to match
Door Casing - xxx

Ceiling GWB - Painted - FLAT white
Wall GWB - Painted - Eggshell, color to be determined

OUTLINE SPECIFICATIONS

EXTERIOR

Finish Siding - Prefinished PT Cedar Board 10" Beach Beige Stain
1x Batten @ 10" O.C. Beach Beige Stain

Composite Trim Boards
Azek Window Trim - PTD SW7068 Grizzle Gray

Asphalt Roof Shingles
Owens Corning TruDefinition Duration Flex Asphalt Shingle. Color: Estate Gray

Ice & Water Shield
Owens Corning WeatherLock Flex Self-Sealing Ice & Water Barrier

Exhaust Roof Ventilation
Owens Corning VentSure 4-foot strip heat and moisture ridge vent with weather PROtector

INTERIOR

Wall (Gypsum)
USG Sheetrock Brand Gypsum Panel 1/2" Thick
Sheetrock Brand EcoSmart Panel Mold Tough Firecode X 5/8" Thick

Wall (Wood)
Tongue and Groove Cedar Plank - Unfinished

Ceiling
- **Kitchen** — MARS Acoustical Panels 24x24 0.75 NRC / 35 CAC Square Edge; Donn Brand AdvanceSpan Suspension T-Grid System
- **Soffit Ceiling** — USG Sheetrock Brand Gypsum Panel 1/2" Thick

Tile
- **Floor** — Daltile Pietra Divina - Nero Marquina M462 6x12 Floor Tile
- **Wall** — Daltile Pietra Divina - Nero Marquina M462 Cupola Wall Tile

Special
- **Bar Backsplash** — Daltile Revalia Remix - Mustard RV24 Glossy 3x4 Wall Tile
- **Bar Undercounter** — Tongue and Groove Cedar Plank - Unfinished to match Interior Cladding
- **Bartop** — Daltile Metallic Selection - Obsidian CM20

APPENDIX L

SITE LIGHTING CUT SHEETS AND PHOTOMETRIC PLAN

SME
SEVEE & MAHER
ENGINEERS

Private Power Services

580 Boom Road
Saco, ME 04072
Phone: (207)468-8459

June 24, 2022

Alex Timpson
Longwoods Preserve
76 Longwoods Road
Cumberland Center, ME 04021

RE: Private Power Services – high voltage power installation to Grange Hall Pub

Good morning,

Private Power Services, LLC is being contracted by Longwoods Preserve to install high voltage power to their Grange Hall Pub.

In my professional opinion, I foresee no reason why electrical power installed by our company cannot be safely and adequately provided to the Grange Hall Pub @ Longwoods Preserve, 76 Longwoods Road in Cumberland, Maine in compliance with all federal, state, and local codes and regulations, assuming Private Power Services, LLC follows all installation practices to Central Maine Power's standards. This opinion is based on my detailed site inspection and my in-depth, professional experience working in the high voltage industry for over 26 years, including 18 of them while employed by Central Maine Power.

Private Power Services, LLC will only guarantee our own work done on this project. Once the work is completed, inspected and approved by Central Maine Power, Central Maine Power will energize the line and take ownership of the power thus forward.

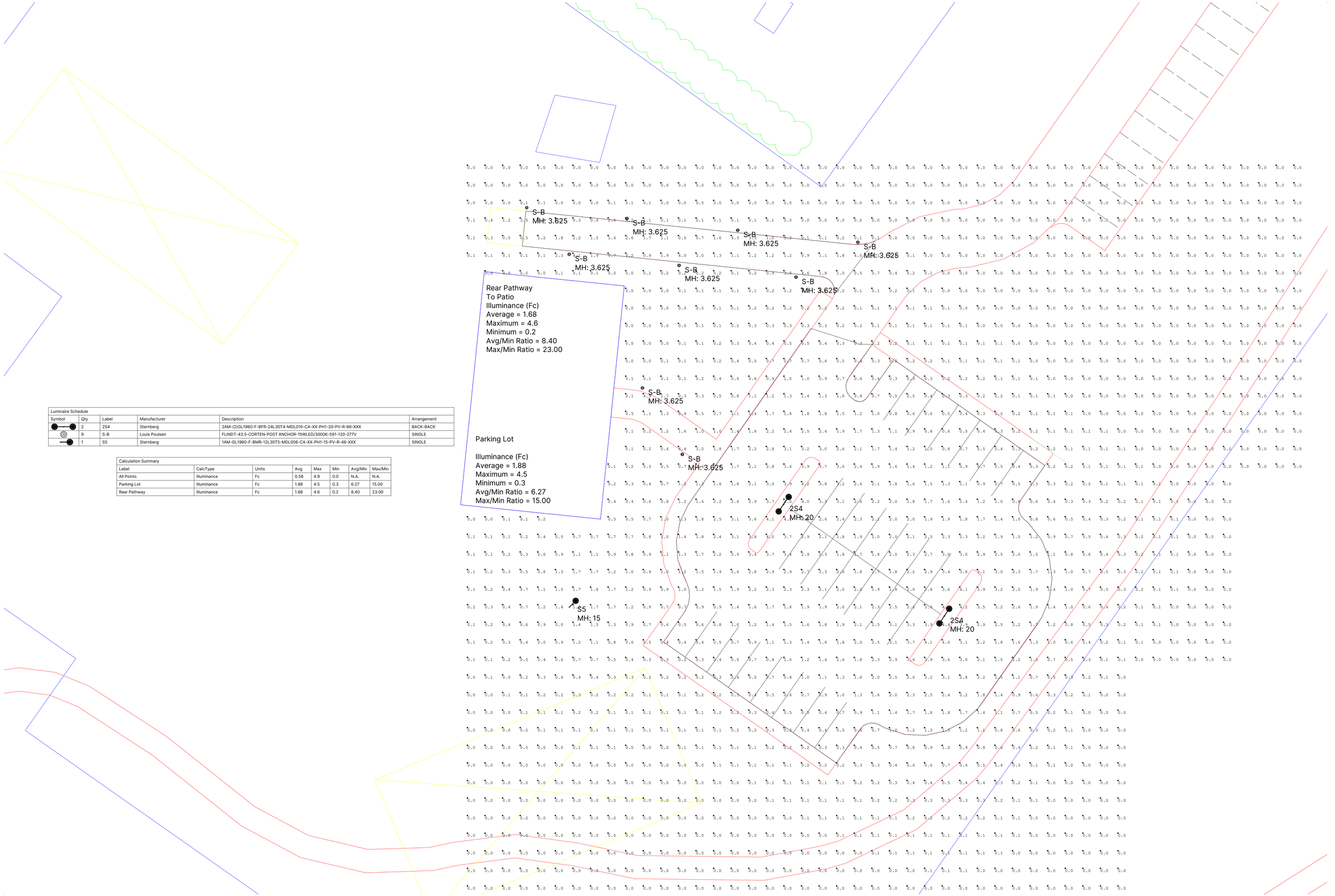
Sincerely,

Hector Picard

Hector Picard
Owner/Manager
Private Power Services, LLC

PRIVATEPOWERSVS@GMAIL.COM

WWW.PRIVATEPOWERSERVICES.COM



Luminaire Schedule

Symbol	Qty	Label	Manufacturer	Description	Arrangement
	2	2S4	Sternberg	2AM-(2)GL1960-F-BFR-24L30T4-MDL010-CA-XX-PH1-20-PV-R-66-XXX	BACK-BACK
	9	S-B	Louis Poulsen	FLINDT-43.5-CORTEN-POST ANCHOR-15WLED/3000K-591-120-277V	SINGLE
	1	S5	Sternberg	1AM-GL1960-F-BMR-12L30T5-MDL006-CA-XX-PH1-15-PV-R-46-XXX	SINGLE

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
All Points	Illuminance	Fc	0.58	4.9	0.0	N.A.	N.A.
Parking Lot	Illuminance	Fc	1.88	4.5	0.3	6.27	15.00
Rear Pathway	Illuminance	Fc	1.68	4.6	0.2	8.40	23.00

Scale: 1 inch= 15 Ft.

omnilite illuminate

44 Sixth Road
Woburn, MA 01801
C: 207-219-1716
E: mcorrao@illuminatene.com

#	Date	Comments

Revisions

Drawn By: MC
Checked By: MC
Date:6/14/2022
Scale:

76 Longwood Preserve
Cumberland, ME
Exterior Lighting Calc.REV1

APPENDIX M

CONTRACT ZONE

SME
SEVEE & MAHER
ENGINEERS

CONTRACT ZONING AGREEMENT

BY AND BETWEEN THE TOWN OF CUMBERLAND

AND

SYNERGOSITY LLC

RELATING TO THE GRANGE AT LONGWOODS

76 LONGWOODS ROAD

This Contract Zoning Agreement is entered into this _____ day of _____, 2022 by and between the TOWN OF CUMBERLAND, MAINE, a municipal corporation ("Town") and SYNERGOSITY LLC, (the "Owner"), a Maine limited liability company with a business address of 173 Spurwink Road, Scarborough, Maine 04074, its successors and assigns, pursuant to 30-A M.R.S. §4352 (8) (the "Statute"), which governs conditional and contract re-zoning in Maine municipalities, and Section 315-79 of the Cumberland Zoning Ordinance (the "Zoning Ordinance"), which sets forth the Town's Contract Zoning standards, conditions and procedures.

WHEREAS, the land subject to this Agreement (the "Premises") is comprised of 61.56 acres +/- located on the westerly side of Longwoods Road (Route 9) and consists of two tax parcels: a parcel approximately 42 acres in size and designated on the tax maps as Map R-03, Lot 13, which is improved with a circa 1870 farmhouse and barn, and a parcel approximately 19 acres in size and designated on the tax maps as Map R-03, Lot 6-A, which is undeveloped land, and

WHEREAS, the Owner's title to the Premises is derived from a deed from Daniel F. Villacci and Marianna Villacci to Synergosity LLC dated September 3, 2021 and recorded in the Cumberland County Registry of Deeds in Book 38626, Page 268, a copy of which is attached hereto, marked as Exhibit A, and

WHEREAS, the Premises are depicted on a plan attached hereto, marked as Exhibit B, and

WHEREAS, the Premises are located in the Rural Residential 1 (RR1) Zone, and

WHEREAS, the Owner wishes to develop the Premises as a mixed-use project (the "Project") to include residential, agricultural, commercial and recreational uses, with a significant conservation component, and

WHEREAS, the conservation component of the project will provide long-term protection for nearly 90% of the Premises through an agricultural Conservation Easement (the "CE")

granted to Maine Farmland Trust ("MFT"), a copy of which is attached hereto, marked as Exhibit C[1], and

WHEREAS, MFT will eventually transfer the Holder's responsibilities under the CE to the Chebeague and Cumberland Land Trust ("CCLT"), which will supplement CCLT's other conservation holdings in the Town, and

WHEREAS, the CE provides for agricultural use of the Conservation Area, consisting of approximately 51 acres of cropland, pasture, hayfields and woodlands and a three-acre Farmstead where the existing farmhouse, barn and related infrastructure are located, and

WHEREAS, ideally, a farmer (the "Farmer") will enter into a long-term lease arrangement with the Owner to farm the land, and

WHEREAS, the existing residence within the Farmstead may house the Farmer and his or her family or be modified to provide housing for farm workers, and

WHEREAS, the Conservation Parcel has favorable topography and soils composition for the Project's uses, including growing and on-site sale of vegetables and other agricultural products by the Farmer, and

WHEREAS, potential also exists for a year-round farmers market, a farm-based retail use, on either the Developed Area (defined below) or in the Farmstead portion of the Conservation Area and

WHEREAS, the commercial component of the project will occur on the seven +/- acres of the Premises (the "Developed Area") and include a restaurant and event space to be known, for the purposes of this document, as the Grange Hall Pub (the "Grange Hall") and possibly a year-round farmer's market, as noted above, and

WHEREAS, the Developed Area also may be the site of a second residence to supply housing for either the Farmer, farm staff or the Grange Hall operator, and

WHEREAS, the existing residence and barn on the Conservation Area and all structures within the Developed Area will be set back at least 400 feet from existing structures on abutting parcels, and

WHEREAS, the contemplated recreational uses associated with the Project include but are not limited to hiking, cross-country skiing, exterior sculpture display, disc golf and may include establishment of a spur trail connecting to the Town's existing trail system, and

---

[1] On January 1, 2022, the Developer and MFT entered into a purchase and sale contract that calls for the Developer to convey a CE covering approximately 54 acres of the Premises to MFT. A summary of the terms of the planned CE is attached hereto, marked as Exhibit C. The closing on sale of the CE will have occurred before the Town Council votes on this CZA, so the CE itself will be attached to the final version as Exhibit C.

WHEREAS, the proposed trails, exterior sculpture and Grange Hall will be significant cultural enhancement to the residents of Cumberland, and

WHEREAS, the preservation of the rear portion of the Premises, which has frontage on the East Branch of the Piscataqua River, will provide an important regional benefit for the environment, and

WHEREAS, this proposal will protect a significant traditional rural, agricultural viewshed along Longwoods Road, as is more particularly shown on Exhibit D hereto, and

WHEREAS, the Project advances land use objectives consistent with the Comprehensive Plan, including economic development (by promoting sustainability and encouraging businesses that allow residents to more easily obtain basic goods and services as well as social places where residents can gather together), tax fairness (the non-residential aspects of the development will shift some of the municipal tax burden from residential to commercial taxpayers), enhancement of recreation and open space (through preservation of open fields and vistas, and use and expansion of trail networks that will help promote active and healthy lifestyles), protection of natural resources (including wetlands, plant habitat and native wildlife), preservation and continued use of agricultural land, and the production and harvest of locally produced food, and

WHEREAS, in order for the Project to be financially feasible for the Owner and for all applicable code requirements to be met, certain agreements are required with respect to use of the Premises, and the relative applicability of design standards and performance standards set forth in the Zoning Ordinance, and

WHEREAS, the Town and the Developer desire to enter into a Contract Zoning Agreement for the Premises, subject to the terms and conditions set forth herein.

NOW, THEREFORE, pursuant to 30-A M.R.S. §4352 (8) and Section 315-79 of the Zoning Ordinance, as amended, the Cumberland Town Council hereby finds that this Contract Zoning Amendment:

A. is consistent with the Comprehensive Plan duly amended adopted by the Town of Cumberland through its Town Council on March 24, 2014;

B. establishes a Contract Zone area that would be in harmony with the existing and permitted uses in the original zone of the area involved;

C. only includes conditions and restrictions which are related to the physical development and future operation of the Project, and

D. imposes conditions and restrictions that are necessary and appropriate for the protection of the public health, safety and general welfare of the Town.

In furtherance of these common goals, the parties agree as follows:

I. Establishment of the Contract Zone

The Town hereby agrees that the Premises as described herein shall be a contract zone (the "Contract Zone") pursuant to the provisions of 30-A M.R.S. §4352(8) and Section 315-79 of the Zoning Ordinance. Except as expressly modified or otherwise stated herein, the Premises shall be subject to the provisions and requirements of the underlying RR1 Zoning District, as the same may be amended from time to time, together with all applicable lot and general requirements not modified hereby.

II. Description of the Land and Permitted Uses

A. The Conservation Area comprises approximately 54 acres of the total 61.56 acre parcel. Its use is limited by the CE, a copy of which is attached to this Agreement, marked as Exhibit C. Under this Contract Zone Agreement, the following uses and structures are permitted anywhere within the Conservation Area:

1. The production, keeping or maintenance for sale or lease of plants and/or animals, including but not limited to forage and sod crops, grains and seed crops, dairy animals and dairy products, poultry and poultry products, livestock, fruits and vegetables, and ornamental and greenhouse products.

2. Construction of additional or replacement agricultural infrastructure, including but not limited to storage sheds, tool barns, hoop houses, raised garden beds and irrigation systems, with the size, number and location of any structures within the Viewshed to be subject to approval by the Planning Board during Site Plan Review.

3. Outdoor sculpture installations.

4. Active recreation such as hiking and cross-country skiing, and passive recreation such as picnicking and landscape painting.

B. The following uses are permitted, but not within the portion of the approximately 9-acre portion of the Conservation Area that has frontage on and is adjacent to Longwoods Road (the "Viewshed"), which is delineated on Exhibit D hereto:

1. Residential use of the existing farmhouse or any replacement thereof and any associated barn and other infrastructure.

2. A seasonal or year-round farmer's market or farm store.

3. Timber harvesting and associated forest management activities.

4. Temporary sawmills, if sited so as not to be visible from Longwoods Road.

5. Solar panels and low-impact wind turbines to generate electricity primary for on-site use, if sited so as not to be visible from Longwoods Road.

6. Recreational trails, whether or not connected to existing trails on abutting parcels.

7. Uses and buildings accessory to those above.

C. All uses permitted by the CE, but not expressly permitted under this Contract Zone Agreement are not permitted in any location on the property without amendment of this Contract Zone Agreement pursuant to the process set forth in Chapter 315-79 of the Cumberland Code of Ordinances.

D. The Developed Area is comprised of approximately seven (7) acres in the location shown on Exhibit B. Under this Contract Zone Agreement, the following uses and structures are permitted within the Developed Area:

1. For one (1) year after the Planning Board grants Site Plan review approval of the Project, two (2) food trucks or similar temporary or mobile outdoor food preparation facilities and one (1) beverage cart may serve food and beverages, including alcoholic beverages. Upon application, the Town Council shall have the authority to extend the right of the Developer to operate food trucks for additional time periods.

2. Temporary standalone tents and tent-like structures, equipped with tables and chairs to provide seating for customers, provided such tents are located so as not to be significantly visible from Longwoods Road. For the purpose of this provision, "temporary" shall mean such tents are allowed (a) during the period where mobile outdoor food preparation facilities are being used and (b) on an occasional, short-term basis for special events such as weddings.

3. A full-service restaurant and bar known as the Grange Hall, which will include a pub/restaurant, a special event room, and an outdoor terrace and porch. Use of an awning to allow use of the terrace and porch in inclement weather is permissible. The architectural style of the Grange Hall shall be consistent with those found on Maine farms.

4. Musical and other entertainment, indoors and outdoors, provided that a special amusement permit is obtained in accordance with Chapter 13 of the Town Code. Amplified music shall only be allowed during the hours of 10:00 a.m. and 10:00 p.m. Indoor music will be allowed until 11:00 p.m.

5. Private special events (e.g., weddings, birthday parties, family reunions, corporate outings, meetings for non-profit organizations) where food and beer, wine and spirits may be served, and live music may be provided.

6. Indoor and outdoor events for the general public such as art receptions, educational tours, lectures on wildlife and local flora, bird watching tours, disc golf competitions and sculpture garden tours. For outdoor special events where large crowds are anticipated, a Mass Gathering Permit shall be obtained in advance pursuant to Chapter 162 of the Town Code.

7. Art exhibits, including outdoor sculpture installations.

8. A new residential structure to be occupied either by the Farmer, farm employees or the operator or staff of the Grange Hall. Such residence may be a single-family residential dwelling unit or a lodging house containing two or more rooming units and common areas to provide housing for employees of the farm or Grange Hall. The architectural style of the new residence shall be consistent with typical Maine farmhouses. The new structure shall be limited to 7,000 sf in size and contain no more than 6 bedrooms.

9. Parking areas for uses allowed on the Premises. All parking areas shall be gravel except that seasonal parking may be permitted on grass within the Developed Area to allow for additional parking for special events.

10. Septic systems to support the structures on the Developed Area.

11. Drilled wells to support the structures on the Developed Area and to provide irrigation for agriculture within the Conservation Area.

12. Exterior sculpture installations.

13. Recreational trails and trailheads.

14. Home occupations and home-based occupations.

15. Uses and buildings accessory to those above.

III. Access

Access to the Premises shall be over an existing 20-foot-wide driveway that runs westerly from Longwoods Road for a distance of approximately 1,100 feet. The existing driveway may be extended to provide access to the Developed Area and pull-outs will be created to allow for vehicles headed in opposite directions to pass each other. To preserve the rural farm style aesthetic of the Premises, driveways and parking areas will be non-paved gravel surfaces. All disturbed acreage shall be managed in compliance with local, state, and federal ordinances, codes and statutes.

IV. Utilities

The existing overhead power and telecommunication lines shall be maintained in substantially their current location and may be extended as necessary to provide power to both

the Conservation and Developed Areas. Waste disposal shall be via a subsurface septic system to be constructed and maintained in accordance with State and Town codes and ordinances. Water shall be sourced from an underground well to be constructed and maintained in accordance with State and Town codes and ordinances.

V. Signage

Signage shall be permitted in accordance with Section 315-63 of the Town Code.

VI. Lighting:

There shall be no lighting on the Conservation Area except around the buildings in the Farmstead portion. All such lighting, as well as the lighting in the Developed Area, shall be fully shielded, downward-facing and shall be placed on motion detectors from the hours of 11:00 p.m. to 7:00 a.m.

VII. Division of Premises

The Owner shall be permitted to divide the Premises once in the course of transferring the Conservation Area or the Developed Area to third parties. Any such division shall be of the whole of the Conservation Area or the whole of the Developed Area, as the case may be, and all of the provisions of this Agreement shall bind the future owners.

VIII. Design Restrictions and Standards

1. There shall be no required street frontage, given the location of the existing building and proposed buildings and the size of the Premises.

2. As all of the development will be clustered on a ten (10) acre portion of the Premises (the Developed Area being 7+/- acres and the Farmstead portion of the Conservation Area being 3 +/- acres), required front, rear and side setbacks shall be fifteen (15) feet, both between buildings within the Developed Area the Farmstead portion of the Conservation Area, and as between the Developed Area and the Conservation Area.

SUBJECT TO THE TERMS HEREIN, THE CUMBERLAND PLANNING BOARD SHALL HAVE REVIEW AUTHORITY UNDER THE APPLICABLE PROVISIONS OF THE CUMBERLAND SITE PLAN AND ZONING ORDINANCES TO IMPOSE CONDITIONS OF APPROVAL PURSUANT TO SAID ORDINANCES RELATING TO DEVELOPMENT AND CONSTRUCTION OF THE PROJECT DESCRIBED HEREIN.

IX. Miscellaneous Provisions

A. Survival Clause The terms and conditions of this Agreement shall run with the land and be binding upon and insure to the benefit of the respective successors, heirs and assigns of the parties hereto except as specifically set forth herein. This Agreement shall not be assignable without the prior approval of the Cumberland Town Council, provided, however, that

the Developer may assign this Agreement without such approval to a corporate entity or limited liability company solely owned and organized by the Developer for the purpose of developing the project. A true copy of this Agreement shall be recorded in the Cumberland County Registry of Deeds.

B. Further Assurances. In order to effectively and properly implement this Agreement, the parties agree to negotiate in good faith the terms and conditions of such further instruments and agreements as may be reasonably necessary from time to time to give effect to this Agreement.

C. Governing Law. This contract is entered into in the State of Maine and shall be governed by and enforced in accordance with the laws of the State of Maine.

D. Binding Covenants. The above-stated restrictions, provisions and conditions are an essential part of this contract and shall run with the subject premises, shall bind the interest therein, and any party in possession or occupancy of the Premises or any part thereof, and shall inure to the benefit of and be enforceable by the Town, by and through its duly authorized representatives.

E. Amendment. This Agreement may be amended only by written agreement of the parties.

F. Severability. In the event any one or more clauses of this Agreement shall be held to be void of unenforceable for any reason by any court of competent jurisdiction, such clause or clauses shall be deeded to be severable and of no force of effect in such jurisdiction, and the remainder of this Agreement shall be equitably adjusted if possible so as to compensate the appropriate party for any value lost because of the elimination of such clause or clauses.

G. Enforcement. The Town shall have the ability to enforce any breach of this Agreement or any other violation of the Zoning Ordinance through the provisions of 30-A M.R.S. §4452. In the event that the Developer fails to develop the Property in accordance with this Agreement, or in the event of any other breach of any condition set forth in this Agreement, the Town Council shall have the authority, after hearing, to resolve the issue resulting in the breach or the failure to develop or operate in accordance with the requirements of this Agreement. The resolution may include a termination of this Agreement by the Town Council and a rezoning of the Property to the prior or any successor zoning districts. In such an event, the Property shall then be used only for such uses as are allowed by law.

IN WITNESS WHEREOF, the parties have hereunto caused this Agreement to be executed as of the day and year first above written.

WITNESS

TOWN OF CUMBERLAND

_____

By:_____
William R. Shane, Town Manager

WITNESS

SYNERGOSITY LLC

_____

By: _____
Alexander Timpson, Manager

STATE OF MAINE
CUMBERLAND, ss Date:

Then personally appeared the above-named William R. Shane, in his capacity as Town Manager of the Town of Cumberland, and acknowledged the foregoing instrument as his free act and deed in such capacity, and the free act and deed of said Town

Before me,

_____

Notary Public/Attorney at Law

_____

Printed Name

Commission Expires:

STATE OF MAINE
CUMBERLAND, ss Date:

Then personally appeared the above-named Alexander Timpson, in his capacity as Manager of the Maine limited liability company known as Synergosity LLC and acknowledged the foregoing instrument as his free act and deed in such capacity, and the free act and deed of said Company.

Before me,

_____

Notary Public/Attorney at Law

_____

Printed Name

Commission Expires:

AGRICULTURAL CONSERVATION EASEMENT
Cumberland, Maine

THIS AGRICULTURAL CONSERVATION EASEMENT is made this 4th day of MAY, 2022, by and between **SYNERGOSITY LLC**, a Maine limited liability company with a mailing address of 173 Spurwink Road, Scarborough, ME 04074 (hereinafter referred to as the **"Landowner,"** which word is intended to include, unless the context clearly indicates otherwise, the above-named above-named entity, its successors and assigns), and **MAINE FARMLAND TRUST, INC.**, a non-profit corporation organized under the laws of the State of Maine with its principal place of business in Belfast, Maine and having a mailing address of 97 Main Street, Belfast, ME 04915 (hereinafter referred to as **"Holder"**, which word is intended to include, unless the context clearly indicates otherwise the above-named Holder, its successors and assigns). The Landowner and Holder are collectively referred to as the "Parties".

1. PROJECT NAME. Longwoods Farm

2. RECITALS.

WHEREAS, Landowner is the owner in fee simple of certain agricultural real property comprising approximately fifty-four (54) acres in the **Town of Cumberland**, County of Cumberland, State of Maine, more particularly described in Exhibit A and depicted on Exhibit B, both attached hereto and made a part hereof by reference, and referred to in this document as the "Property."

WHEREAS, Holder is an organization described in Section 501(c)(3) of the Internal Revenue Code of 1986, as amended (hereinafter the "Code"), and meets the requirements of Section 509(a)(2) of the Code. Holder is a "qualified organization," as such term is defined in Section 170(h)(3) of the Code, and is qualified to hold conservation easements under the laws of the State of Maine.

WHEREAS, the Property has the following **Agricultural Conservation Values**:

1) Approximately fifty (50) percent of the soils have been identified by the Natural Resources Conservation Service ("NRCS") as "prime soils," "soils of statewide importance," "soils of local importance," or "unique soils" **("Agricultural Soils")**.
2) Approximately fourteen (14) acres of the Property are currently maintained as open fields and available for cultivation and forage crops, and said open fields are currently being used for hay production.

3) Approximately thirty-four (34) acres of the Property are maintained as productive forest vegetation and are currently being used for personal use.
4) The Property has access to adequate groundwater through a single functioning drilled well. The Property also has access to surface water in the form of the East Branch of the Piscataqua River, which flows along the Property for approximately one thousand seven hundred (1,700) feet.
5) The Property is a farm in the State of Maine, many of which have ceased to exist in Maine and throughout New England due to increased development pressures and a variety of other social, economic, and global forces, the protection of which shall conserve productive agricultural land in Maine and prevent the conversion of said land to non-agricultural development. The Property has been operated continuously as a farm for approximately 50 years alternately raising beef cattle and various crops.

WHEREAS, the Property has the following **Additional Conservation Values:**

1) The Property includes a public recreational trail within the Trail Corridor, designated by this conservation easement, that provides opportunity for low-impact outdoor recreation, including but not limited, to nature study, snowshoeing, cross country skiing, and hiking;
2) The Property includes approximately one thousand seven hundred (1,700) feet of frontage along the East Branch of the Piscataqua River and approximately six (6) acres of ecologically important riparian floodplain adjacent to the East Branch of the Piscataqua River

WHEREAS, the Comprehensive Plan of the Town of Cumberland, adopted in 2009 and updated in 2014, outlines as a planning goal "To encourage the preservation of land that is suitable for agricultural and forestry uses", and the statement "No longer is agricultural/farmland preservation just about keeping open space for visual enjoyment and for limiting the impact of development on the town's budget; it may be that communities will one day need these lands to produce food once again. This combined with the desirability of growing food close to where it will be consumed, is a key tenet of the sustainability movement."

WHEREAS, the grant of this Agricultural Conservation Easement (the "Easement") will provide a significant public benefit by serving the following conservation purposes:

1) As set forth in Section 170(h)(4)(A) of the Code, the preservation of open space, including farmland, pursuant to the following clearly-delineated governmental conservation policies:

   a. The Farmland Protection Policy Act, 7 U.S.C. §§ 4201-09, the purpose of which is "to minimize the extent to which Federal programs and policies contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to assure that Federal programs are administered in a manner that, to the extent practicable, will be compatible with State, unit of local government, and private programs and policies to protect farmland";

   b. The Maine Conservation Easement Act, 33 M.R.S. §§ 476-9-B (the "Maine Conservation Easement Act") which provides for permanent protection of real

property, the purposes of which include ensuring its availability for agricultural and forest use;

c. The Maine Farm and Open Space Tax Law, 36 M.R.S. §§ 1101-21, which confers preferential property tax treatment for property that owners keep undeveloped and in productive farm use or as important open space;

d. Section 153 of the Maine Agricultural Protection Act, 7 M.R.S. § 153, which declares that farm operations are not a common law nuisance when operated in compliance with state and federal laws;

e. The Maine Tree Growth Tax Law, 36 M.R.S. §§ 571-84-A, which confers a partial property tax exemption for land which owners manage for timber harvesting; and

2) Preserving the traditional farming and forestry heritage and rural character of the Town of Cumberland.

3) Preventing the conversion of farmland to nonagricultural uses that would reduce or destroy the Property's agricultural and forest productivity; and

4) Ensuring that the Property remain available for commercial agriculture and forest management consistent with conserving the agricultural productivity, Agricultural Soils, and other Conservation Values of the Property.

WHEREAS, the current use of the Property and its existing improvements are consistent with the foregoing conservation purposes;

WHEREAS, the Agricultural Conservation Values and Additional Conservation Values of the Property (said Agricultural Conservation Values and Additional Conservation Values are referred to jointly herein as the **Conservation Values**) are documented in a **Baseline Documentation Report**, signed and acknowledged by the Landowner and Holder, establishing the baseline condition of the Property at the time of this grant and including maps, photographs and other documentation; and

WHEREAS, the Landowner and Holder have the common purpose of conserving the above-described Conservation Values of the Property, as more fully set forth herein, in perpetuity, by voluntarily placing restrictions upon the use of the Property and by providing for the transfer from the Landowner to the Holder of affirmative rights for its protection in perpetuity, with the intention that the grant of such restrictions qualify as a "qualified conservation contribution" as that term is defined under Section 170(h)(2)(c) of the Code and qualify as a "Conservation Easement" under the Maine Conservation Easement Act.

3. WORDS OF CONVEYANCE.

NOW, THEREFORE, in consideration of the foregoing recitals and conservation purposes, the Landowner does hereby GRANT partly for consideration paid and partly as a gift to the Holder,

with QUITCLAIM COVENANT, this Easement on, over, under and across the Property, consisting of the following terms, covenants, restrictions and affirmative rights, including an option to purchase at agricultural value, granted to Holder, which shall run with and bind the Property in perpetuity.

TOGETHER WITH a right of way for vehicular, pedestrian, and aerial access to the Property as necessary or appropriate to exercise Holder's rights hereunder, over any and all rights-of-way and roads owned by Landowner or over which Landowner has or shall have rights of access to the Property, as may be more particularly described in Exhibit A.

4. CONSERVATION PURPOSES.

The primary purposes (**"Primary Conservation Purposes"**) of this Easement are to enable the Property to remain in agricultural use by preserving and protecting its Agricultural Soils, other Conservation Values, and agricultural viability and productivity. Except as specifically permitted herein, no activity which shall significantly diminish or impair the actual or potential agricultural use of the Property shall be permitted.

5. DEFINITIONS

The terms set forth in this Section 5 shall have the following meanings for the purposes of this Easement:

5.1. Agriculture and Agricultural Activities – "Agriculture" and "Agricultural Activities" shall mean:

5.1.1. The raising, keeping, production, and harvest of crops, livestock, and livestock products, together with the processing, storage or on-farm marketing of those crops and livestock products. For purposes hereof, crops, livestock and livestock products include, but are not limited to:

(a) pastureland;
(b) field crops;
(c) fruits, nuts and berries;
(d) vegetables;
(e) horticultural specialties (including but not limited to seeds, nursery stock, ornamental shrubs, ornamental trees, Christmas trees and flowers);
(f) livestock and livestock products (including but not limited to, horses, cattle, chickens, alpaca, sheep, swine, goats and other animals that produce meat, dairy, fibers or other products or that are used to work the farm);
(g) timber, wood, maple sap and other wood products derived from trees;
(h) hydroponics and hydroponic crops; and
(i) aquatic plants and animals and their byproducts.

The terms Agriculture and Agricultural Activities are intended to be broadly interpreted to include most endeavors that produce materials useful to mankind from biological processes involving soil, water, and sunshine in a way that will not compromise the opportunities of future

generations to continue producing such materials on a sustained basis. As new practices come into being over the years, they are to be permitted as long as they fit the broad definition of Agriculture and Agricultural Activities set forth above.

5.1.2. Agriculture and Agricultural Activities shall also include the following associated uses which are customary, supportive, and agriculturally compatible in Maine:

A. Structures associated with the production of energy for use principally on the Property and abutting land of Landowner, including Renewable Energy, wood and fossil fuel systems;

B. Structures and surface alterations for the storage and treatment of animal waste;

C. The operation, management, conservation, improvement or maintenance of a farm and its buildings, tools and equipment;

D. Structures and facilities associated with irrigation, farm pond impoundment and soil and water conservation and the construction, operation or maintenance of ditches, canals, reservoirs or waterways used exclusively for agricultural purposes;

E. Composting and other soil enhancement activities; and

F. The lawful onsite disposal of animals and agricultural products raised or housed on the Property pursuant to activities permitted herein.

5.1.3. Agricultural Activities shall include Forest Management, as defined below. However, Forest Management shall be undertaken in accord with Section 6.2.3 below.

5.2. Additional Conservation Values. The public recreational access within the Trail Corridor, the approximately one thousand seven hundred (1,700) feet of frontage along the East Branch of the Piscataqua River, and approximately six (6) acres of ecologically important riparian floodplain adjacent to the East Branch of the Piscataqua River, as set forth in Section 2 above.

5.3. Agricultural Conservation Values – The Agricultural Soils, open fields, productive forest vegetation, and water sources, as set forth in Section 2 above, that make the Property suitable for Agricultural Activities.

5.4. Agricultural Soils – soils identified by the Natural Resources Conservation Service ("NRCS") as "prime soils," "soils of statewide importance," "soils of local importance," or "unique soils."

5.5. Agritourism – Agricultural Activities carried out on the Property that members of the general public are allowed to view or participate in for enjoyment or educational purposes. Agritourism includes, but is not limited to, "harvest-your-own" activities, hay rides, farm tours, and attractions related to Agricultural Activity.

5.6. Access - A private driveway, private road, or right-of-way from public roadways to the permitted Farmstead Area and the structures located therein.

5.7. Accessory Structures - "Accessory Structures" for a new or existing Dwelling means structures such as sheds, garages, and studios, that are customarily incidental and subordinate to the Dwelling. Such structures may include or contain integrated or separate guest housing; studios; workshops; flagpoles; gazebos; generator sheds; improvements for fresh water supply outbuildings; garages; outdoor furniture; recreational structures such as swimming pools, hot tubs, and basketball hoops; and ornaments.

5.8. Agricultural Structures– Permanent structures used primarily for the support of Agricultural Activities and not to be used for human habitation except as provided in Section 6.2.12.C(iv) below.

5.9. Approval or Approval of Holder—Holder's official agreement or acceptance that meets the requirements set forth in Section 8.2.

5.10. Area Square Footage – The total floor area on all stories of a structure (except as limited below) as measured from the exterior of the exterior walls. The Area Square Footage shall include the floor area of any attached garages or sheds or other enclosed structures, but shall not include un-enclosed porches or decks. Area Square Footage shall not include floor area at the basement level or any unfinished crawl spaces.

5.11. Baseline Documentation Report – The report prepared pursuant to Section 10 below that documents the use and state of improvement of the Property at the time of execution of this Easement.

5.12. Best Management Practices - Guidelines or minimum standards recommended by federal, state or county resource management agencies and universities for proper farming and forestry operations, with the goal of limiting non-point pollution of water resources and other disturbances of soil, water, and vegetative resources and to protect wildlife habitats.

5.13. Clear (for Forest Management purposes)- The removal of all or substantially all trees and shrubs with an average diameter at breast height of 2 inches or larger, where the length or width of the cleared area generally exceeds the average height of mature trees in the immediate vicinity.

5.14. Conservation Values – The Agricultural Soils, open fields, productive forest vegetation, and water sources that make the Property suitable for Agricultural Activities as well as the public recreational trail within the Trail Corridor, the approximately one thousand seven hundred (1,700) feet of frontage along the East Branch of the Piscataqua River, and approximately six (6) acres of ecologically important riparian floodplain adjacent to the East Branch of the Piscataqua River, as set forth in Section 2 above.

5.15. Customary Rural Enterprises - Commercial enterprises that are ancillary to and compatible with Agriculture, including, but not limited to farm machinery repair, small-scale farm wineries, cafes, and shops.

5.16. Customary Rural Enterprise Structures – Non-dwelling structures used primarily for Customary Rural Enterprise.

5.17. Dwelling - A structure or self-contained portion thereof designed or used for human habitation (including associated wells and subsurface wastewater disposal systems) including accessory apartments for household guests or employees and a home occupation or professional office for the occupant as allowed by law.

5.18. Farm Road – A passable roadway, surfaced in accordance with the limitations set forth in Section 6.2.9, that is suitable for Agriculture and Forest Management equipment and uses reasonably related to the activities permitted to Landowner hereunder.

5.19. Farmstead Area - That approximately three (3) acre portion of the Property within which the current Dwelling and Agricultural Structures are situated and where new structures may be built as permitted in Section 6.2.12.C and which is depicted on the map attached hereto as Exhibit B and identified in the Baseline Documentation Report.

5.20. Farm Support Housing – Dwellings used to house farm guests, tenants and farm workers.

5.21. Footprint - The ground surface space occupied by a structure, including, but not limited to, garages and closed and unenclosed porches and decks, as measured as a product of the outermost width and length dimensions.

5.22. Forest Management - The planting, growing, cultivation, stocking, and cutting of trees and other forest products, including the following: timber cruising; resource evaluation; herbicide, pesticide and fertilizer application; timber stand improvement; pruning; forest harvesting; forest products transportation; natural and artificial regeneration of forest stands; maple sugaring; other substantially similar and associated activities; the processing and production of firewood and forest products harvested primarily on the Property; and the construction, creation, use and maintenance of Farm Roads, skid trails and winter haul roads, turnouts, timber landings and crossings of flowing waters for such purposes.

5.23. Forest Management Plan – A written plan meeting the requirements set forth in Section 6.2.3. below.

5.24. Holder – Maine Farmland Trust, Inc., its successors and assigns.

5.25. Home-Based Enterprises - Business activities that are ancillary to and compatible with Agriculture and are carried out by or at the direction of Landowner primarily from Dwellings located on the Property and within the Farmstead Area, such as a home office, an arts and crafts studio, a bed and breakfast operation, or a home day care facility.

5.26. Impermeable Materials – Materials that do not allow the percolation of water through them into the soil.

5.27. Landowner – The original grantor of this Easement, referred to herein as Landowner, and all successors-in-interest in the property, including personal representatives, heirs and assigns.

5.28. Landowner Family – Landowner Family shall include (a) any spouse of Landowner and any persons related to Landowner by blood or by adoption to the 4th degree of kinship, together with spouses of family members, (b) a corporation, partnership or other entity which is wholly-owned and controlled by Landowner or Landowner's family, (c) any estate of Landowner or Landowner's family, and (d) all owners of a Landowner corporation, partnership, trust, or other entity who are related to each other by blood or adoption to the 4th degree of kinship together with spouses of family members.

5.29. Low Impact Recreational Activities – Low-impact uses that do not involve permanent Structures or threaten the Conservation Values of the Property, and are consistent with the Primary Conservation Purposes of the Easement, such as: exercise, sporting, and non-motorized recreational activities that are predominantly outdoor in nature, including but not necessarily limited to hunting, trapping, bird watching, biking with non-motorized bicycles, fishing, walking, hiking, running, cross-country skiing, snow shoeing, shooting, camping, horseback riding, and similar activities, and the operation of snowmobiles on lands sufficiently covered with snow or on sufficiently frozen ground. With the exception of snowmobiling as set forth above, Low Impact Recreational Activities do not include operation of dune buggies, motorcycles, all-terrain vehicles, or any other types of motorized recreational vehicles.

5.30. Non-Essential Services – Services, such as cable and satellite television service, provided to structures as permitted herein that are not essential for the uses of the Property permitted by this Easement.

5.31. Permeable Materials – Materials that allow the percolation of water through them into the soil.

5.32. Primary Conservation Purposes – See Section 4.

5.33. Renewable Energy – Energy generated from a source that is replaced on a human timescale by natural processes. Renewable Energy sources include, but are not limited to, sunlight, wind, geothermal heat, and biological processes.

5.34. Structure – Anything constructed or erected, the use of which requires a fixed location on or in the ground, or an attachment to something having a fixed location on the ground.

5.35. Temporary Events - Temporary or seasonal activities or events that do not harm the agricultural use, future agricultural viability, and Conservation Values of the Property.

5.36. Temporary or Minor Agricultural Structure - A non-habitable structure to be used for Agricultural Activities, including without limitation, hoop houses, pole sheds and run-in sheds, and which may be constructed on poles or posts, but is without full footings, a foundation, or any facilities requiring a subsurface wastewater disposal system, and construction of which only requires minor grading, but not excavation, of the land.

5.37. Temporary or Minor Recreational Structure – A non-habitable structure used for Low Impact Recreational Activities, including without limitation temporary hunting blinds, tree-stands, docks, tent platforms, trail improvements such as steps, foot bridges, water bars, and railings, and which may be constructed on poles, or posts, but is without full footings, a foundation, or any facilities requiring utilities or a subsurface wastewater disposal system, and construction of which only requires minor grading, but not excavation of the land.

5.38. Trail Corridor – As depicted on Exhibit B, a designated portion of the Property to inclue a public recreational trail to provide opportunities for low-impact outdoor recreation, including but not limited to, nature study, snowshoeing, cross country skiing, and hiking.

5.39. Utilities – Services, such as electricity, telephone, sewer, and water, to structures as allowed herein, which are essential for the uses of the Property permitted by this Easement.

5.40. Water Rights – Water and water rights, ditches and ditch rights, springs and spring rights, reservoir and storage rights, wells and groundwater rights, and other rights in and to the use of water historically used on or otherwise appurtenant to the Property.

6. RESTRICTIONS AND RESERVED RIGHTS.

6.1. Prohibited Uses. Except as permitted in Landowner's Reserved Rights, any activity on, or use of, the Property that is inconsistent with the Primary Conservation Purposes of this Easement is prohibited. In addition, the following activities, acts, or uses are expressly prohibited on, over, or under the Property:

6.1.1. Division. The Property is currently comprised of one or more legal parcels as described in Exhibit A, which for purposes of this Easement shall be treated as one (1) undivided lot or parcel of land. Landowner may own the Property by joint tenancy or tenancy in common, however, except as specifically set forth in Section 6.1.1.A-C below, the division or partition of

the Property, including the recording of a subdivision plan, division, partition, partition-in-kind or any other attempt to divide the said parcel into additional legal parcels is prohibited.

A. Lease of a portion of the Property for use for Agricultural Activities shall not be considered a division of the Property for purposes of this Easement.

B. The construction of any structures on the Property as permitted herein shall not be considered a division of the Property, provided that title to said structures remains in the Landowner except as set forth in Section 6.2.1.B.

C. With prior written Approval of Holder, Landowner may record a subdivision plan for the Property or divide the Property if it is required by state or local law or regulation for the purposes of constructing the structures permitted herein, provided however, that no lot or parcel of the Property depicted on said subdivision plan or lot or parcel of the Property that resulted from its division may be conveyed separately from the rest of the Property, the title thereto must remain in Landowner, and the said depicted lots or parcels shall remain subject to the terms of this Easement.

6.1.2. Use for Development. The Property and any portion thereof shall not be included as part of the gross area of other property not subject to this Easement for the purposes of determining density, lot coverage, or open space requirements under otherwise applicable laws, regulations, or ordinances controlling land use and building density. No development rights that have been encumbered or extinguished by this grant shall be transferred to any other lands pursuant to a transferable development rights scheme or cluster development arrangement or otherwise.

6.1.3. Prohibited Structures. The construction or placement of any structure, including buildings, tennis or recreational courts, swimming pools, landing strips, mobile homes, asphalt or concrete pavement, towers, telecommunication tower, energy generation structures, satellite dishes, billboard or advertising displays, subsurface wastewater disposal systems or any other temporary or permanent structures on, under, or above the Property is prohibited, except as may be permitted in Landowner's Reserved Rights set forth in Section 6.2 below.

6.1.4. Surface Alteration, Mining. Ditching, draining, diking, filling, excavating, dredging, mining, or drilling, removal of topsoil, sand, gravel, rock, stonewalls, minerals, natural gas, fuel, or any other materials, placing of soil or other substance or material, such as land fill or dredging spoils, or any building of roads or change in the topography of the Property in any manner is prohibited, except as may be permitted in Landowner's Reserved Rights set forth in Section 6.2 below. Landowner shall not transfer, encumber, sell, lease, or otherwise separate the mineral rights from the Property.

6.1.5. Divesting of Water Rights. The Property subject to this Easement includes all Water Rights, and other rights in and to the use of water historically used on or otherwise appurtenant to the Property. Landowner shall not transfer, encumber, sell, lease, or otherwise separate the Water Rights from the Property or change the historic use of the Water Rights without the prior written Approval of Holder except as may be permitted in Landowner's Reserved Rights. Landowner shall not abandon or allow the abandonment, by action or inaction, of any of the Water Rights without the prior written Approval of Holder.

6.1.6. Dumping. No trash, refuse, vehicle bodies or parts, rubbish, debris, junk, waste, sludge, or hazardous waste, shall be placed, stored, dumped, buried or abandoned on the Property in a manner that is, or may potentially be, detrimental to the Conservation Values of the Property, except as may be permitted in Landowner's Reserved Rights set forth in Section 6.2 below.

6.1.7. Commercial and Industrial Uses. Any commercial or industrial use of the Property, is prohibited, except as may be permitted in Landowner's Reserved Rights set forth in Section 6.2. below.

6.1.8. Changes to Vegetation. Removal, destruction, or cutting of trees over 3" in diameter at breast height, is prohibited, except as may be permitted in Landowner's Reserved Rights set forth in Section 6.2 below.

6.1.9. Alteration of Water Resources. Pollution, alteration, depletion or extraction of surface water, natural water courses, lakes, ponds, marshes, subsurface water or any other water bodies, or activities on the Property that would be detrimental to water purity, or that materially alter natural water level and/or flow in or over the Property are prohibited except as may be permitted in Landowner's Reserved Rights set forth in Section 6.2 below.

6.1.10. Recreational Vehicles. Recreational use of dune buggies, motorcycles, all-terrain vehicles, or any other types of motorized recreational vehicles, is prohibited, except as may be permitted in Landowner's Reserved Rights set forth in Section 6.2 below.

6.1.11. Subsequent Encumbrances Contrary to Purpose. Except as provided in Section 6.2.12.C(v) below, Landowner may not grant additional easements, rights of way, licenses or permits over the Property, nor increase the scope of existing easements, rights of way, licenses or permits without the prior written Approval of Holder, based on Holder's determination that said right or interest does not materially detract from the Conservation Values of the Property or impair the Primary Conservation Purposes of this Easement. The grant of any conservation easements or use restrictions that are inconsistent with the Primary Conservation Purposes of this Easement is prohibited. Placement of the Property in any current-use property tax program or classification that limits use of the Property in a way that conflicts with the Primary Conservation Purposes of this Easement is prohibited.

6.2. Landowner's Reserved Rights. Except as set forth in any provision of this Easement to the contrary, Landowner reserves all customary rights and privileges of ownership, including the right of quiet enjoyment of the Property, as well as any other rights not inconsistent with the Primary Conservation Purposes of this Easement and not specifically prohibited or limited by this Easement.

Without limiting the generality of the foregoing, the following activities and uses are hereby deemed by the Landowner and Holder to be consistent with the Primary Conservation Purposes

of this Easement, and are expressly permitted to be carried out on the Property in a manner that minimizes negative impact on the productivity of the Agricultural Soils and the other Conservation Values protected by this Easement.

6.2.1. Mortgage and Convey.

A. The right to sell, give, mortgage, lease, devise, or otherwise convey the Property, provided such conveyance is subject to the terms of this Easement and Notice is provided to Holder as described in Section 8.2.

B. The right to grant a security interest in any removable structure located on the Property, provided that the foreclosure and removal of said removable structure shall not materially damage the Property.

6.2.2. Agricultural Activities. The right to use the Property for Agriculture and Agricultural Activities or to permit others to use the Property for Agriculture and Agricultural Activities. Agriculture and Agricultural Activities, including Forest Management and the clearing of presently forested land for pasture or crop production, shall be conducted in a manner consistent with generally accepted Best Management Practices as those practices may be identified from time to time by appropriate governmental or educational institutions and in a manner not wasteful of soil resources or detrimental to water quality or conservation. Nothing in the foregoing shall be interpreted as relieving Landowner from conducting all Agricultural Activities in accordance with applicable law.

Notwithstanding the foregoing, activities related to Forest Management shall be subject to Section 6.2.3. below. Structures related to Agriculture and Agricultural Activities are limited and governed by Section 6.2.12 below. See Section 7.4 for the Landowner's obligation to maintain the existing fields.

6.2.3. Forest Management.

A. The right, subject to the requirements of Sections B, C, and D below, to conduct Forest Management on the Property. All Forest Management shall be conducted, to the extent reasonably practicable, in accordance with the following goals and in a manner not detrimental to the Primary Conservation Purposes of this Easement:

(i) Maintaining and improving soil productivity;

(ii) Protecting water quality, wetlands, and riparian zones; and

(iii) Conducting harvest on a sustained-yield basis.

B. Except as specifically set forth in Section 6.2.3.D below, Forest Management shall be conducted in accordance with a Forest Management Plan prepared by a licensed professional forester or by another qualified person approved in advance by Holder, and all Forest Management that requires a Forest Management Plan shall, unless otherwise approved in advance by Holder, be supervised by a licensed professional forester to ensure compliance with the Forest Management Plan. The Forest Management Plan shall have been prepared not more than ten (10) years prior to the date any harvesting is expected to commence, and a copy shall be provided to Holder. The Forest Management Plan shall include the following:

(i) A statement of Landowner objectives;

(ii) Forest type map showing stands related to the prescriptions provided in the Forest Management Plan;
(iii) A map showing soil types as determined by the USDA Natural Resource Conservation Service or its successor agency, Access roads and Farm Roads, wetlands, and surface waters;
(iv) Prescriptions for each described stand, including commercial and non-commercial treatments;
(v) Explanation of how wetlands, riparian areas, and soils will be protected during road construction and other soil-disturbing activities and the implementation of stand prescriptions.

C. At least thirty (30) days prior to the commencement of any Forest Management that must be conducted according to a Forest Management Plan as provided above, the Landowner shall provide written Notice to Holder of Landowner's intent to commence Forest Management activities, and shall provide the name and contact information for the licensed professional forester overseeing those Forest Management activities.
D. Forest Management activities are permitted without a Forest Management Plan for the following purposes:
(i) To clear land as necessary for the location or construction of structures and surface alterations permitted herein;
(ii) To control unusually damaging insects, invasive species, and diseases and to restore forested areas damaged by natural disasters, upon written recommendation of a licensed professional forester;
(iii) To prevent personal injury and property damage;
(iv) To create Farm Roads as permitted pursuant to Section 6.2.9. below;
(v) To maintain the perimeter of open fields as depicted on Exhibit B or established pursuant to Section 6.2.3.D.vi below;
(vi) To clear forested land for pasture or crop production in accordance with a Conservation Plan prepared by the USDA Natural Resources Conservation Service, or its successor, or other plan approved in advance by Holder;
(vii) To harvest annually an amount of wood equal to the number of forested acres on the Property multiplied by 0.5 cords (or equivalent board footage), up to a maximum of fifteen (15) cords (not including any wood harvested pursuant to the exemptions listed in subsection D(i)-(vi) above), unless Holder has provided prior written approval of an amount in excess of this maximum.

6.2.4. Low Impact Recreational Activities and Recreational Motor Vehicle Use. The right to conduct outdoor Low Impact Recreational Activities compatible with the Primary Conservation Purposes of this Easement. Landowner shall also retain the right to use and operate motorized vehicles on the Property for private, non-commercial recreational purposes, provided however, that such use shall be limited in extent and location so as minimize negative impact on productivity of the Agricultural Soils, on the public recreational use within the Trail Corridor, and on other Conservation Values of the Property.

6.2.5. Commercial Renewable Energy Generation and Communication Systems. The right to produce Renewable Energy for commercial use or sale, together

with the right to allow use of the Property for commercial communication systems such as cellular and radio towers provided that said uses are ancillary to, and compatible with, the use of the Property for Agriculture. **However,** said uses shall be subject to the restrictions on associated structures set forth in Section 6.2.12.C(vii). All leases or sales agreements related to said uses shall be subordinate to this Easement.

6.2.6. Customary Rural Enterprises, Home-Based Enterprises, Agritourism, and Temporary Events. The right to operate and undertake Customary Rural Enterprises, Home-Based Enterprises, Agritourism, and Temporary Events provided that such activities shall have minimized negative impacts on Conservation Values protected by this Easement.

6.2.7. Necessary Vehicles. As reasonably necessary in connection with permitted uses, activities, management, and protection of the Property, the right to use and operate vehicles including, but not limited to, cars, trucks, off-road vehicles, Forest Management equipment, emergency and rescue vehicles, maintenance equipment, and other equipment.

6.2.8. Access and Paving. The right to construct, relocate on site, repair, maintain, and use Access roads and parking areas. Said Access roads and parking areas within the Farmstead Area for permitted vehicular use and parking may be paved. Said Access roads and parking areas shall, to the extent possible, be sited and constructed so as to have minimized negative impact on the Conservation Values of the Property. Paving of locations outside the Access roads, Farmstead Area may only be undertaken with prior written Approval of Holder, based on Holder's determination that said paving will have minimized negative impact on the public recreational uses within the Trail Corridor and on the productivity of the Agricultural Soils and the other Conservation Values protected by this Easement or on the agricultural viability of the Property.

6.2.9. Farm Roads and Trails. The right to construct, relocate on site, repair, maintain, and use unpaved paths, trails, Farm Roads, bridges, culverts, and gates in furtherance of the activities permitted herein only. All such paths, trails, and Farm Roads shall be constructed with Permeable Materials, including but not limited to sand, gravel, shell, rock, or crushed stone and subsurface synthetic stabilization materials and located and constructed to minimize negative impact on Agricultural Soils and other Conservation Values of the Property. With prior written Approval of Holder, Impermeable Materials may be used where necessary for erosion control in accordance with Section 6.2.10 below. Notwithstanding the foregoing, any such Farm Roads, paths, and trails within the Trail Corridor shall be limited to direct crossings of the Trail Corridor, and shall not interfere with Holder's exclusive right in Section 7.6 to establish and maintain trails within the Trail Corridor.

6.2.10. Water Resources and Erosion Control. The right to use, maintain, establish, construct, and improve wells and other water sources, water courses and water bodies within the Property solely for the uses permitted by this Easement, or for the benefit of abutting land of Landowner. Landowner may alter the natural flow of water over the Property in order to improve drainage of fields, reduce soil erosion, or improve the agricultural or forest management potential of the Property, provided such alterations are

sited and constructed to have minimized negative impact on the Conservation Values protected by this Easement, and are undertaken in accordance with any applicable Forest Management Plan or other conservation plan.

Landowner shall provide Holder with prior written Notice before undertaking any construction, reconstruction, or other improvements permitted under this Section that causes more than four-hundred (400) square feet of surface area to be disturbed. Use of Impermeable Materials (including but not limited to concrete and asphalt) other than impermeable fabrics (such as rubber pond liners) for development and maintenance of water resources and for erosion control may only be undertaken with prior written Approval of Holder, based on Holder's determination that use of said Impermeable Materials will have minimized negative impact on the productivity of the Agricultural Soils and the other Conservation Values protected by this Easement or on the agricultural viability of the Property.

6.2.11. Surface Alteration and Extraction of Sand and Gravel. The right to alter or disturb the surface of the Property, including but not limited to excavation and filling, as may be reasonably necessary to exercise the rights reserved in this Section 6.2. Landowner may extract sand and gravel from the Property, provided said extraction is: (a) only for use upon the Property; (b) limited and localized in impact, affecting no more than two (2) acres of the Property in the aggregate at any time; (c) not irremediably destructive of the Conservation Values of the Property; and (d) only when reasonably necessary for, and incidental to, carrying out the permitted uses of the Property under this Easement. Landowner shall use all practical means to mitigate any negative impact of the extraction permitted herein on the Conservation Values of the Property.

6.2.12. Permitted Structures. The right to undertake construction, reconstruction, repair or replacement of structures on the Property *only* as provided below. All location, construction and reconstruction of structures shall be sited and constructed so as to minimize negative impact on the Conservation Values protected by this Easement. Nothing in the foregoing shall be construed to relieve the Landowner of Landowner's obligation to conduct all such construction in accordance with applicable law.

A. ***Fences and Walls.*** Existing fences and stone walls may be removed, repaired, and replaced and new fences and stone walls may be built on the Property for Agricultural Activities, to control unauthorized uses, for the security of structures on the Property, and to define boundaries, without Notice or Approval of the Holder.

B. ***Existing Structures.*** Any existing structures on the Property as of the date of the grant of this Easement are documented in the Baseline Documentation Report. Said existing structures may be repaired and replaced on their current Footprints at their current location or at a new location within the Farmstead Area without Notice or Approval of Holder. Landowner may enlarge an existing structure beyond thirty percent (30%) of said existing structure's footprint only upon Notice to Holder, and where this Easement specifies a maximum footprint for a structure, the Landowner may not enlarge said structure beyond the stated maximum footprint. Notwithstanding the forgoing, the Dwelling existing on the Property as of the date of the grant of this Easement may not be expanded beyond a maximum Footprint of 3,500 square feet Once structures are constructed pursuant to

subsection 6.2.12.C below, they shall thereafter be considered existing structures and shall be governed by this Section 6.2.12.B.

C. ***New Structures.***

(i) ***Temporary or Minor Agricultural and Temporary or Minor Recreational Structures.*** Anywhere on the Property, without prior Notice to Holder, Landowner may place or construct Temporary or Minor Agricultural Structures and Temporary or Minor Recreational Structures. Such new Temporary or Minor Agricultureal Structures and Temproary or Minor Recreational Structures shall not interfere with public recreational uses within the Trail Corridor.

(ii) ***New Agricultural Structures.***

(a) Within the Farmstead Area. Within the Farmstead Area, upon Notice to Holder, Landowner may construct new Agricultural Structures.

(b) Outside Farmstead Area. Landowner may construct new Agricultural Structures outside the Farmstead Area only with prior written Approval of Holder. Such new Agricultural Structures shall not interfere with public recreational uses within the Trail Corridor. Landowner shall submit a request for Approval to Holder to construct any new Agricultural Structures outside the Farmstead Area, which request shall include the reasons why locating the proposed structure within the Farmstead Area is impossible or impractical.

(iii)*Accessory Structures.* Within the Farmstead Area, upon Notice to Holder, Landowner may construct Accessory Structures that are appurtenant to the existing Dwelling.

(iv)*Farm Support Housing.* Within the Farmstead Area, upon Notice to Holder, Landowner may construct or locate new Farm Support Housing within an existing structure, including Agricultural Structures, or as a separate structure. Structures constructed for Farm Support Housing shall not exceed seven hundred fifty (750) square feet in Footprint without prior written Approval of Holder. New Farm Support Housing proposed for locations outside of the Farmstead Area may be constructed only with prior written Approval of Holder.

(v) ***Utilities, Non-Essential Services and Subsurface Wastewater Disposal Systems.*** Wires, lines, pipes, cables, or other facilities providing Utilities, Non-Essential Services, and subsurface wastewater disposal systems necessary to serve the uses and structures permitted herein may be installed, maintained, repaired, removed, relocated, or replaced, and Landowner may grant easements over and under the Property as necessary for installation of said Utilities and Non-Essential Services. Notwithstanding the foregoing, subsurface wastewater disposal systems and Non-Essential Services may not be installed to serve Temporary or Minor Agricultural Structures or Temporary or Minor Recreational Structures. To the extent possible, Utilities, Non-Essential Services and subsurface wastewater disposal systems shall be limited to the Farmstead Area and the existing Access roads on the Property.

(vi) ***Customary Rural Enterprise Structures.*** Within the Farmstead Area and with prior written Approval of Holder, Landowner may construct Customary Rural Enterprise Structures.

(vii) ***Commercial Renewable Energy and Communications Systems Structures.*** Within the Farmstead Area, upon Notice to Holder, Landowner may construct new structures for production of commercial Renewable Energy, and for communications systems as provided in Section 6.2.5. above. With prior written Approval of Holder, which shall evaluate any such request against its then-current policy for Energy Siting and Approvals, Landowner may construct such commercial Renewable Energy or communications structures outside the Farmstead Area.

(viii) Other New Structures. No other structures may be built on the Property except with prior written Approval of Holder. Holder shall require any Approved structures to be located so as to have minimal negative impact on the agricultural productivity and Conservation Values of the Property.

6.2.13 Public Recreational Uses.

A. No General Right of Public Access. Except as provided in Paragraph 6.2.13.B below, Landowner has no obligation to grant public access across the Property.

B. Limited Right of Public Access Within Trail Corridor. Within the Trail Corridor, as depicted on Exhibit B, Landowner agrees to permit, and will refrain from prohibiting or discouraging, use of the Property by the general public for daytime Low-Impact Recreational Activities, exercised in a manner that is consistent with the protection of the Conservation Values. Landowner has the right to prohibit or limit camping, night use, fires, and vehicular uses. The Trail Corridor may be adjusted upon the mutual agreement of Landowner and Holder.

Landowner shall have an obligation to establish and maintain an unpaved recreational trail for public use within the Trail Corridor. In the event that Landowner fails to meet this obligation, Holder may exercise its rights under Section 7.6 to establish and maintain the trail.

C. Recreational Immunity. Landowner and Holder claim all of the rights and protections against liability for injury to the public to the fullest extent of the law under Title 14 M.R.S. Section 159-A, et seq. as amended and successor provision thereof (the Maine Recreational Use Statute), and under any other applicable provision of law and equity.

7. HOLDER'S AFFIRMATIVE RIGHTS.

To accomplish the Primary Conservation Purposes of this Easement, the following rights are conveyed to Holder, which rights shall be in addition to, and not in limitation of, any other rights and remedies available to Holder.

7.1. The right to preserve and protect the Conservation Values of the Property.

7.2. The right to prevent the Landowner or third persons (whether or not claiming by, through, or under the Landowner) from conducting any activity on or use of the Property that is inconsistent with the Primary Conservation Purposes of this Easement and to require Landowner or third persons to restore such areas or features of the Property that may be damaged by any inconsistent activity or use in violation of this Easement to a condition substantially similar to that which existed prior to such violation, including the removal of offending structures or vegetation.

7.3. The right to enforce this Easement in the case of violation of its terms by Landowner or by third persons (whether or not claiming by, through, or under Landowner) by appropriate legal and equitable proceedings, as follows:

7.3.1. Right of Entry. Holder shall have the right to enter upon the Property, including use of aircraft and unmanned aerial vehicles over the Property, at reasonable times and upon reasonable notice for the purpose of: (1) monitoring the Property and inspecting for compliance with the terms of this Easement; (2) documenting Landowner's compliance with this easement and the condition of the Property through photographs and other forms of visual media; and (3) taking any and all actions with respect to the Property as may be necessary or appropriate, with or without order of court, to document, remedy, or abate violations hereof.

7.3.2. Right of Action. In the event that Holder becomes aware of a violation of the terms of this Easement, Holder shall give written notice, together with a description of the violation, to Landowner and request corrective action sufficient to abate such violation and restore the Property to a condition substantially similar to that which existed prior thereto. Failure by Landowner to: (1) discontinue or cure such violation within the time period reasonably specified in such notice; (2) promptly begin good faith efforts to discontinue, abate, or cure such violation where completion of such action cannot be reasonably accomplished within the specified time period and to diligently continue such efforts until completion; or (3) initiate and continue such other corrective action as may be reasonably requested by Holder, shall entitle Holder to bring an action at law or in equity in a court of competent jurisdiction to enforce the terms of this Easement seeking to:

A. Require the restoration of the Property to a condition substantially similar to that which existed prior thereto, including the removal of offending structures;

B. Enjoin any noncompliance by temporary or permanent injunction without the need for demonstrating irreparable harm or injury to the interests of the Holder, it being agreed that Holder will have no adequate remedy at law;

C. Recover any damages arising from such violation or noncompliance, including damages for the loss of the Conservation Values protected by this Easement; and

D. Recover costs as provided in Section 7.3.7 below.

Such damages, when recovered, may be applied by the Holder in its sole discretion, to corrective action on the Property.

7.3.3. Emergency Enforcement. Notwithstanding the foregoing, if Holder, reasonably and in good faith, determines that circumstances require immediate action to prevent or mitigate significant damage to the Conservation Values of the Property, Holder may pursue its remedies, including an action to enjoin the violation, *ex parte* if necessary,

through temporary or permanent injunction, without prior notice to Landowner or without waiting or the period for cure to expire. Holder shall provide Landowner with such notice as is reasonably possible under the circumstances, of all actions undertaken or to be undertaken pursuant to this subsection.

7.3.4. Forbearance Not a Waiver. Any forbearance by Holder in the exercise of its rights under this Easement or its rights arising from breach of any term hereof shall not be deemed or construed to be a waiver by Holder of such term or of any subsequent breach of the same or any other term of this Easement or of any of Holder's rights hereunder. No failure, delay or omission by Holder in the exercise of any right or remedy upon any breach shall impair such right or remedy or be construed as a waiver, and the Landowner hereby waives any defense of laches, prescription or estoppel.

7.3.5. Multiple Owners. Where the Property is owned by more than one Landowner, all such Landowners of the Property or portion thereof are jointly and severally liable for the violation of the terms of this Easement regardless of the form of ownership.

7.3.6. Acts Beyond Landowner's Control/Acts of Third Parties.

A. **Acts Beyond Landowner's Control.** Nothing contained in this Easement shall be construed to entitle Holder to bring any action against Landowner for any injury to or change in the Property resulting from causes beyond Landowner's control, including, without limitation, natural catastrophes, such as disease, pest, fire, flood, storm, and earth movement, or from any prudent action taken by Landowner under emergency conditions to prevent, abate, or mitigate significant injury to any person or the Property resulting from such causes.

B. **Acts of Third Parties.**

(i) **Acts with Landowner's Authority.** Landowner shall be responsible for any injury to or change in the Property resulting from acts or omissions of persons acting on behalf of Landowner, at Landowner's direction or with Landowner's permission or license, and Holder shall be entitled to proceed under Section 7.3 against Landowner for events or circumstances of non-compliance with any covenant, term, condition or restriction of this Easement resulting from such acts or omissions.

(ii) **Acts without Landowner's Authority.**

(a) Landowner shall not be responsible for injury to or change in the Property resulting from acts or omissions of third parties not covered by Subsection (i) above.

(b) Both Landowner and Holder shall have all rights and remedies existing at law or in equity to proceed against any third party damaging the Property. Landowner shall undertake all reasonable actions to prevent the unlawful entry and trespass by persons whose activities may degrade or harm the Property or that are otherwise inconsistent with the Primary Conservation Purposes of this Easement.

(c) *Restoration Damages.* As to any claims for money damages against such third parties, Landowner shall have the primary right to proceed against third party wrongdoers for damages based on costs to restore the Property to its condition before the wrongful acts or omissions caused damage to the Property, and any damages recovered based on such costs to restore the Property shall be used, net of all legal

fees and other litigation costs attributable to the claim for damages based on restoration costs, entirely for restoration of the Property to the maximum extent possible. If Landowner elects not to proceed with any such claim against any such third party or if Landowner pursues a claim but elects not to seek money damages based on restoration costs, Holder shall be entitled to pursue such claim and to seek such damages against such third parties, and if Holder so requests, Landowner shall assign to Holder its rights to seek such money damages based on restoration costs. Any recovery of damages from such third parties based on restoration costs, after deducting all legal fees and other litigation costs attributable to the claim for damages based on restoration costs, shall be applied by Landowner to remediation of the damage to the Property. Holder shall not be entitled to carry out any such restoration, but if Holder has recovered money damages attributable to restoration costs, Holder shall pay over to Landowner the damages received net of litigation expense and Landowner shall use such funds for restoration. Holder may require Landowner to provide, at least annually, complete accountings for use of such funds.

(d) *Other Damages*. If a third party's wrongful act or omission damages the Property in ways that cannot be remedied by restoration of the Property to its condition prior to the wrongful acts or omissions, each of the Parties may pursue its own claim for damage to its adversely affected property rights and shall be entitled to whatever damages are awarded on account of that damage. In the event of an award in such a proceeding for damages to the fee interest and to the property interest represented by this Easement which award does not specify how the award is to be allocated between Landowner and Holder, the total proceeds, after deduction of each Party's litigation expenses, shall be divided in accordance with the proportionate values of Landowner's and Holder's interests on the same bases as specified in Section 11.3.3 below.

7.3.7. Costs. Recognizing that Holder is a charitable organization with limited resources and that Holder has a duty to protect the Property and property rights it holds in the public interest, in the event of a violation Landowner agrees to reimburse Holder for all reasonable costs incurred by Holder in enforcing this Easement or in taking reasonable measures to remedy or abate any violation hereof by Landowner or by a third-party acting with Landowner's authority, including without limitation the costs of investigation, negotiation, mediation, arbitration, settlement, and suit (including reasonable expert, consultant, and attorneys' fees) together with all fees and costs, including reasonable expert, consultant, and attorneys' fees related to restoration, remediation or other damage correction. Any such costs and fees reimbursements shall apply whether any formal action is filed, whether Holder is a plaintiff or defendant in a judicial or administratie action or proceeding, and regardless of wwhether the action is styled as a declaratory action or some other kind of action. Provided, however, that Holder agrees to reimburse Landowner for all such costs incurred by Landowner in defense of any claim or action brought by Holder in connection with any alleged violation hereof by Landowner, provided that Holder acknowledges in writing that such claim or action was, in its entirety, without merit or if an arbitrator or court of competent jurisdiction, as the case may be, affirmatively determines that Holder was acting unreasonably or frivolously in initiating a legal action to enforce this Easement.

7.4. Fields.

A. Unless otherwise agreed in writing by Holder, Landowner shall maintain the fields on the Property, as depicted on Exhibit B and described in the Baseline Documentation Report, such that they are kept open and not permitted to become forestland. Where planted with fruit or nut bearing trees, Christmas trees, other ornamental trees or shrubs, the fields shall be considered to be maintained so long as Landowner is actively managing said trees or shrubs. Indications of active management shall include, but are not limited to: mulching; fertilizing; trimming or pruning; mowing between and around trees and shrubs; culling diseased, unproductive, or unmarketable trees or shrubs; and harvesting fruits, nuts, trees or shrubs.

B. In the event that Landowner fails to maintain the fields on the Property Holder has the right to enter the Property and maintain the fields, either by periodic mowing, haying, bush hogging, or by other means mutually agreed to by Landowner and Holder. Holder may dispose of the byproducts of such operations to defray the expense of undertaking such actions. Income in excess of expenses for such maintenance operations shall be dedicated to Holder's stewardship fund. Holder shall provide Landowner written notice at least sixty (60) days prior to conducting any field management operations, should provide Landowner an opportunity to take action to maintain the fields at Landowner's own expense.

7.5. Boundaries. Holder is hereby granted the right to require Landowner to keep the boundaries of the Property and the Farmstead Area sufficiently marked to permit Holder to accurately identify their location. In the absence of such accurately marked boundaries, Holder has the right to require Landowner to commission, at Landowner's expense, a survey to determine any boundary or boundaries in question. Holder shall have the right to place small markers along the perimeter of the Property, after notice to Landowner, indicating its status as land under the conservation protection of Holder.

7.6. Trail Management Rights. Within the Trail Corridor, Holder has the affirmative right to establish and maintain a recreational trail, as well as trail improvements such as steps, foot bridges, water bars, and railings. Should Holder exercise its rights under this Section 7.6, Holder shall make all contractual arrangement for such trail work at its own cost.

8. NOTICES, APPROVALS, DISCRETIONARY CONSENT.

8.1. Method for Notice. Any notices or requests for approval required by this Easement shall be in writing and shall be personally delivered or sent certified mail, return receipt requested, or by such commercial delivery service as provides proof of delivery, to Landowner and Holder, at the following addresses, unless one has been notified by the other of a change of address or change of ownership:

To Landowner: Synergosity LLC
173 Spurwink Road
Scarborough, ME 04074

At the address of the owner(s) of record as noted hereinabove or as provided by Landowner in writing.

To Holder: Maine Farmland Trust, Inc.
97 Main Street
Belfast, ME 04915

If the notice mailed to Holder, or to Landowner at the last address on file with Holder is returned as undeliverable, the sending party shall provide notice by regular mail to Landowner's last known address on file with the municipality of **Cumberland,** Maine; or in the case of Holder, or in the case of a corporate owner, to the address on file with the Secretary of State, State of Maine, and the mailing of such notice shall be deemed in compliance with the notice provisions of this Easement.

In addition to the methods set forth in this section 8.1, a notice or request for approval or any other communication may be sent by electronic mail or other electronic communication ("email") only if an authorized agent of the receiving party has consented to receiving notice by email at a specific address and the recipient, by an email sent to the email address for the sender or by the same email returned to the originating address for the sender, or by a notice delivered by another method in accordance with this section 8.1, acknowledges having received that email. An automatic "read receipt" shall not constitute acknowledgment of an email for purposes of this section 8.1.

8.2. Notice and Requests for Approval. Any use or activity requiring Notice to or Approval of the Holder shall be subject to the terms and conditions of the applicable subsections under which such notice is required or approval is requested as well as the terms and conditions of this subsection. If Notice to Holder is required, but not Approval, Landowner shall notify Holder in writing at least ten (10) days prior to the date Landowner intends to undertake the activity in question. The Notice shall describe the nature, scope, location, timetable, and any other material aspect of the proposed activity in sufficient detail to permit Holder to determine whether such activity is in conformity with the terms and Primary Conservation Purposes of this Easement and in conformity with the applicable section(s) under which such right is reserved or approval granted. If Approval of Holder is required, such Approval shall in all cases be obtained by Landowner prior to Landowner's taking the proposed action. Failure to request required Approval of Holder prior to commencing an activity shall constitute a material breach of this Easement. Where municipal regulatory approval is required, the Landowner will submit the site and/or plot plan of any proposed new construction to the Holder prior to submitting such documents for regulatory approval(s).

Holder shall only grant Approval to Landowner where Holder, ***in its sole discretion***, determines that the proposed action is not inconsistent with the Primary Conservation Purposes of this Easement, and is consistent with any applicable Best Management Practices. In the event Holder withholds Approval, it shall notify Landowner in writing with reasonable specificity of its reasons for withholding Approval, including a denial because of a need for

additional information, and the conditions, if any, on which Approval might otherwise be given. Holder may impose such conditions on Approvals as Holder determines are reasonably required to protect the Conservation Values of the Property consistent with the Primary Conservation Purposes of this Easement, including that Landowner provide reasonable prior notice of the commencement of any activity approved under this subsection.

Where Approval of Holder is required, Holder shall approve or withhold its approval in writing within sixty (60) days of receipt of Landowner's written request. The failure of Holder to respond in writing within such sixty (60) days of receipt of the written request shall be deemed to constitute a temporary denial of Approval by Holder.

In addition to the foregoing, where Notice or Approval is not otherwise required by this Easement, Landowner agrees to notify Holder before exercising any right that may have an adverse impact on the conservation interests associated with the Property as required by Title 26, Code of Federal Regulations, Sections 1.170A-14(g)(5)(ii).

8.3. Discretionary Consent. Recognizing that Agricultural and Forestry Best Management Practices, agricultural markets and technologies, climate and the ecological state of the region, and scientific knowledge will change over time, Holder's consent for activities otherwise restricted or prohibited may be given if Holder determines, in its sole and absolute discretion, that due to: (1) disease, pests, fire, flood, storm, earth movements or other natural disaster; (2) changes in scientific knowledge, technology, or best agricultural or forestry land management practices; (3) the existence of threatened or endangered species on or abutting the Property; (4) changes in climate affecting the ecological condition of the surrounding area or ecological system; or (5) other unforeseen circumstances, such activities further and are consistent with the Primary Conservation Purposes of this Easement. In addition, Holder may grant consent for activities that have not been foreseen or contemplated by the parties that further and are consistent with the Primary Conservation Purposes of this Easement. Such consent may be (1) revocable at the Holder's discretion and (2) limited in duration. Holder shall have no right or power to approve any proposed activity that would result in the termination of this Easement, be inconsistent with the Primary Conservation Purposes of this Easement or allow additional development rights, other than development rights that are reasonably required for Agricultural Activities, environmental enhancement or related education, to accrue to the benefit of the Property. All requests for such consent shall be in writing and shall describe the proposed activity in sufficient detail to allow Holder to judge the consistency of the proposed activities with the Primary Conservation Purposes of this Easement. Holder shall not be liable for any failure to grant consent to Landowner under this subsection, and the failure of Holder to respond in writing within such sixty (60) days of receipt of the written request shall be deemed to constitute a temporary denial of such consent by Holder.

9. ONGOING RESPONSIBILITIES, COSTS AND LIABILITIES.

9.1 Transfer of Property. The Landowner agrees that the terms, conditions, restrictions and Primary Conservation Purposes of this Easement will either be incorporated by reference or inserted by the Landowner in any subsequent deed or other legal instrument by which the Landowner divests themselves of any interest in the Property or in any portion thereof to the extent permitted by this Easement. Failure of the Landowner to incorporate such terms shall not affect the enforceability of this Easement. Landowner shall provide Notice of said planned conveyance to Holder in writing at least thirty (30) days, before conveying the Property or an interest therein, other than a mortgage, to any third party.

9.2 Taxes. Landowner shall be solely responsible for payment of all taxes and assessments levied against the Property including interest. If Holder is ever required to pay any taxes or assessments on the Property in order to protect its interests, Landowner will reimburse Holder for the same. Such payment shall constitute a lien on the Property of the same priority as the item would have become if not paid.

9.3. Upkeep and Maintenance. Landowner shall be solely responsible for the upkeep and maintenance of the Property. Holder shall have no obligation for the upkeep or maintenance of the Property

9.4. Compliance With Law. Nothing in this Easement relieves Landowner of any obligation with respect to the Property imposed by law, including the obligations and responsibilities to obtain any and all applicable federal, state, and local governmental permits and approvals, if necessary, to exercise Landowner's retained rights and uses of the Property even if consistent with the Primary Conservation Purposes of this Easement.

By its acceptance of this Easement, Holder does not undertake any liability of obligation relating to the Property, including without limitation any responsibility for compliance with laws and regulations concerned with hazardous materials or other environmental laws and regulations.

10. BASELINE DOCUMENTATION REPORT.

The Conservation Values of the Property and its conditions, current use, and state of improvement are described in a Baseline Documentation Report, including maps, photographs, and other documentation prepared by or on behalf of Holder and certified by the Landowner, as required under Treasury Regulations § 1.170A-14. Holder shall maintain the Baseline Documentation Report, a copy of which shall be provided to Landowner at Landowner's request. The Baseline Documentation Report may be used by Holder to establish that a change in the use or character of the Property has occurred, but its existence shall not preclude the use by Holder or Landowner of other evidence to establish the condition of the Property as of the date of this Easement. If after the date of this Easement, the Holder wishes to supplement or amend the Baseline Documentation Report, the Holder may do so and the Landowner may certify the Baseline Documentation Report as supplemented or amended.

11. GENERAL PROVISIONS.

11.1 Assignment. Holder shall have the right to assign this Easement to any public agency or private nonprofit organization that, at the time of transfer, is a "qualified organization"

under Section 170(h) of the Code and under Maine Conservation Easement Act, 33 M.R.S. § 476(2), as amended or successor provisions thereof, provided the transferee expressly agrees to assume the responsibility imposed on Holder by this Easement. If Holder ever ceases to exist or no longer qualifies under Section 170(h) of the Code, or applicable state law, a court of competent jurisdiction shall transfer this Easement to another qualified organization having similar purposes that agrees to assume the responsibilities imposed by this Easement.

11.2 Amendment.

11.2.1 Landowner and Holder recognize that circumstances could arise that warrant modification of certain of the provisions of this Easement. To this end, subject to more restrictive laws and regulations, if any, Landowner and Holder have the right to agree to amendments to this Easement without prior notice to any other party, provided that in the sole and exclusive judgment of Holder, such Amendment does not violate the restrictions in Section 11.2.2. Amendments will become effective upon recording at the Cumberland County Registry of Deeds. Nothing in this Section shall require the Landowner or the Holder to agree to any amendment or to negotiate regarding any amendment.

11.2.2 Notwithstanding the foregoing, except as provided by 33 M.R.S. § 477-A(2) as amended of the Maine Conservation Easement Act, by which a Conservation Easement may be amended by court approval in an action in which the Attorney General is made a party, Holder and Landowner have no right or power to approve any action or agree to any discretionary approval or amendment that would

A. materially detract from the Conservation Values intended for protection under this Easement;

B. limit the term or result in partial or complete termination of this Easement; or

C. adversely affect the qualification of this Easement or the status of the Holder under applicable laws, including the Maine Conservation Easement Act at 33 M.R.S. § 476 et seq. and Sections170(h), 501(c)(3), 2522, and 2031(c) of the Code, successor provisions thereof and regulations issued pursuant thereto.

11.3 Extinguishment and Condemnation.

11.3.1 The Parties agree that the grant of this Easement creates a property right that vests immediately in Holder. The parties further agree that this property right as of the date of its creation has a fair market value that is equal to the percentage by which the fair market value of the unrestricted property as a whole as valued in accordance with Title 26, Code of Federal Regulations, Sections 1.170A-14(g)(6)(ii), is reduced by the terms and conditions imposed by this Easement, as of the date of the execution of this Easement (hereinafter the "Original Percentage Reduction").

11.3.2 If either Holder or Landowner receives notice of the actual or threatened exercise of the power of eminent domain (hereinafter a "Taking") with respect to any interest in or any part of the Property, the party who receives the notice shall promptly notify the other and the parties may proceed jointly or either party may at its discretion take such legal action as it deems necessary to: (a) challenge the Taking; (b) challenge the amount of allocation of any

award tendered by the Taking authority; or (c) otherwise participate in, challenge or appeal such proceedings, findings or awards. Any third party counsel and consultants (including appraisers) hired by either party shall be reasonably acceptable to the other party. Each party shall be responsible for its own costs and legal fees, absent written agreement of the parties.

11.3.3 This Easement may only be extinguished or terminated by judicial order in a court of competent jurisdiction in an action in which the Attorney General is made a party, including a taking in accordance with subsection 11.3.1 above. It is the intention of the parties that an extinguishment or termination be approved by a court only if all of the Primary Conservation Purposes of this Easement are impossible to accomplish, and if both Landowner and Holder agree. Should this Easement be terminated or extinguished as provided in this Section, in whole or in part, Holder shall be entitled to be paid no less than the greater of: (i) a portion of any proceeds of a subsequent sale, involuntary conversion, exchange or lease computed as to the Original Percentage Reduction; or (ii) the increase in value of the Landowner's estate resulting from such extinguishment, as determined by the court, or in the absence of such court determination, by the agreement of the parties or, in the absence of such agreement, by an independent appraiser mutually selected by Landowner and Holder. Holder shall use its share of the proceeds or other moneys received under this paragraph in a manner consistent, as nearly as possible, with the stated, publicly beneficial Primary Conservation Purposes of this Easement. Landowner agrees that Holder may, and authorizes Holder to, record a notice of a lien on the Property which lien will be effective as of the date of such extinguishment, to secure its rights under this Section.

11.4 Applicable Law. This Easement is created pursuant to Title 33, M.R.S., Sections 476 through 479-C, inclusive, as amended, and shall be construed in accordance with the laws of the State of Maine, regardless of any conflict of law provisions.

11.5 Interpretation. This Easement shall be interpreted under the laws of the State of Maine. Any general rule of construction to the contrary notwithstanding, this Easement shall be liberally construed to effect the Primary Conservation Purposes of this Easement. If any provision in this Easement is found to be ambiguous, an interpretation consistent with the Primary Conservation Purposes of this Easement that would render the provision valid shall be favored over any interpretation that would render it invalid. If any provision of this Easement or the application of any provision to a particular person or circumstance is found to be invalid, the remainder of this Easement and the application of such provision to any other person or in any other circumstance, shall remain valid.

11.6 Non-Waiver. The failure or delay of the Holder, for any reason whatsoever, to do any action required or contemplated hereunder, or to discover a violation or initiate an action to enforce this Conservation Easement shall not constitute a waiver, laches, or estoppel of its rights to do so at a later time.

11.7 Compliance. A person or entity's obligations hereunder as Landowner will cease, if and when such person or entity ceases to have any present, partial, contingent, collateral or future interest in the Property, but only to the extent that the Property is then in compliance herewith. Responsibility of Landowner for breaches of this Easement that occur prior to transfer of title will survive such transfer; provided that the new Landowner shall also be responsible for bringing the Property into compliance unless Holder in writing releases the new Landowner.

11.8 Estoppel Certificates. Upon written request of Landowner and at Landowner's expense, Holder shall, within a reasonable time after such request, inspect the Property and shall provide a Compliance/Estoppel Certificate that indicates the extent to which, to the best of Holder's knowledge, the Property is in compliance with the terms of this Easement.

11.9 Severability. If any provision of this Easement or the application of any provision to a particular person or circumstance is found to be invalid, the remainder of this Easement and the application of such provision to any other person or in any other circumstance, shall remain valid.

11.10 Potential Increase in Value Acknowledged. In making this Easement, Landowner has considered the fact that uses prohibited hereby may become more economically valuable than permitted uses, and that neighboring properties may in the future be put entirely to such prohibited uses. It is the intent of both Landowner and Holder that any such changes not be deemed to be changed conditions permitting alteration or termination of this Easement.

11.11 Subsequent Liens On Property, Liens Subordinated. Landowner has the right to use the Property as collateral to secure repayment of debt, provided that any lien or other rights granted for such purpose, regardless of date, are subordinate to Holder's rights under this Easement. Under no circumstances may Holder's rights be extinguished or otherwise affected by the recording, foreclosure or any other action taken concerning any subsequent lien or other interest in the Property.

11.12 Entire Agreement. This instrument, as supplemented by the Baseline Documentation Report, sets forth the entire agreement of the parties and supersedes all prior discussions, negotiations, understandings or agreements relating to this Easement.

11.13 Environmental Warranty. Nothing in this Easement shall be construed as giving rise to any right or ability in Holder to exercise physical or management control over the day-to-day operations of the Property, or any of Landowner's activities on the Property, or otherwise to become an operator with respect to the Property within the meaning of The Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA) or any corresponding state and local statute or ordinance.

Landowner warrants that it has no actual knowledge of a release or threatened release of hazardous substances or wastes on the Property, as such substances and wastes are defined by applicable law, and hereby promises to indemnify Holder against, and hold Holder harmless from, any and all loss, cost, claim (without regard to its merit), liability or expense (including reasonable attorneys' fees) arising from or with respect to any release of hazardous substances or waste or violation of environmental laws.

If at any time after the date of this Easement there occurs a release in, on, or about the Property of any substance now or hereafter defined, listed, or otherwise classified pursuant to any federal, state, or local law, regulation, or requirement as hazardous, toxic, polluting, or otherwise contaminating to the air, water, or soil, or in any way harmful or threatening to human health or the environment, Landowner agrees to take all steps that may be required under federal, state, or local law necessary to assure its containment and remediation, including any cleanup.

11.14 Liability and Indemnification. Landowner acknowledges that Holder has no possessory rights in the Property, nor any responsibility or right to control, maintain, or keep up the Property. Landowner is responsible for all costs and responsibility of ownership, control, operation, maintenance, and upkeep of the Property. If the Holder is ever required by a court to pay damages resulting from personal injury or property damage that occurs on the Property, the Landowner shall indemnify and reimburse the Holder for these payments, as well as for reasonable attorneys' fees and other expenses of defending itself, unless Holder or any of its agents have committed a deliberate act that is determined by a court to be the cause of the injury or damage.

11.15 Standing to Enforce. Only Holder and Landowner may bring an action to enforce this Easement, and nothing herein should be construed to grant any other individual or entity standing to bring an action hereunder, unless otherwise provided by law; nor to grant any rights in the Property by adverse possession or otherwise, provided that nothing in this Easement shall affect any public rights in or to the Property acquired by common law, adverse possession, prescription, or other law, independently of this Easement.

12 OPTION AND RIGHT TO PURCHASE

12.1 Holder shall have an option to purchase the Property at its agricultural value in accordance with terms and provisions of this Section 12 (which option shall be referred to herein as the "Option") and upon the terms expressed in Exhibit C, attached hereto and incorporated herein, entitled "Terms, Conditions and Contingencies for Holder's Purchase of the Property Pursuant to its Option to Purchase". This Option is an integral part of this Easement and constitutes a restriction and a right and interest in real property that runs with the land. This Option shall be perpetual in duration and is given on the following terms and conditions.

12.2 Option Trigger; Exceptions. Landowner shall not sell, transfer or convey the Property, in whole or in part, without first offering the Property for sale to Holder as provided herein, however, the following described transactions shall not trigger Holder's rights under this Option:

12.2.1 Any mortgage, pledge, or other assignment of the Property to a lender as security for indebtedness, provided the Holder's interest under this Option is treated as an interest in real estate such that, in the event of foreclosure, Holder is deemed a necessary party defendant in such foreclosure case and has the right to redeem the Property from the foreclosure action; and

12.2.2 Any conveyance by the Landowner to Landowner's Family (as defined in Section 5 above) by gift, inheritance, sale or other transfer; and

12.2.3 Any conveyance of the Property to a person who presently earns at least one-half of his or her annual gross income from the "business of farming," as that term is defined in Regulation 1.175-3 issued under the Internal Revenue Code of 1986 and who, in connection

with the farming operations of the Property, will continue to earn at least one-half of his or her annual gross income from the business of farming ("a Qualified Farmer"); and

12.2.4 Any lease to a Qualified Farmer or a lease having a term of 15 years or less, including renewal rights; provided, however, that any such lease shall expressly provide that, unless otherwise agreed by Holder, the lease shall terminate and possession shall be delivered free and clear of any rights of the tenant upon a closing of the sale of the Property following exercise of this Option.

This Option shall apply to all other sales and conveyances of the Property, including any sale or conveyance of any interest in the Property including any conveyance by, or conveyance of any interest in a corporation, limited liability company, partnership or other entity Landowner of the Property.

12.3 Notice of Intent to Sell. Whenever Landowner (which for the purposes of this Section 12 shall also refer to the individual holders of an interest in any entity Landowner of the Property) a) receives an offer from a person or persons ("Transferee") to purchase or lease for a term in excess of fifteen (15) years, including renewal rights, all or any part of the Property including an offer involving property other than the Property, and Landowner accepts the Offer subject to this Option; b) otherwise enters into an agreement to convey or transfer ownership of the Property to a Transferee; or c) enters into an agreement to transfer an interest in a corporation, limited liability company, partnership, or other entity Landowner of the Property to a Transferee, Landowner shall deliver to Holder a Notice of Intent to Sell as provided herein, which shall include:

12.3.1 A complete duplicate of the offer, together with such other instruments as may be required to show the bona fides of the offer; and

12.3.2 A written description of the Transferee's training and experience as an agricultural producer and an agricultural business plan for the Property, including a description of the agricultural activities to be conducted or facilitated by Transferee, proposed improvements to the Property, and a statement of anticipated agricultural income and expenses for three-year period following Transferee's acquisition of the Property or, if Transferee has no such training and experience or intention of operating an agricultural business on the Property, a written statement to that effect; and

12.3.3 If the Transferee is purported to be a Qualified Farmer or member of Landowner's Family, the documents necessary to establish the Transferee as such, including the Transferee's most recent federal income tax filing, if applicable; and

12.3.4 The Landowner's current mailing address.

Information delivered to Holder pursuant to this clause shall remain confidential and shall not be released to any person or entity not a party to this Easement, without the prior written approval of Landowner.

12.4 Exercise of Option. This Option may be exercised by Holder as follows.

12.4.1 Holder shall give written Notice of Intent to Exercise not more than thirty (30) days following receipt of the Notice of Intent to Sell described herein; failure by Holder to provide such Notice of Intent to Exercise shall constitute a waiver of its rights under this Option; and

12.4.2 After Holder timely provides Landowner with a Notice of Intent to Exercise, Landowner and Holder shall fix the purchase price for the Property by establishing a Price Agreement in the manner described hereafter.

12.4.3 Holder shall exercise this Option by giving written Notice of Intent to Purchase not more than thirty (30) days following Landowner's and Holder's establishment of the Price Agreement.

12.4.4 After giving Notice of Intent to Purchase, the Holder shall have ninety (90) days to close on the Property. Closing shall be subject to Holder obtaining financing for the purchase and satisfactory investigation and inspection of the Property and other terms and conditions contained in Exhibit C hereto. If such financing is not obtained or investigation or inspection of the Property is not satisfactory, or the terms contained in Exhibit C are not met, Holder may rescind its Notice of Intent to Purchase and will have no further obligation to purchase the Property.

12.4.5 Holder may assign its right to purchase the Property under this Option, subject to the terms set forth in Section 12.4.4 above, to a public agency or private nonprofit organization that, at the time of assignment, is a "qualified organization" under Section 170(h) of the Code and under Maine Conservation Easement Act, Section 476(2). Such an assignment shall only be effective for a single exercise of this Option. In the event that Holder desires to so assign its right to purchase the Property, it shall include notice of said assignment in its Notice of Intent to Purchase.

12.5 Purchase Price (Land). The Purchase Price shall be determined by mutual agreement of Landowner and Holder; provided that if no such agreement can be reached, the purchase price of the land only shall be the full fair market value of all Property land subject to the offer (including the site of any structures) assuming its highest and best use in commercial agricultural production commonly occurring within the market area where the Property is located on the date of the offer (the "Fair Market Value"), as determined by a mutually approved disinterested appraiser selected by Landowner and Holder, with the expense of such appraisal divided equally between Landowner and Holder. Permanently installed land improvements, such as in-ground irrigation systems, farm roads, and drainage tiling shall be considered part of the land. This appraisal shall take into consideration the permitted and restricted uses set forth in, and the impact on value caused by this grant, as ammended.

12.6 Purchase Price (Agricultural and Minor Structures). With respect to any Agricultural Structures or Temporary or Minor Agricultural or Recreational Structures in existence as of the date of the offer, then in addition to the foregoing land value, the Purchase

Price shall also include the value of all such structures on the Property as of the date of the offer excluding all land (which is included in the valuation above). The value of the structures shall be determined using the replacement cost approach to valuation (i.e., the cost to replace the structures and improvements with those of comparable size and utility, less depreciation and functional obsolescence) by a mutually approved disinterested appraiser selected by Landowner and Holder, with the expense of such appraisal divided equally between Landowner and Holder.

12.7 Purchase Price (Dwellings). With respect to any Dwellings(s) in existence as of the date of the offer, then in addition to the foregoing land value, the Purchase Price shall also include the value of the Dwelling and its Accessory Structures as of the date of the offer excluding the value of the land upon which these structures sit (which is included in the valuation above). The value of the Dwelling and Accessory structures shall be determined using the replacement cost approach to valuation (i.e., the cost to replace the structures and improvements with those of comparable size and utility, less depreciation and functional obsolescence) by a mutually approved disinterested appraiser selected by Landowner and Holder, with the expense of such appraisal divided equally between Landowner and Holder.

12.8 Should, for the purposes of Sections 12.5, 12.6, and 12.7 above, Landowner and Holder be unable to mutually agree on a disinterested appraiser, then Landowner shall obtain an appraisal at its own expense. Holder shall have the right to disagree with the appraisal and obtain its own appraisal at Holder's expense. If the two appraisals disagree, then the two appraisers shall choose a third appraiser to prepare a third appraisal, the expense of which shall be equally shared by the parties, which third appraisal shall set the Fair Market Value and, as applicable, the replacement value of any structures. Failure of either party to cooperate in the above process shall constitute acceptance of the other party's appraised value.

12.9 Landowner and Holder shall establish the Purchase Price by either entering into a written agreement fixing the Purchase Price as provided herein, within ten working days of reaching mutual agreement or, if no such agreement is reached, the Purchase Price shall be based upon the appraised values set forth above, which shall be the Purchase Price unless another Purchase Price is mutually agreed upon in writing by the parties within ten working days after the last party's receipt of the appraisals. The passage of said ten working days shall constitute the effective date of establishing the Purchase Price ("Price Agreement").

13 HABENDUM AND SIGNATURES.

TO HAVE AND TO HOLD the said Agricultural Conservation Easement unto the said Holder and its successors and assigns forever.

IN WITNESS WHEREOF, Landowner, Synergosity LLC has caused these presents to be signed and sealed in its corporate name by Alexander Timpson, its "Member", hereunto duly authorized, this 4th day of May , 2022.

SYNERGOSITY LLC

By: Alexander Timpson
Member

14 ACKNOWLEDGMENT.

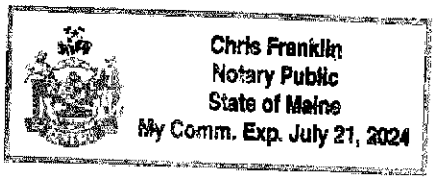
STATE OF MAINE
COUNTY OF CUMBERLAND

Dated: May 4, 2022.

Thence personally appeared the above-named Alexander Timpson, and acknowledged that he is of Synergosity LLC, and that the execution of the foregoing instrument is his free act and deed in said capacity and the free act and deed of Synergosity LLC.

Before me,

Notary Public/Maine Attorney
Printed Name:Christopher Franklin
My Commission expires:_____



15 HOLDER ACCEPTANCE.

The above and foregoing Agricultural Conservation Easement is hereby accepted for and on behalf of the **MAINE FARMLAND TRUST, INC.,** duly authorized this 4th day of May, 2022

MAINE FARMLAND TRUST, INC.
a Maine nonprofit corporation

By:_____
Name: Amy Fisher
Title: President

16 HOLDER ACKNOWLEDGMENT

STATE OF MAINE
COUNTY OF Waldo

Date: 5/4, 2022

Thence personally appeared the above-named Amy Fisher, President of Maine Farmland Trust, Inc., and acknowledged acceptance of the above and foregoing Agricultural Conservation Easement as her free act and deed in said capacity, and the free act and deed of Maine Farmland Trust, Inc.

Before me,

_____
Notary Public/Maine Attorney
Printed Name: ADAM BISHOP
My Commission expires: NOTARY PUBLIC
STATE OF MAINE
MY COMM. EXP. SEPTEMBER 1, 2022

EXHIBIT A
Legal Description of the Property

A certain lot or parcel of land with any improvements thereon, located on the westerly side of Longwoods Road, also known as State Route 9, in the Town of Cumberland, County of Cumberland, State of Maine and more particularly bounded and described as follows:

BEGINNING at a found 5/8-inch iron rebar at the corner of land now or formerly of Stanhope along the westerly sideline of Longwoods Road described in Book 2932 Page 385;
Thence **S 35°50'39" W**, a distance of **1278.39'** along land of Stanhope to a found iron pipe at the land now or formerly of Hansen as described in Book 3029 Page 502;

Thence **N 56°33'06" W**, a distance of **1213.64'** along land of Hansen to a found iron pipe;

Thence **N 55°12'38" W**, a distance of **858.76** along land of Hansen to the center of the East Branch of the Piscataqua River;

Thence Northerly along the center of said river a distance of **1,660'**, more or less, to a point:

Thence **S 55°10'35" E**, a distance of **985'**, more or less, along land now or formerly of Central Maine Power Company as described in Book 2281 Page 494 to a point;

Thence **S 85°43'08" E**, a distance of **1286.21** land now or formerly of Central Maine Power Company described in Book 2310 Page 495 to a point on the westerly side of Longwoods Road;

Thence **S 28°52'05" E**, a distance of **546.85'** along Longwoods Road the **POINT OF BEGINNING.**

The basis of bearings for this description was the State of Maine Grid Plane North American Datum of 1983, located in the West Zone.

Meaning and intending to describe a portion of the premises as described in a deed to Daniel Villaci dated May 13, 2002 and recorded in said Registry in Book 17630, Page 14.

Together with any rights for access from Longwoods Road to the above described parcel as reserved in a deed to Central Main Power Company described in Book 2310, Page 495.

Excepting from the above-described Property a certain lot or parcel of land depicted on Exhibit B attached hereto as "Excepted Parcel" and being more particularly described as follows:

BEGINNING at a point having a Latitude of N 43°46'05.9318" and a Longitude of W 70°15'00.4709" at the land now or formerly of Central Maine Power as described in Deed Book 2310, Page 495 recorded in the Cumberland County Registry of Deeds;

Thence the following courses and distances:

Thence S 34°35'49" W a distance of 298.65';

Thence with a curve turning to the left with an arc length of 78.27', with a radius of 75.00', with a chord bearing of S 04°42'07" W chord distance of 74.76';

Thence S 25°11'35" E a distance of 14.25';

Thence S 54°12'36" E a distance of 736.64';

Thence S 35°47'24" W a distance of 221.29';

Thence N 54°12'36" W a distance of 544.66';

Thence S 35°05'53" W a distance of 463.68';

Thence N 54°54'07" W a distance of 281.63';

Thence N 12°20'23" W a distance of 192.74';

Thence N 36°23'22" E a distance of 180.79';

Thence S 54°11'44" E a distance of 253.46';

Thence N 35°50'50" E a distance of 306.21';

Thence N 25°11'35" W a distance of 74.13';

Thence with a curve turning to the right with an arc length of 130.44', with a radius of 125.00', with a chord bearing of N 04°42'07" E chord distance 124.60';

Thence N 34°35'49" E a distance of 269.41';

Thence S 85°43'08" E a distance of 57.92' to the point of beginning.

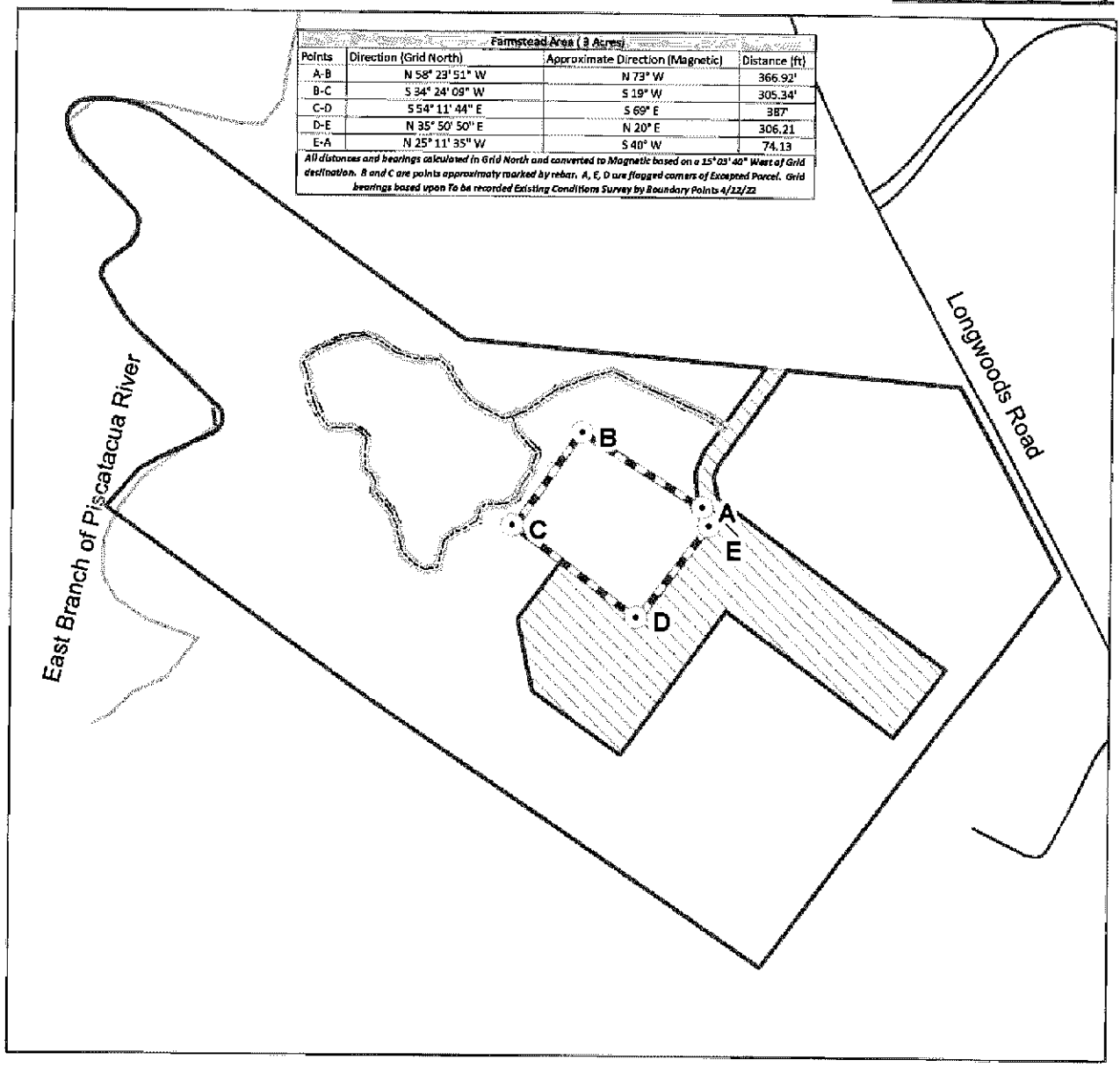
The basis of bearings for this description was the State of Maine Grid Plane North American Datum of 1983, located in the West Zone.

Meaning and intending to describe an approximately 7.5-acre parcel, to be excluded from land encumbered by the foregoing Agricultural Conservation Easement.

MEANING and intending to describe a total of 54.06 acres of land as shown on a plan titled "Existing Conditions Survey for Alexander Timpson by Boundary Points dated April 12, 2022 and to be recorded of even date herewith.

Longwoods Farm (~54 acres)
Property of Synergosity LLC
Cumberland, Cumberland County, Maine

Exhibit B
Map of the Property



Property

Farmstead Area (3 acres)

Excepted Parcel (7.5 acres)

Farmstead Area Corners

Trail Corridor

Open Fields

N

Created by: Chris Franklin, MFT, 04/27/22.
Base data source: Town of Cumberland Tax Maps, GPS Points, To be recorded Existing Conditions Survey by Boundary Points 4/12/22;
Maine Office of GIS; NAD 83 UTM Zone 19NW

0 250 500 1,000 Feet

Note: Boundaries are approximate except where metes and bounds are provided.

EXHIBIT C
To Agricultural Conservation Easement

Terms, Conditions and Contingencies for Holder's Purchase of the Property Pursuant to its Option to Purchase

1. **Fixtures:** The Landowner and Holder agree that all fixtures, including but not limited to existing storm and screen windows, shades and/or blinds, shutters, curtain rods, built-in appliances, heating sources/systems including gas and/or kerosene-fired heaters and wood stoves, and electrical fixtures are included with the sale unless otherwise agreed in a writing signed by both parties.

2. **Title:** Landowner shall convey to Holder a good and marketable title in accordance with the Maine State Bar Association title standards. If Landowner is unable to convey in accordance with the provisions of this Section, then Landowner shall have a reasonable time period, not to exceed 30 days, from the time Landowner is notified of the defect, unless otherwise agreed to by both parties, to remedy the title. If, after this time period, such defect is not corrected so that there is a merchantable title, Holder may, at Holder's option, decline to exercise its Option to purchase the Property. Landowner hereby agrees to make a good-faith effort to cure any title defect during such period.

3. **Deed**: The Property shall be conveyed by Warranty Deed, describing the Property by valid legal description, delivered at closing free and clear of all encumbrances except building and zoning restrictions of record, conditions, easements, restrictions and covenants of record which do not materially and adversely affect the continued use of the Property, and usual public utilities servicing the Property.

4. **Closing Costs, Document Preparation and Title Search:** Preparation of Deed and Declaration of Value form shall be the expense of the Landowner. Title search, certification, and title insurance (if any) shall be the responsibility of the Holder. Landowner and Holder shall each pay the state transfer tax. In the event that Landowner does not provide the closing agent with a State of Maine Residency Affidavit at the time of closing, Holder hereby acknowledges that 2.5% of the purchase price shall be withheld by the closing agent and paid over to Maine Revenue Services.

5. **Prorations and Adjustments at Closing:** Unless otherwise agreed by the parties in a signed writing, the parties shall apportion certain costs as follows:

    a. Current Real Estate Taxes (based on the municipality's fiscal year) shall be prorated as of the date of closing. Landowner is responsible for any unpaid real estate taxes for prior years.
    b. Any fuel value shall be established and any collected rents and water / sewer use charges shall be apportioned as of the date of closing, and the Purchase Price shall be adjusted by the net amount thereof.

c. Any uncollected rents for the current rental period shall be apportioned if and when collected by either party. Landowner will transfer any Security Deposit(s) and notify any Tenant(s) as provided in Section 6035 of Title 14.

d. Any metered utilities such as electricity, water and sewer will be paid through the date of closing by Landowner.

6. **Possession/Occupancy:** Possession/Occupancy of the Property, free of tenants and occupants, shall be given to Holder immediately at closing unless otherwise agreed in writing. In the event that a portion of the Property is subject to a written rent or lease agreement, Landowner shall assign all rights thereunder to Holder. The Property shall be broom clean, free of all possessions and debris, and in substantially the same condition as of the date of Holder's Notice of Intent to Purchase, excepting reasonable wear and tear. Holder shall have the right to view the Property within 24 hours prior to closing for the purpose of determining that the Property is in substantially the same condition as on the date of Holder's Notice of Intent to Purchase.

7. **Contingencies:** The obligations of Holder pursuant to its exercise of its Option to Purchase are subject to the following contingencies. If, after Holder's good faith effort within the time period specified, any of these contingencies have not been met, Holder may revoke its Notice of Intent to Purchase by giving Landowner notice of revocation within the time period specified.

   a. **Hazardous Waste:** Holder's obligations to close pursuant to the Option to Purchase are expressly contingent on Holder's satisfaction that there is not presently and never has been hazardous or toxic waste, as those terms may be defined from time to time by applicable state, local or federal law, stored in, on, or about the Property or on adjacent properties, and that the Property has never been used as a landfill or as a dump to receive refuse or waste. In the event any such hazardous or toxic waste, substance, matter, or material is discovered at the Property at any time prior to the closing, Holder may, at Holder's option, terminate any purchase and sale agreement by written notice to Landowner, whereupon Landowner shall return all sums paid hereunder by Holder, and the parties shall be relieved of all future obligations hereunder.

   b. **Approval of Board of Directors:** Holder's obligations pursuant to its exercise of the Option are contingent upon approval by its Board of Directors within a reasonable time period from Holder's Notice of Intent to Purchase.

   c. **Financing:** Holder agrees to use good faith effort to secure financing for the purchase of the real estate, and within 45 days of providing Notice of Intent to Purchase, will provide Landowner with notice that commitment(s) for financing have been obtained. If Holder fails to provide Landowner with such notice within said time period, Landowner may deliver notice to Holder that Holder's ability to exercise the Option shall be terminated three business days after delivery of such notice.

d. **Inspections.** Holder is purchasing the Property in its existing condition and will, within thirty (30) days of Holder's Notice of Intent to Purchase, make or have resolved all inspections and tests of the Property that Holder believes are necessary to protect its own interest in, and its contemplated uses of, the Property.

Holder and its agents and representatives shall have the right at reasonable times and subject to rights of tenants, to enter upon the Property for the purpose of making such inspections and tests as Holder deems appropriate. Following any such entry or work, unless otherwise directed in writing by Landowner, Holder shall return the Property to the condition it was in prior to such entry or work, including the recompaction or removal of any disrupted soil or material. All such inspections, and tests and any other work conducted or materials furnished with respect to the Property by or for Holder for the purpose of conducting such inspections and tests shall be done by inspectors and testers chosen and paid for by Holder and paid for by Holder as and when due, and Holder shall indemnify, defend, protect and hold harmless Landowner from any and all claims and liabilities for injury to person or property, arising out of or referring to any such work or materials or the acts or omissions of Holder, its agents or employees, in connection therewith.

If the result of any inspection or test or other condition specified herein is unsatisfactory to Holder, Holder may revoke its Notice of Intent to Purchase by notifying Landowner in writing within the thirty (30) days mentioned herein.

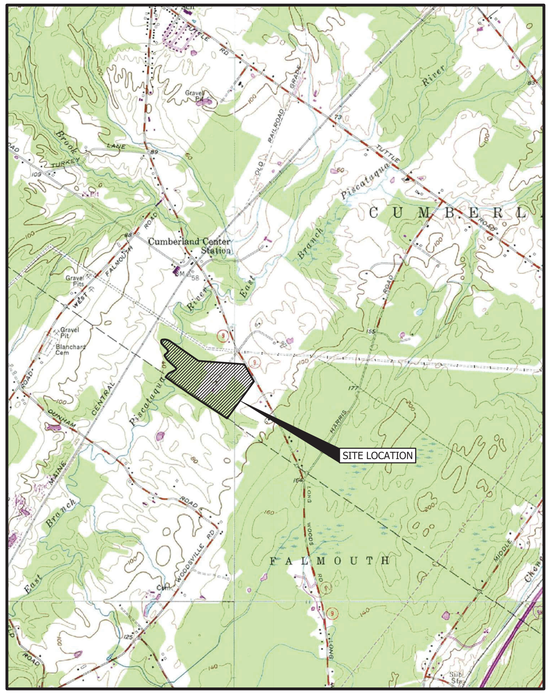
If Holder does not notify Landowner that an inspection or test is unsatisfactory within the thirty (30) day time period set forth above, this contingency shall be deemed to have been waived by Holder with respect to that inspection or test.

8. **Risk of Loss:** Until the closing, the risk of loss or damage to the Property or destruction of the Property by fire or otherwise is assumed solely by Landowner. The Property shall at closing be in substantially the same condition as at present, excepting reasonable use and wear. Prior to closing Landowner shall keep the Property insured against fire and other extended casualty risks. If the Property is damaged or destroyed prior to closing, Holder may revoke its Notice of Intent to Purchase or close this transaction and accept the Property "as is" together with the assignment of the insurance proceeds relating thereto.

SYNERGOSITY, LLC
THE GRANGE HALL PUB AT LONGWOODS PRESERVE
CUMBERLAND, MAINE

TITLE	DWG NO
COVER SHEET	
GENERAL NOTES, LEGEND, AND ABBREVIATIONS	C-100
EXISTING CONDITIONS AND CLEARING PLAN	C-101
SITE OVERVIEW PLAN	C-102
SITE LAYOUT PLAN	C-103
SITE UTILITY PLAN	C-104
SITE GRADING, DRAINAGE, AND EROSION CONTROL PLAN	C-105
ACCESS DRIVE PLAN AND PROFILE	C-200
EROSION CONTROL NOTES AND DETAILS	C-300
SECTIONS AND DETAILS	C-301
SECTIONS AND DETAILS	C-302
SECTIONS AND DETAILS	C-303
STORMWATER MANAGEMENT PLAN PRE-DEVELOPMENT CONDITIONS	D-100
STORMWATER MANAGEMENT PLAN POST DEVELOPMENT CONDITIONS	D-101
EXISTING CONDITIONS SURVEY	1

LOCATION MAP



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STATE OF MAINE
DANIEL P. DIFFIN
11841
LICENSED
PROFESSIONAL ENGINEER
2022

GENERAL SITE NOTES:

1. BASE MAP FROM PLAN TITLED "EXISTING CONDITIONS SURVEY FOR ALEXANDER TIMPSON OF 76 LONGWOODS ROAD CUMBERLAND MAINE" PREPARED BY BOUNDARY POINTS PROFESSIONAL LAND SURVEYING, LLC, DATED 8-31-2021.
2. EXISTING WETLANDS DELINEATED BY COPPI ENVIRONMENTAL, LLC, DATED 4/11/2022.
3. PORTIONS OF THE PROPERTY, OUTSIDE OF THE DEVELOPMENT AREA, ARE MAPPED WITHIN FLOOD ZONE A (AREAS OF 100-YEAR FLOOD) PER FEMA FLOOD MAP PANEL 2301620015B, EFFECTIVE DATE MAY 19, 1981.
4. STANDARD PRACTICE DICTATES THAT PLANS COMPILED IN THIS MANNER SHOULD BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER. THE ACCURACY AND COMPLETENESS OF SUBSURFACE INFORMATION IS NOT GUARANTEED. VERIFY SITE CONDITIONS INCLUDING TEST PITS FOR LOCATIONS AND INVERTS OF UTILITIES AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING WITH THAT PORTION OF WORK.
5. ALL SITE AND CONSTRUCTION ACTIVITIES SHALL BE IN COMPLIANCE WITH MAINE EROSION AND SEDIMENT CONTROL PRACTICES FIELD GUIDE FOR CONTRACTORS, AND EXISTING FEDERAL, STATE, AND LOCAL PERMITS AND PERMITTING REQUIREMENTS FOR THE SITE.
6. PAVEMENT EDGES SHALL BE TRUE TO LINE. SAWCUT EXISTING PAVEMENT IN SMOOTH STRAIGHT LINE WHERE NEW PAVEMENT JOINS. PROVIDE TACK COAT LAYER IF SPECIFIED.

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 MAIN 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 N.A.D. GRID NORTH 1983 LOCATED IN THE WEST ZONE.
9. THE PROPERTY SURVEYED IS DESCRIBED IN A DEED TO DANIEL VILLACI DATED 5-13-2002 BOOK 17630, PAGE 14 AND 16 RECORDED IN THE LOCAL REGISTRY OF DEEDS.
10. THE PROPERTY IS DEPICTED ON THE TOWN ASSESSOR'S MAP R3 AS LOTS 6A AND 13.

GRADING NOTES:

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

UTILITY NOTES:

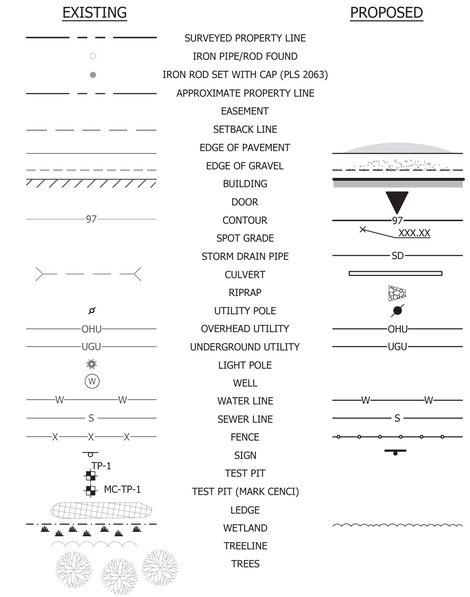
1. THE ACCURACY AND COMPLETENESS OF SUBSURFACE INFORMATION IS NOT GUARANTEED. VERIFY SITE CONDITIONS INCLUDING TEST PITS FOR LOCATIONS AND INVERTS OF UTILITIES AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING WITH THAT PORTION OF THE WORK.
2. COORDINATE WORK ON UTILITY LINES OR WITHIN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

DIG SAFE NOTES:

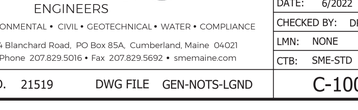
PRIOR TO EXCAVATION, VERIFY THE UNDERGROUND UTILITIES, PIPES, STRUCTURES AND FACILITIES. PROVIDE THE FOLLOWING MINIMUM MEASURES:

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

LEGEND



EROSION CONTROL LEGEND



TYPICAL ABBREVIATIONS:

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

REV.	BY	DATE	STATUS
	JTR	6/2022	ISSUED FOR TOWN REVIEW

STATE OF MAINE — DANIEL P. DIFFIN — 11841 — LICENSED PROFESSIONAL ENGINEER — 2022

SYNERGOSITY, LLC
THE GRANGE HALL PUB AT
LONGWOODS PRESERVE
CUMBERLAND, MAINE

GENERAL NOTES, LEGEND, AND ABBREVIATIONS

SME
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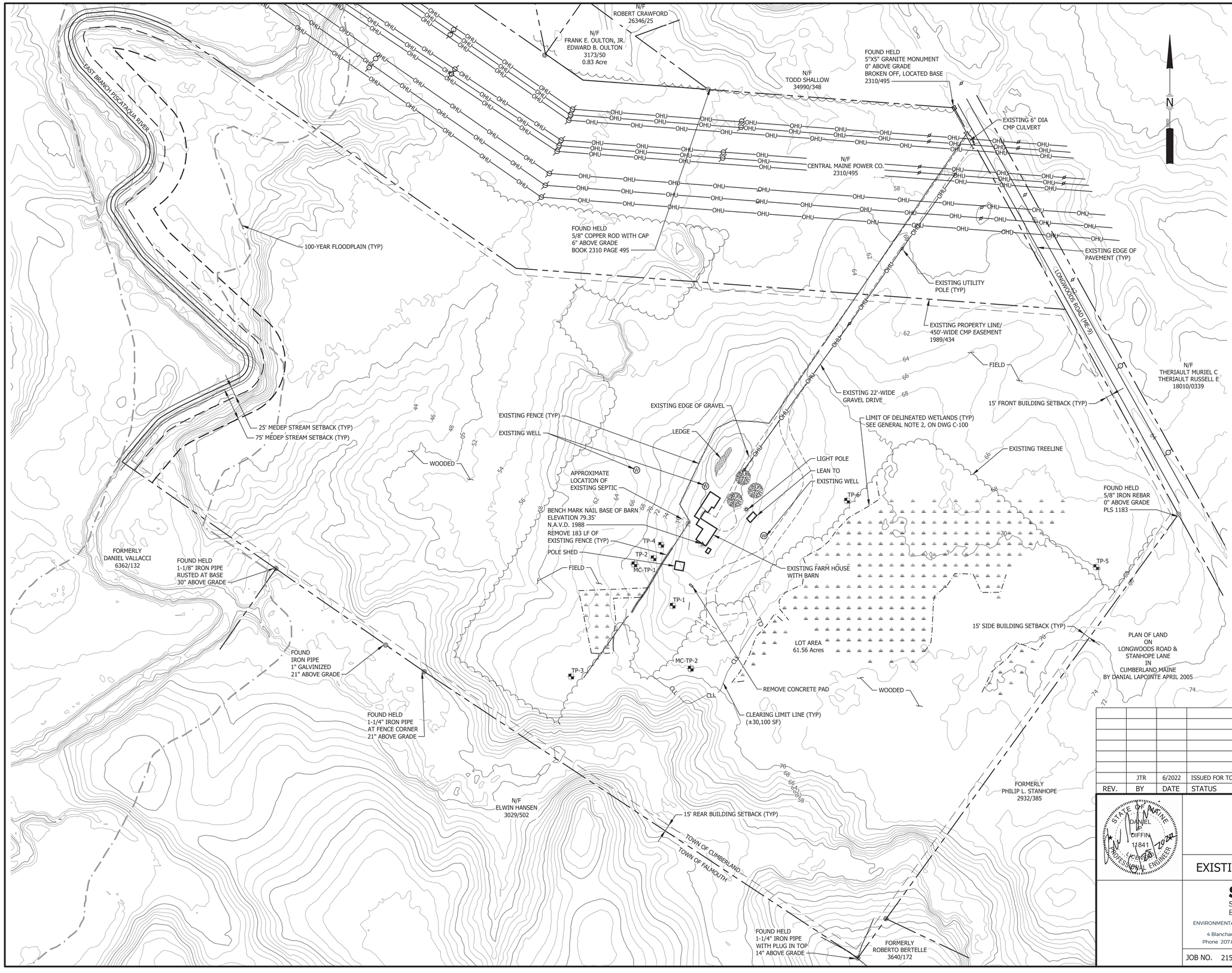
Phone 207.829.5016 • Fax 207.829.5692 • smemaine.com

DESIGN BY:	BB
DRAWN BY:	SJM
DATE:	6/2022
CHECKED BY:	DPD
LMN:	NONE
CTB:	SME-STD

JOB NO. 21519 DWG FILE GEN-NOTS-LGND C-100



NOTE:
SEE DRAWING C-100 FOR GENERAL SITE NOTES AND PLAN REFERENCES.

REV.	BY	DATE	STATUS
	JTR	6/2022	ISSUED FOR TOWN REVIEW

STATE OF MAINE
DANIEL P. DIFFIN
11841
LICENSED
PROFESSIONAL ENGINEER
2022

SYNERGOSITY, LLC
THE GRANGE HALL PUB AT LONGWOODS PRESERVE
CUMBERLAND, MAINE

EXISTING CONDITIONS AND CLEARING PLAN

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LMN:	EXCON
CTB:	SME-STD

JOB NO. 21519 DWG FILE BASE

C-101

ZONING NOTES:

1. PROJECT INFORMATION:

   ADDRESS: 76 LONGWOODS ROAD
   CUMBERLAND, MAINE

   APPLICANT/OWNER: SYNERGOSITY, LLC

   PROJECT: THE GRANGE HALL PUB AT LONGWOODS PRESERVE

2. ZONING DISTRICT: RURAL RESIDENTIAL 1 (RR1)
   (CONTRACT ZONE)

3. PROPOSED USE: RESTAURANT, FARM-BASED SPECIAL EVENTS, AND CONSERVATION EASEMENT

4. DIMENSIONAL STANDARDS (CZA ZONE):

	REQUIRED	PROPOSED
MIN LOT SIZE:	2 ACRES	±6.5 ACRES
MIN ROAD LENGTH:	NONE	±1300 FT
SETBACKS:		
FRONT:	15'	>15'
SIDE:	15'	>15'
REAR:	15'	>15'
MIN LOT FRONTAGE:	200'	>200'
MAX BUILDING HEIGHT:	40'	28.5'

5. PARCEL ID: MAP R03/LOTS 6A AND 13

6. PROPOSED IMPERVIOUS AREAS: 41,355 SF (0.95 ACRES)

7. ALL PROJECT WORK LOCATED OUTSIDE OF THE 100-YEAR FLOOD ZONE.

8. PARKING SUMMARY: 1 PARKING SPACE PER 3 SEATS
   120 SEATS/3 = 40 SPACES
   3 ADDITIONAL SPACES FOR UP TO 9 EMPLOYEES
   16 ADDITIONAL SPACES FOR PUBLIC TRAIL USE

REQUIRED	PROPOSED
40 SPACES	43 SPACES

9. WETLANDS WILL BE IMPACTED FOR THE PROPOSED PROJECT: ±350 SF

10. OUTSIDE AGENCY APPROVALS:

    MEDEP: STORMWATER PERMIT-BY-RULE
    MEDOT: DRIVEWAY ENTRANCE PERMIT

11. UTILITIES:

    WATER - PRIMARY WELL
    SEWER - PRIVATE SEPTIC SYSTEM
    POWER - CENTRAL MAINE POWER

NOTES:
1. SEE DRAWING C-100 FOR GENERAL SITE NOTES AND PLAN REFERENCES.
2. AERIAL PHOTO FROM GOOGLE EARTH, DATED 5/4/2018.
3. THE CONCEPTUAL TRAIL SYSTEM WILL BE LOCATED IN THE FIELD BY THE CHEBEAGUE AND CUMBERLAND LAND TRUST IN COORDINATION WITH SYNERGOSITY TRAILS WILL BE FOOT PATHS.

50 0 100 200 FEET

REV.	BY	DATE	STATUS
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SYNERGOSITY, LLC
THE GRANGE HALL PUB AT LONGWOODS PRESERVE
CUMBERLAND, MAINE

SITE OVERVIEW PLAN

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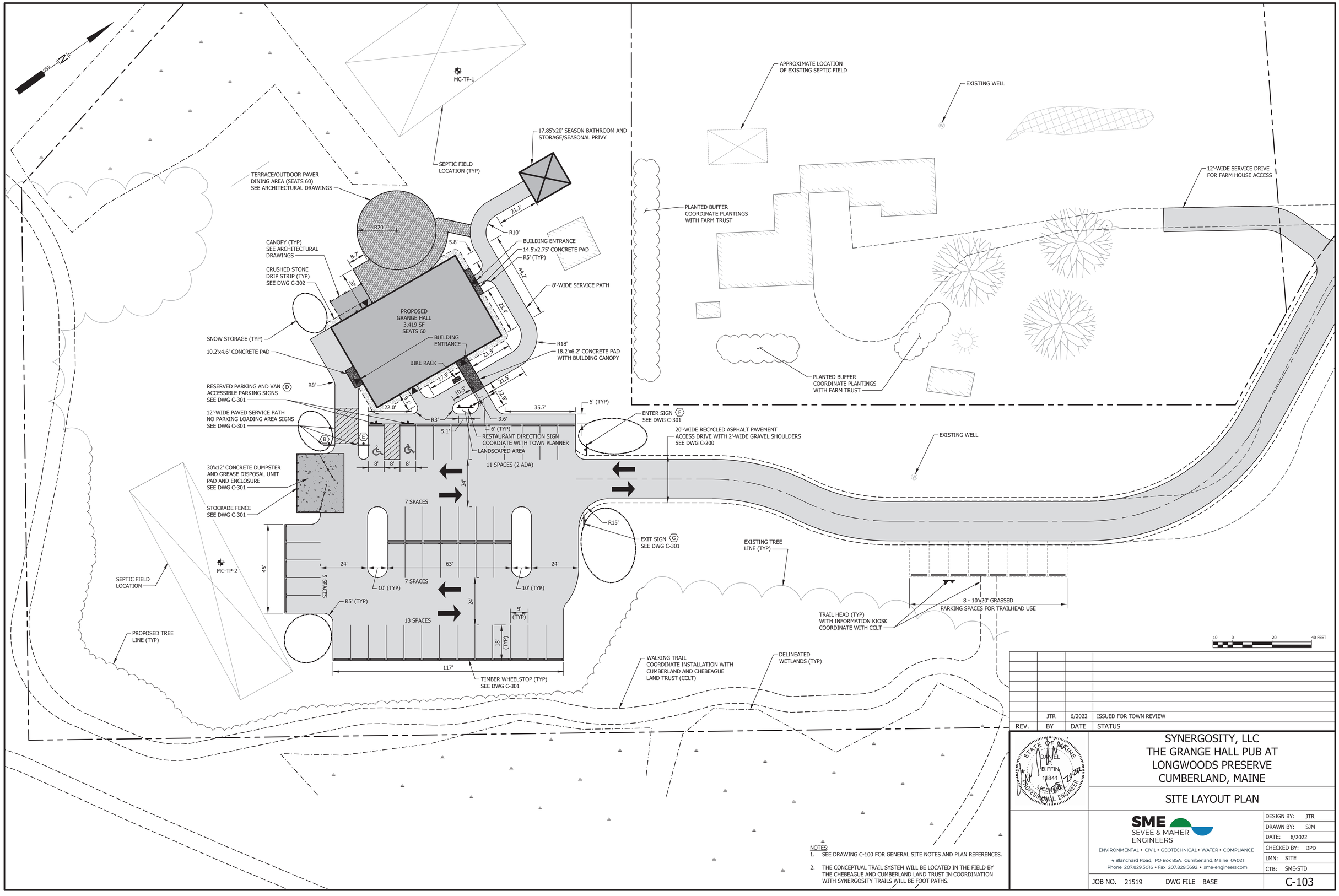
LMN:	SITE-OVER
CTB:	SME-STD

JOB NO. 21519 DWG FILE BASE

C-102



NOTES:
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STATE OF MAINE DANIEL P. DIFFIN 11841 LICENSED PROFESSIONAL ENGINEER 2022

SYNERGOSITY, LLC
THE GRANGE HALL PUB AT LONGWOODS PRESERVE
CUMBERLAND, MAINE

SITE LAYOUT PLAN

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LMN:	SITE
CTB:	SME-STD

JOB NO. 21519 DWG FILE BASE

C-103

SEPTIC FIELD A LOCATION
SEE HHE-200 FOR
ADDITIONAL INFORMATION

12-OUTLET DISTRIBUTION BOX
SEE DWG C-303

±9 LF OF 2" DIA FORCEMAIN
MAINTAIN MIN 4' COVER

MC-TP-1

PUMP TANK
SEE DWG C-303

1,000 GALLON
SEPTIC TANK
SEE DWG C-303

PUMP TANK
UNDERGROUND
UTILITY SUPPLY LINE

1,500 GALLON
SEPTIC TANK
SEE C-303

GREASE TRAP
SEE DWG C-303

±50 LF OF 8" DIA PVC
SANITARY SEWER
CLEANOUT

8"x8"x6" WYE WITH CLEANOUT

±59 LF OF 6" DIA PVC
SANITARY SEWER

6" DIA SEWER
INV OUT 71.00

8" DIA SEWER
INV OUT 72.00

SEASONAL BATHROOM
AND STORAGE

2" DIA DI WATER SERVICE
TO SEASONAL BATHROOM

GREASE TRAP
SEE DWG C-303

1,500 GALLON
SEPTIC TANK
SEE C-303

1,000 GALLON
SEPTIC TANK
SEE DWG C-303

PUMP TANK
SEE DWG C-303

8" DIA SEWER
INV OUT 72.08

6" DIA AND 2" DIA
WATER SERVICE
INV 72.50

GRANGE HALL
3,419 SF

NEW UNDERGROUND ELECTRIC
SERVICE AND TRANSFORMER
COORDINATE WITH CENTRAL
MAIN POWER (CMP)

±65 LF OF 2" DIA FORCEMAIN
MAINTAIN MIN 4' COVER

8-OUTLET
DISTRIBUTION BOX
SEE DWG C-303

PUMP TANK UNDERGROUND
UTILITY SUPPLY LINE

MC-TP-2

SEPTIC FIELD B LOCATION
SEE HHE-200 FOR
ADDITIONAL INFORMATION

LIGHT POLE WITH DUAL FIXTURES (TYP)
COORDINATE WITH ELECTRICAL PLAN

APPROXIMATE LOCATION
OF EXISTING SEPTIC

LOCATION OF
EXISTING WELL (TYP)

UTILITY CONNECTION DROP
FROM EXISTING UTILITY POLE
COORDINATE WITH CENTRAL
MAIN POWER (CMP)

PROTECT EXISTING
TREES DURING
CONSTRUCTION (TYP)
SEE DWG C-302

SPLICE BOX (TYP)
COORDINATE WITH CMP
SEE DWG C-302

5' MIN SEPARATION
FROM TREE (TYP)

RESTORE GRAVEL TO MATCH
EXISTING CONDITIONS AFTER
CONSTRUCTION

UNDERGROUND UTILITY (TYP)

6" DIA DI WATER SERVICE
FROM EXISTING WELL
SEE WATER REPORT FOR
ADDITIONAL INFORMATION

NOTE:
SEE DRAWING C-100 FOR GENERAL SITE NOTES AND PLAN REFERENCES.

10 0 20 40 FEET

REV.	BY	DATE	STATUS
	JTR	6/2022	ISSUED FOR TOWN REVIEW

STATE OF MAINE
DANIEL P. DIFFIN
11841
LICENSED
PROFESSIONAL ENGINEER
6/30/2022

SYNERGOSITY, LLC
THE GRANGE HALL PUB AT LONGWOODS PRESERVE
CUMBERLAND, MAINE

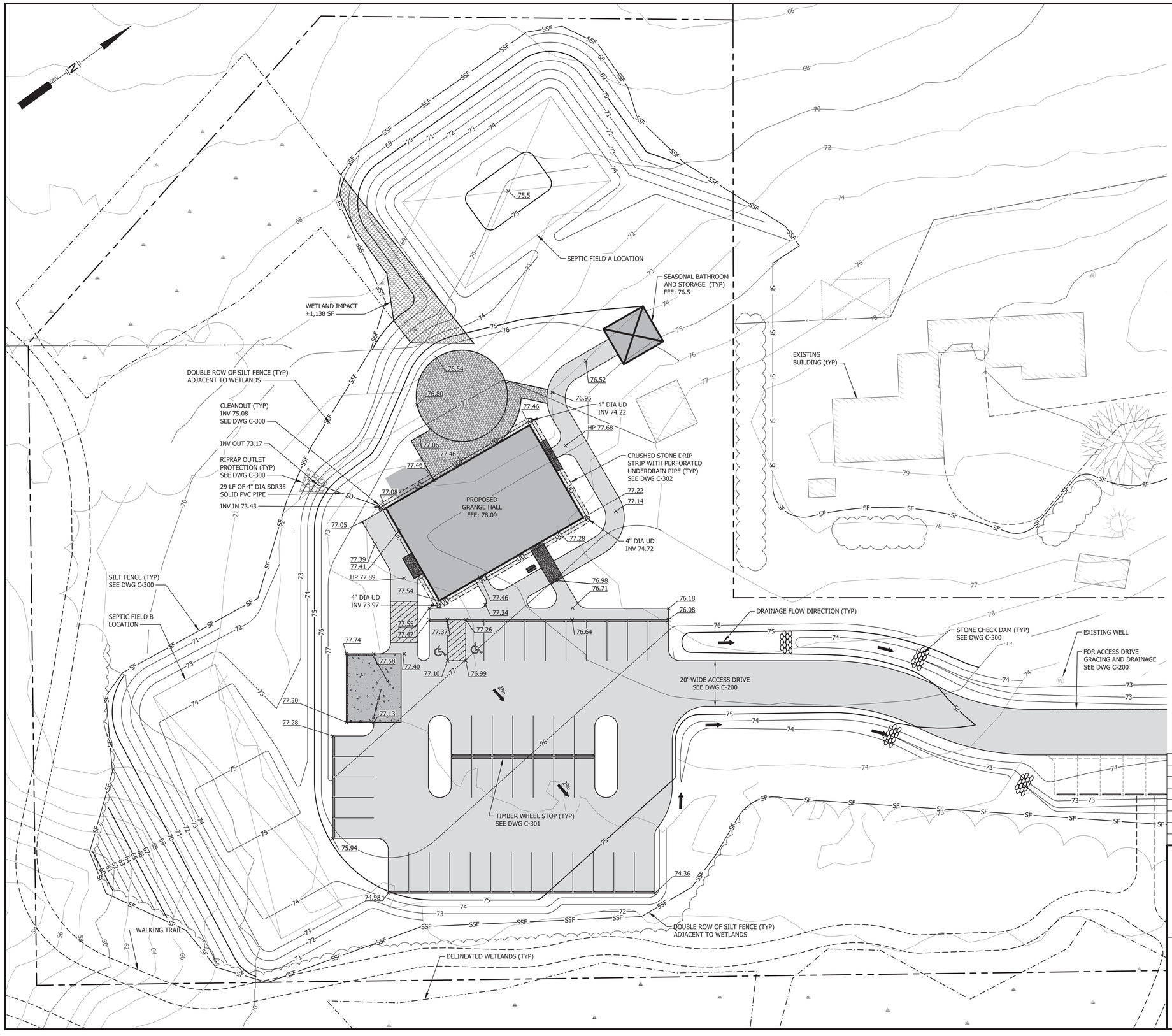
SITE UTILITY PLAN

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

DESIGN BY:	JTR
DRAWN BY:	SJM
DATE:	6/2022
CHECKED BY:	DPD
LMN:	SITE-UTIL
CTB:	SME-STD

JOB NO. 21519 DWG FILE BASE

C-104



NOTES:
1. SEE DRAWING C-100 FOR GENERAL SITE NOTES AND PLAN REFERENCES.
2. TRAIL LOCATIONS ARE CONCEPTUAL AND SUBJECT TO CHANGE.

10 0 20 40 FEET

REV.	BY	DATE	STATUS
	JTR	6/2022	ISSUED FOR TOWN REVIEW

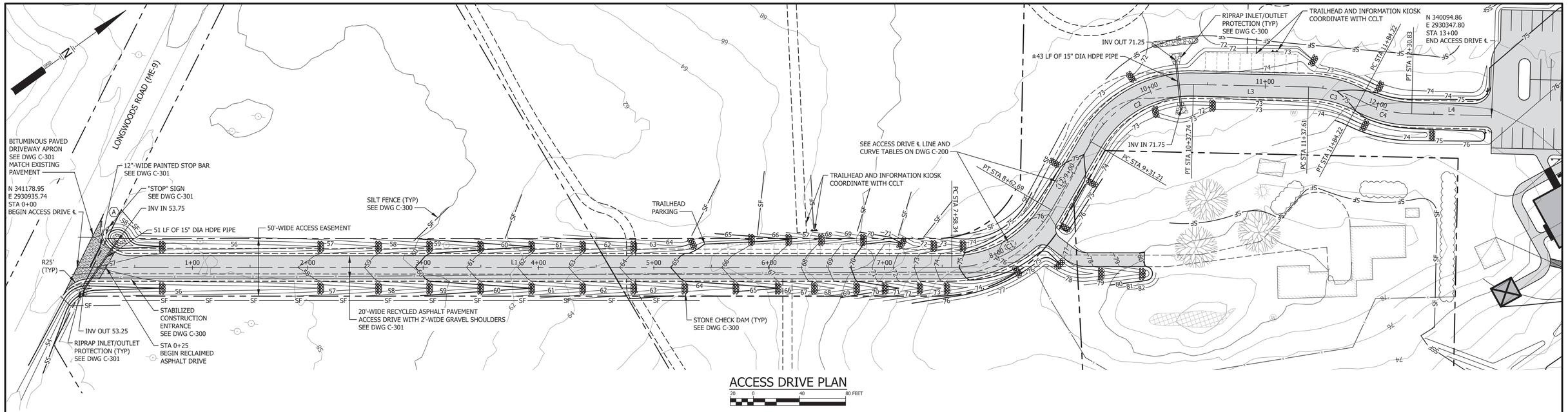
STATE OF MAINE DANIEL P. DIFFIN 11841 LICENSED PROFESSIONAL ENGINEER 7/20/22

SYNERGOSITY, LLC
THE GRANGE HALL PUB AT LONGWOODS PRESERVE
CUMBERLAND, MAINE
SITE GRADING, DRAINAGE, AND EROSION CONTROL PLAN

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

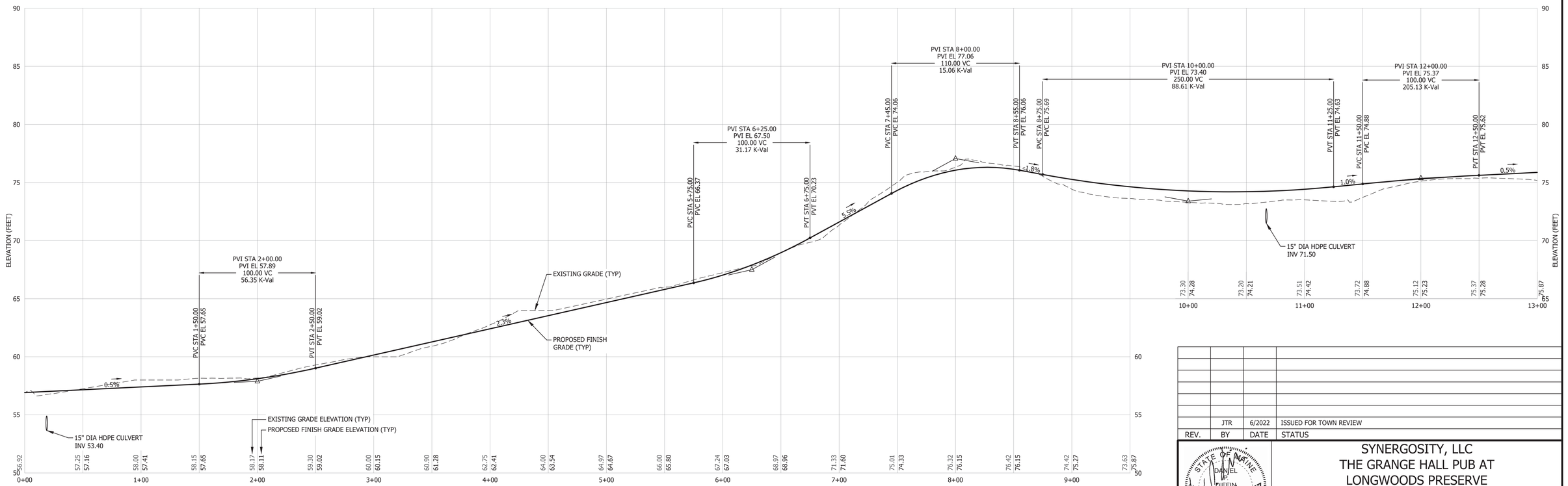
DESIGN BY:	JTR
DRAWN BY:	SJM
DATE:	6/2022
CHECKED BY:	DPD
LMN:	GRAD-EROS
CTB:	SME-STD
JOB NO. 21519	DWG FILE BASE

C-105



ACCESS DRIVE PLAN

20 0 40 80 FEET



ACCESS DRIVE ℄ LINE AND CURVE TABLES

LINE	BEARING	DISTANCE
L1	N 34°35'49" E	758.34'
L2	N 25°11'35" W	68.52'
L3	N 35°50'50" E	99.87'
L4	N 35°50'50" E	69.17'

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	100.00'	104.35'	99.68'	N 04°42'07" E	59°47'24"
C2	100.00'	106.54'	101.57'	N 05°19'37" E	61°02'25"
C3	100.00'	46.61'	46.19'	S 49°12'00" W	26°42'20"
C4	100.00'	46.61'	46.19'	N 49°12'00" E	26°42'20"

ACCESS DRIVE PLAN

20 0 40 80 FEET (HORZ)
2 0 4 8 FEET (VERT)

NOTES:
1. SEE DRAWING C-100 FOR GENERAL SITE NOTES AND PLAN REFERENCES.
2. TRAIL LOCATIONS ARE CONCEPTUAL AND SUBJECT TO CHANGE.

REV.	BY	DATE	STATUS
	JTR	6/2022	ISSUED FOR TOWN REVIEW

STATE OF MAINE DANIEL P. DIFFIN 11841 LICENSED PROFESSIONAL ENGINEER 6/30/2022

SYNERGOSITY, LLC
THE GRANGE HALL PUB AT LONGWOODS PRESERVE
CUMBERLAND, MAINE

ACCESS DRIVE PLAN AND PROFILE

SME
SEVEE & MAHER ENGINEERS
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
4 Blanchard Road, PO Box 85A, Cumberland, Maine 04021
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DESIGN BY:	JTR
DRAWN BY:	SJM
DATE:	6/2022
CHECKED BY:	DPD
LMN:	PLAN-PROF
CTB:	SME-STD

JOB NO. 21519 DWG FILE BASE

C-200

EROSION CONTROL NOTES:

A. GENERAL

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

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

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

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

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

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

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

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

B. TEMPORARY MEASURES

1. STABILIZED CONSTRUCTION ENTRANCE/EXIT

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

2. SILT FENCE

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

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

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

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

3. STONE CHECK DAMS

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

4. EROSION CONTROL MIX SEDIMENT BARRIER

   a. It may be necessary to cut, pack down, or remove tall grasses, brush, or woody vegetation to avoid voids and bridges that allow the washing away of fine soil particles.

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

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

5. TEMPORARY SEEDING

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

   TEMPORARY SEEDING SPECIFICATIONS

Mixture:	Application Rate (lbs/acre)
Winter Rye	112
Oats	80
Annual Ryegrass	40
Perennial Ryegrass	40
Perennial Ryegrass	40

6. TEMPORARY MULCHING

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

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

   The following materials may be used for temporary mulch:

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

   b. Erosion Control Mix: It can be used as a stand-alone reinforcement:
      - 2-inches thick for slopes flatter than 3H:1V;
      - 4-inches thick for slopes greater than 3H:1V;
      - on slopes 2 horizontal to 1 vertical or less;
      - on frozen ground or forested areas; and
      - at the edge of gravel parking areas and areas under construction.

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

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

   e. Erosion Control Blankets and Mats: Mats are manufactured combinations of mulch and netting designed to retain soil moisture and modify soil temperature. During the growing season (April 15th to November 1st) use mats indicated on drawings or North American Green (NAG) S75 (or mulch and netting) on:
      - the base of grassed waterways;
      - steep slopes (15 percent or greater); and
      - any disturbed soil within 100 feet of lakes, streams, or wetlands.

   During the late fall and winter (November 1st to April 15th) use heavy grade mats indicated on drawings for NAG SC250 on all areas noted above plus use lighter grade mats NAG S75 (or mulch and netting) on:
      - sideslopes of grassed waterways; and moderate slopes (between 8 and 15 percent).

C. TEMPORARY DUST CONTROL

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

D. CONSTRUCTION DE-WATERING

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

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

E. PERMANENT MEASURES

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

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

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

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

   PERMANENT SEEDING SPECIFICATIONS

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

   b. Mulch in accordance with specifications for temporary mulching.

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

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

F. WINTER CONSTRUCTION AND STABILIZATION

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

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

3. Mulching:

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

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

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

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

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

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

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

G. OVER-WINTER CONSTRUCTION EROSION CONTROL MEASURES

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

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

   a. Stabilize the soil with temporary vegetation and erosion control mesh.
   b. Stabilize the slope with erosion control mix.
   c. Stabilize the slope with stone riprap.
   d. Slopes steeper than 1.5:1 are prohibited.

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

H. MAINTENANCE PLAN

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

I. Housekeeping

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

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

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

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

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

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

   (a) Discharges from firefighting activity;

   (b) Fire hydrant flushings;

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

   (d) Dust control runoff in accordance with permit conditions and section I3;

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

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

   (g) Uncontaminated air conditioning or compressor condensate;

   (h) Uncontaminated groundwater or spring water;

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

   (j) Uncontaminated excavation dewatering (see requirements in section I5);

   (k) Potable water sources including waterline flushings; and

   (l) Landscape irrigation.

7. Unauthorized non-stormwater discharges. The Department's approval under this Chapter does not authorize a discharge that is mixed with a source of non stormwater, other than those discharges in compliance with section 16. Specifically, the Department's approval does not authorize discharges of the following:

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

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

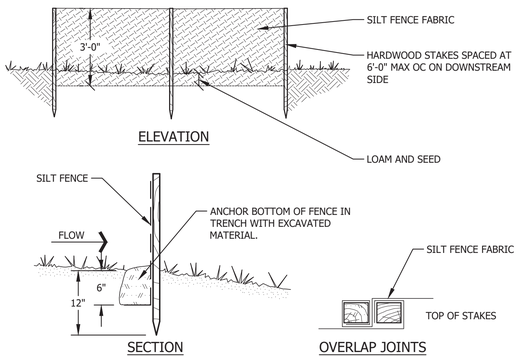
   (c) Soaps, solvents, or detergents used in vehicle and equipment washing; and

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

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

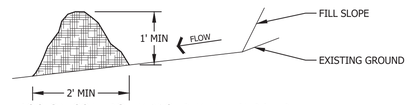
J. CONSTRUCTION SEQUENCE

   In general, the expected sequence of construction for each phase is provided below. Construction is proposed to start in Summer 2022 and end in Spring 2023.
   - Mobilization
   - Install temporary erosion control measures
   - Clearing and grubbing
   - Site Grading
   - Construct buildings
   - Site stabilization, site utilities, construct reclaimed asphalt access road and parking areas, loam and seed, landscaping
   - Remove temporary erosion control measures



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

SILT FENCE



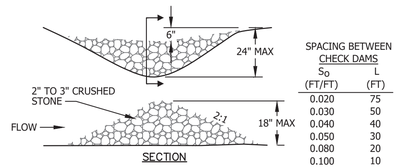
NOTES:

EROSION CONTROL MIX SEDIMENT BARRIER

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

SURFACE DRAINAGE SEDIMENT CONTROL

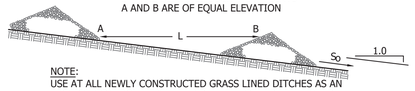
NTS



SPACING BETWEEN CHECK DAMS

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

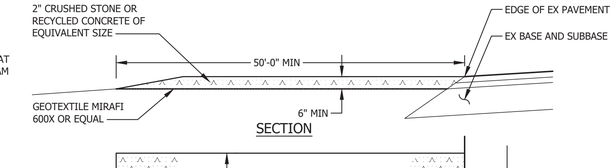
L = THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION



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

STONE CHECK DAM

NTS

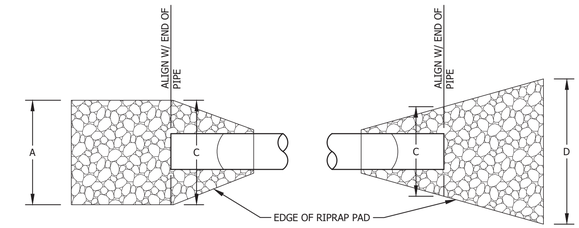


NOTES:

1. MAINTAIN ENTRANCE IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. IF WASHING IS REQUIRED PREVENT SEDIMENT FROM ENTERING WATERWAYS, DITCHES OR STORM DRAINS.
2. REMOVE STABILIZED CONSTRUCTION ENTRANCE TO FINISH ROAD CONSTRUCTION & PAVEMENT.

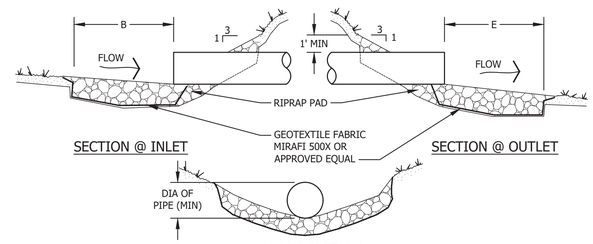
STABILIZED CONSTRUCTION ENTRANCE DETAIL

NTS



PLAN @ INLET

PLAN @ OUTLET



SECTION @ INLET

SECTION @ OUTLET

CROSS SECTION

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

PIPE	A	B	C	D	E	PAD DEPTH	D_{50}
12"~	3 FT.	2 FT.	3 FT.	9 FT.	8 FT.	6"	6"
15"~	3.75 FT.	2.5 FT.	3.75 FT.	11.5 FT.	10 FT.	6"	6"

PIPE INLET/OUTLET DETAILS

NTS

REV.	BY	DATE	STATUS
	JTR	6/2022	ISSUED FOR TOWN REVIEW

STATE OF MAINE — DANIEL P. DIFFIN — 11841 — LICENSED PROFESSIONAL ENGINEER

SYNERGOSITY, LLC
THE GRANGE HALL PUB AT LONGWOODS PRESERVE
CUMBERLAND, MAINE

EROSION CONTROL NOTES AND DETAILS

SME
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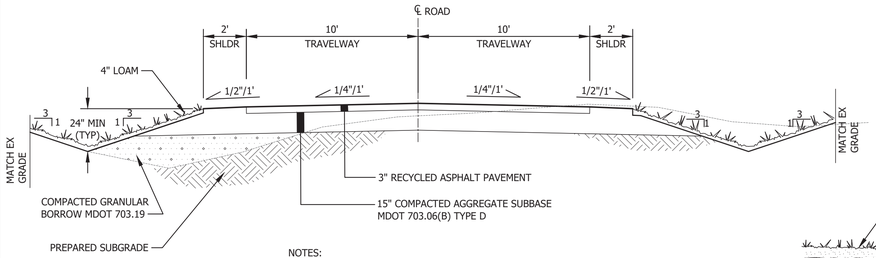
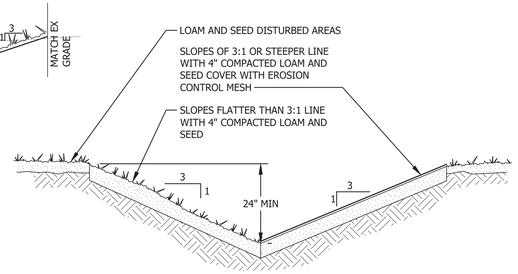
DESIGN BY:	BB
DRAWN BY:	SJM
DATE:	12/2021
CHECKED BY:	DPD
LMN:	NONE
CTB:	SME-STD
JOB NO. 21519	DWG FILE DETAILS
	C-300

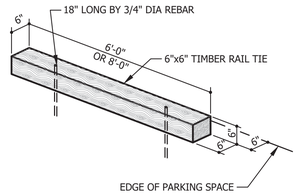


NOTES:
1. HMA = HOT MIX ASPHALT.
2. LOAM ALL SIDE SLOPES WITH 4" OF LOAM. SEED AS SOON AS POSSIBLE. PROTECT SIDE SLOPES FROM EROSION AS NEEDED OR AS DIRECTED BY ENGINEER.
3. BACKSLOPES TO BE 3:1 TO MATCH EXISTING GRADES IN BOTH CUTS AND FILLS UNLESS OTHERWISE INDICATED.
4. BACKSLOPE TO BE 2:1 IN ROCK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

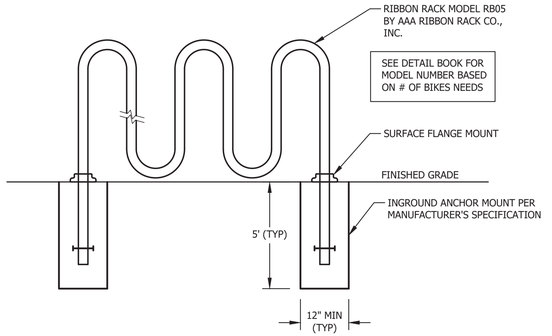
TYPICAL ROAD SECTION
NTS



GRASS DITCH SECTION
NTS



TIMBER WHEELSTOP
NTS

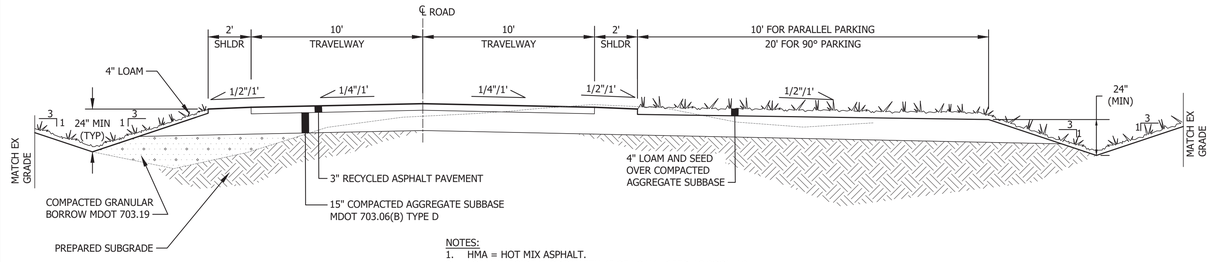


BIKE RACK DETAIL
NTS

CONSTRUCTION	USE
3" RECYCLED ASPHALT PAVEMENT 15" COMPACTED AGGREGATE SUBBASE, MDOT 703.06(b) TYPE D COMPACTED SUBGRADE	RECYCLED ASPHALT PAVEMENT ACCESS DRIVE PARKING LOT
1 1/4" HMA MDOT 9.5mm 2 1/4" HMA MDOT 19.0mm 3" COMPACTED AGGREGATE BASE, MDOT 703.06(a) TYPE A 15" COMPACTED AGGREGATE SUBBASE, MDOT 703.06(b) TYPE D COMPACTED SUBGRADE	BITUMINOUS PAVED APRON
3" TOPSOIL, NO STONES OVER 3/4" DIA SEED WITH NEW ENGLAND MEADOW MIX OR APPROVED EQUAL 15" COMPACTED AGGREGATE SUBBASE, MDOT 703.06(b) TYPE D STRIP EXISTING TOPSOIL AND COMPACT SUBGRADE COMPACTED SUBGRADE	GRASS TRAILHEAD PARKING
4" TOPSOIL, NO STONES OVER 3/4" DIA SEED WITH NEW ENGLAND MEADOW MIX OR APPROVED EQUAL. GRANULAR MATERIAL IN FILL AREAS COMPACTED SUBGRADE	GRASS ALL DISTURBED AREAS
1 - 2" LAYER OF HMA MDOT 9.5mm 12" COMPACTED AGGREGATE BASE, MDOT 703.06(a) TYPE A COMPACTED SUBGRADE	BITUMINOUS SIDEWALKS

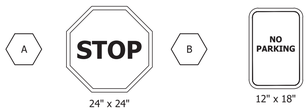
NOTE:
HMA = HOT MIX ASPHALT.
MDOT = MAINE DEPARTMENT OF TRANSPORTATION.

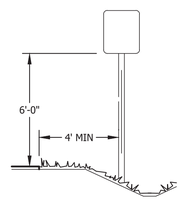
SCHEDULE OF SURFACE FINISHES
NTS



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

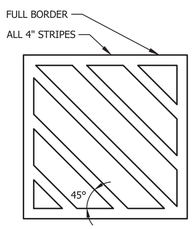
TYPICAL ROAD SECTION WITH GRASSED PARKING
NTS



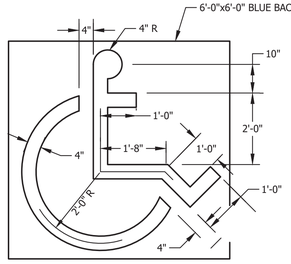


NOTES:
1. SIGNS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, HIGHWAYS AND BRIDGES REVISION OF DECEMBER 2002, SECTION 645.
2. ALL PERMANENT SIGNS ON THIS PROJECT ARE CLASSIFIED UNDER SECTION 645.03(b) TYPE 1 REGULATORY WARNING AND ROUTE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

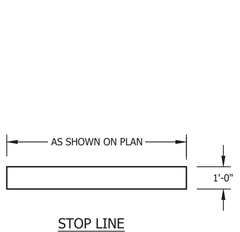
ROAD SIGN LEGEND
NTS



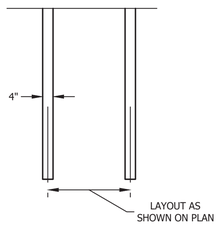
NO PARKING



BARRIER FREE STALL SYMBOL

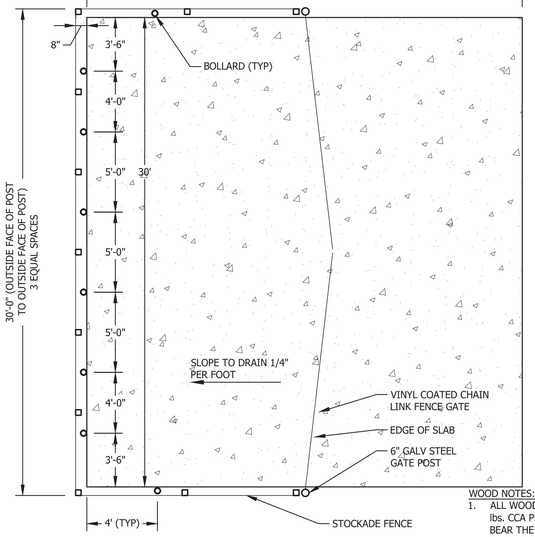


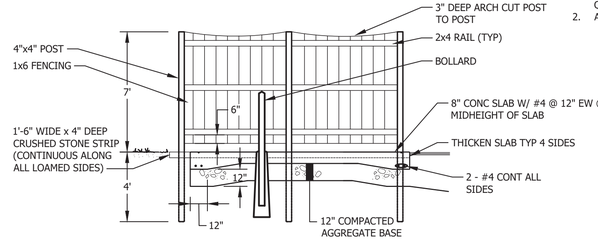
STOP LINE



PARKING SPACE

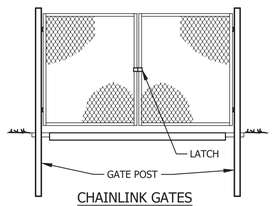
STRIPING DETAILS
NTS



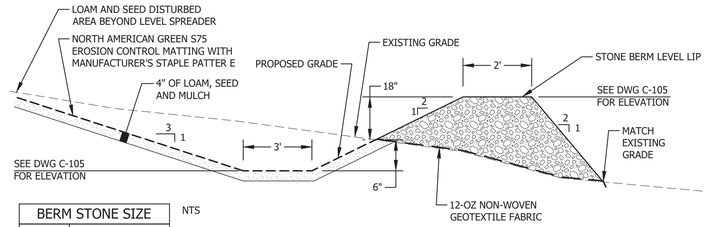


DUMPSTER ENCLOSURE DETAIL
NTS

WOOD NOTES:
1. ALL WOOD TO BE PRESSURE TREATED TO A MIN NET OF .40 lbs. CCA PER CUBIC FOOT OF WOOD AND EACH PIECE SHALL BEAR THE AMERICAN WOOD RESERVER'S ASSOCIATES QUALITY MARK LP-22 "GROUND CONTACT USE"
2. ALL NAILS AND SCREWS TO BE GALVANIZED



CHAINLINK GATES



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

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

LEVEL SPREADER
NTS

REV.	BY	DATE	STATUS
	JTR	6/2022	ISSUED FOR TOWN REVIEW

STATE OF MAINE DANIEL P. DIFFIN 11841 LICENSED PROFESSIONAL ENGINEER 2022

SYNERGOSITY, LLC
THE GRANGE HALL PUB AT LONGWOODS PRESERVE
CUMBERLAND, MAINE

SECTIONS AND DETAILS

SME
SEVEE & MAHER ENGINEERS
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
4 Blanchard Road, PO Box 85A, Cumberland, Maine 04021
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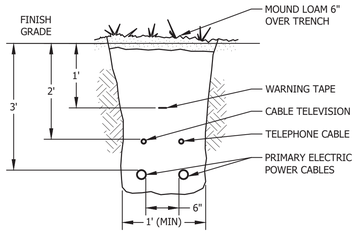
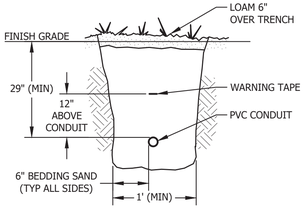
DESIGN BY:	BB
DRAWN BY:	SJM
DATE:	6/2022
CHECKED BY:	DPD
LMN:	NONE
CTB:	SME-STD
JOB NO.	21519
DWG FILE	DETAILS

C-301

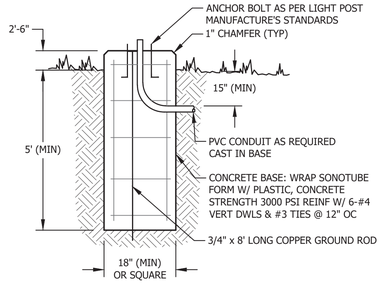


NOTES:
1. SEE CMP CO. STANDARD TRENCH FOR BACKFILL MATERIAL REQUIREMENTS.
2. DIRECT BURY CABLES EXCEPT UNDER PAVED AREAS. PROVIDE SCH. 40 PVC CONDUIT UNDER PAVED AREAS, EXTEND CONDUIT 5' BEYOND EDGE OF PAVEMENT.
3. COORDINATE FINAL CONDUIT SIZING AND QUANTITY WITH ELECTRICAL DRAWINGS.

UNDERGROUND UTILITY TRENCH
NTS

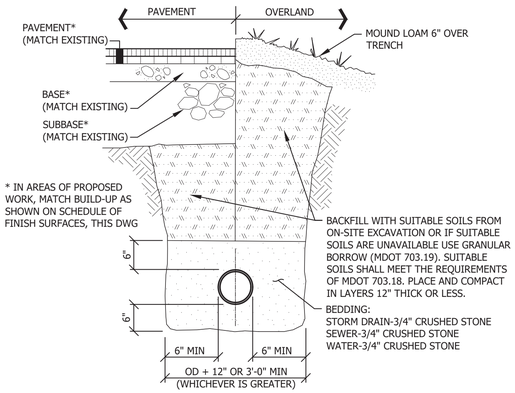


UNDERGROUND LIGHTING CONDUIT
NTS



NOTE:
SEE ELECTRICAL SITE PLAN DETAIL DWG E-002.

LIGHT POLE BASE
NTS

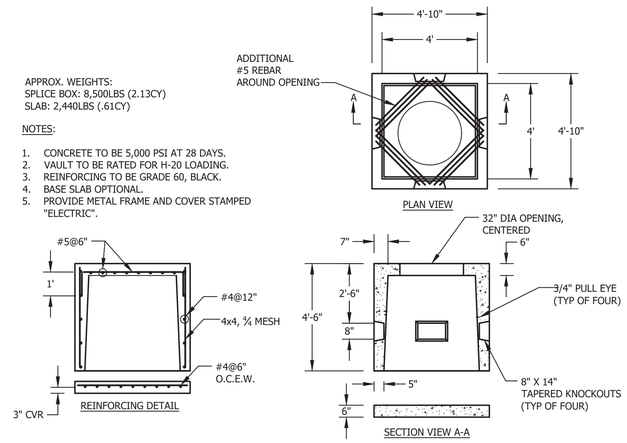


NOTES:
1. ALL JOINTS IN EXISTING PAVEMENT SHALL BE SAWCUT AND TACK-COATED PRIOR TO REPAIR.
2. ALL WORK IN MAIN STREET SHALL MATCH EXISTING PAVEMENT SECTION CONSTRUCTION, INCLUDING MATERIAL TYPES AND THICKNESS. ALL MATERIALS SHALL BE PLACED AND COMPACTED TO CITY SPECIFICATIONS.

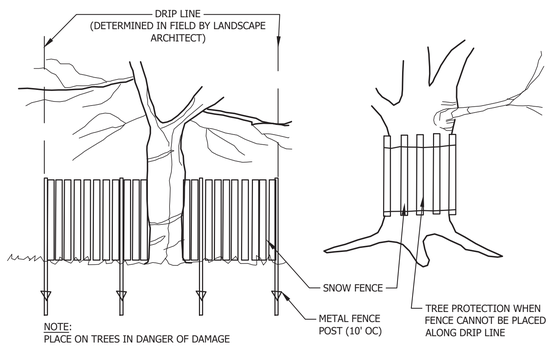
TYPICAL PIPE TRENCH
NTS

APPROX. WEIGHTS:
SPLICE BOX: 8,500LBS (2.13CY)
SLAB: 2,440LBS (.61CY)

NOTES:
1. CONCRETE TO BE 5,000 PSI AT 28 DAYS.
2. VAULT TO BE RATED FOR H-20 LOADING.
3. REINFORCING TO BE GRADE 60, BLACK.
4. BASE SLAB OPTIONAL.
5. PROVIDE METAL FRAME AND COVER STAMPED "ELECTRIC".

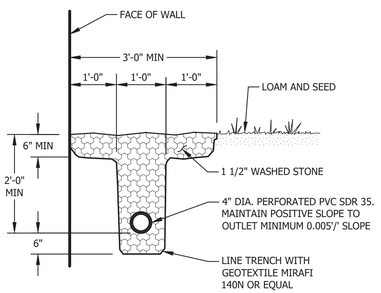


ELECTRICAL SPLICE BOX
NTS



NOTE:
PLACE ON TREES IN DANGER OF DAMAGE FROM CONSTRUCTION EQUIPMENT.

TREE PROTECTION FENCE
NTS



CRUSHED STONE DRIP STRIP
NTS

REV.	BY	DATE	STATUS
	JTR	6/2022	ISSUED FOR TOWN REVIEW

STATE OF MAINE · DANIEL P. DIFFIN · 11841 · LICENSED PROFESSIONAL ENGINEER · 7/20/22

SYNERGOSITY, LLC
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SECTIONS AND DETAILS

SME
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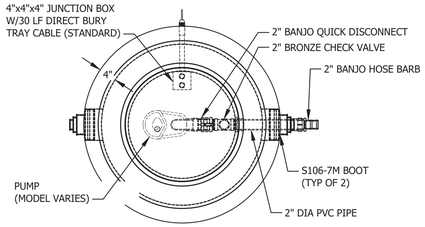
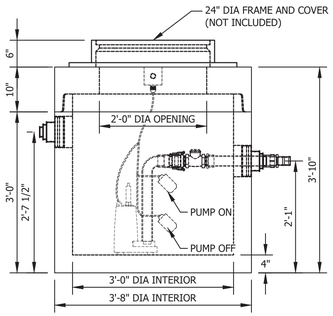
JOB NO. 21519 DWG FILE DETAILS

C-302



PLAN VIEW



ELEVATION VIEW

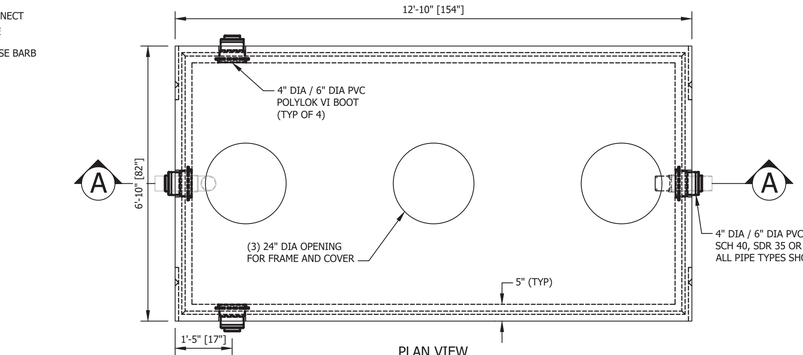
MANUFACTURING NOTES:

1. CONCRETE COMPRESSIVE STRENGTH: 4000PSI @ 28 DAYS
2. AIR ENTRAINMENT: 4-6%
3. GRADE 60 REINFORCEMENT
4. DESIGNED FOR H20 LOAD RATING
5. REQUIRES GRADE RINGS TO GRADE & H20 FRAMES & COVERS
6. ALL TANK PENETRATIONS ARE INTEGRALLY CAST
7. ALL JOINTS SEALED W/ BUTYL RUBBER JOINT SEALANT

PHYSICAL SPECIFICATIONS:
COVER WEIGHT: 645 lbs
BASE WEIGHT: 1,980 lbs
TOTAL WEIGHT: 2,650 lbs
CAPACITY: 52.95 Gal/VF

PUMP TANK

NTS



SECTION A-A

*DIMENSION IS TAKEN FROM BOTTOM OF TANK

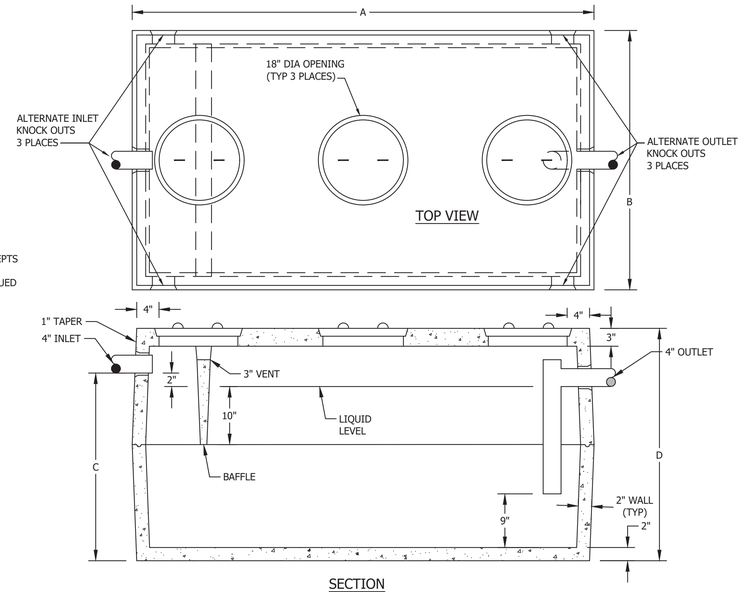
MANUFACTURING NOTES:

1. CONCRETE COMPRESSIVE STRENGTH: 4000PSI @ 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.
6. DESIGNED FOR H20 LOAD RATING.
7. REQUIRES GRADE RINGS TO GRADE AND H20 FRAMES AND COVERS.
8. ALL TANK PENETRATIONS ARE INTEGRALLY CAST.
9. ALL JOINTS SEALED WITH BUTYL RUBBER JOINT SEALANT.

PHYSICAL SPECIFICATIONS:
COVER WEIGHT: 6,995 lbs
BASE WEIGHT: 16,755 lbs
TOTAL WEIGHT: 23,750 lbs
AVAILABLE CAPACITY: 2,067 GAL (MAX)
WORKING CAPACITY : 1,572 GAL (4" DIA PVC)
1,527 GAL (6" DIA PVC)

1,500 GALLON SEPTIC TANK

NTS



SECTION

LIQUID CAPACITY	A	B	C	D	WEIGHT	ITEM #	HEAVY DUTY ITEM #
1000 REG	8'-6"	4'-10"	55 1/2"	64"	8100 LBS	A-902	A-902HD
1000 LB	10'-6"	6'-4"	37 1/2"	48"	10,500 LBS	A-903	A-903HD

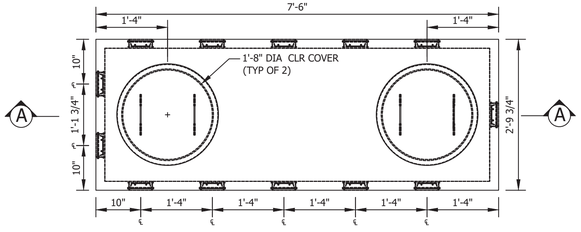
NOTE:
COORDINATE SIZING WITH PLUMBING/MECHANICAL PLANS.

DESIGN NOTES:

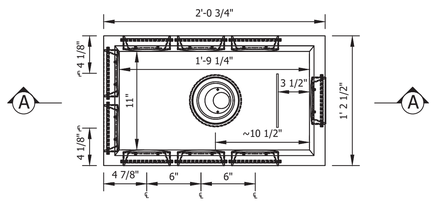
1. CONCRETE 4000 PSI AT 28 DAYS.
2. INLET BAFFLE IS PRECAST AS ONE UNIT WITH THE TOP SECTION OF THE SEPTIC TANK.
3. TANKS REINFORCED WITH 6X6X10 G.A. WIRE.
4. KEYED JOINTS SEALED WITH ASPHALT SEALANT.
5. HEAVY DUTY SEPTIC TANK TOPS REINFORCED WITH 1/2" REBAR ON 6" CENTERS EACH WAY.
6. GREASE FILTER AVAILABLE.

GREASE TRAP

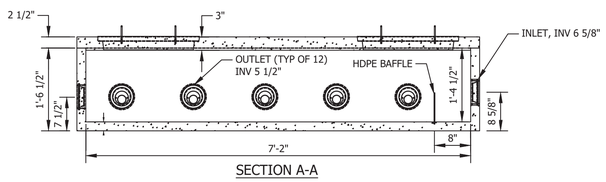
NTS



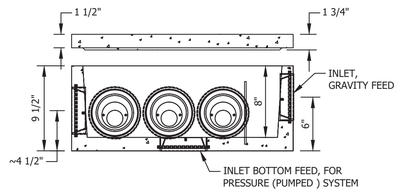
PLAN VIEW



PLAN VIEW
(WITHOUT COVER)



SECTION A-A



SECTION A-A

MANUFACTURING NOTES:

1. CONCRETE COMPRESSIVE STRENGTH: 4000PSI @ 28 DAYS.
2. AIR ENTRAINMENT: 4-6%.
3. GRADE 60 REINFORCEMENT AND STRUCTURAL FIBER REINFORCED.
4. NEVER USE SEPTIC CLEANING AGENTS.
5. DESIGNED FOR PEDESTRIAN LOAD RATING ONLY.
6. ALL PIPE SEAL PENETRATIONS ARE INTEGRALLY CAST.
7. FLOW EQUALIZERS RECOMMENDED FOR EQUAL BED LOADING.

PHYSICAL SPECIFICATIONS:

COVER WEIGHT: 770 lbs
BASE WEIGHT: 1,165 lbs
TOTAL WEIGHT: 1,936 lbs

12-OUTLET DISTRIBUTION BOX

NTS

MANUFACTURING NOTES:

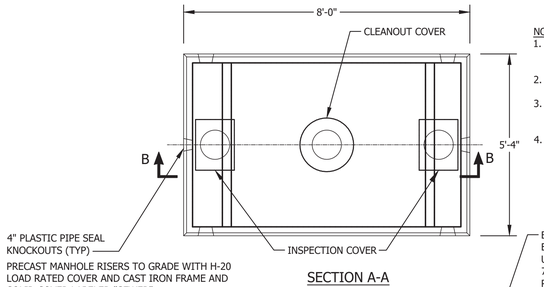
1. CONCRETE COMPRESSIVE STRENGTH: 4000PSI @ 28 DAYS.
2. AIR ENTRAINMENT: 4-6%.
3. GRADE 60 REINFORCEMENT AND STRUCTURAL FIBER REINFORCED.
4. NEVER USE SEPTIC CLEANING AGENTS.
5. DESIGNED FOR PEDESTRIAN LOAD RATING ONLY.
6. ALL PIPE SEAL PENETRATIONS ARE INTEGRALLY CAST.
7. FLOW EQUALIZERS RECOMMENDED FOR EQUAL BED LOADING.

PHYSICAL SPECIFICATIONS:

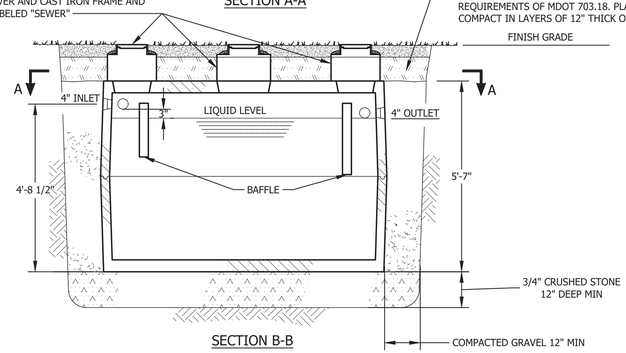
COVER WEIGHT: 53 lbs
BASE WEIGHT: 95 lbs
TOTAL WEIGHT: 148 lbs

8-OUTLET DISTRIBUTION BOX

NTS



SECTION A-A



SECTION B-B

PRECAST CONCRETE SEPTIC TANK

NTS

REV.	BY	DATE	STATUS
	JTR	6/2022	ISSUED FOR TOWN REVIEW

STATE OF MAINE
DANIEL P. DIFFIN
11841
LICENSED
PROFESSIONAL ENGINEER
7-20-22

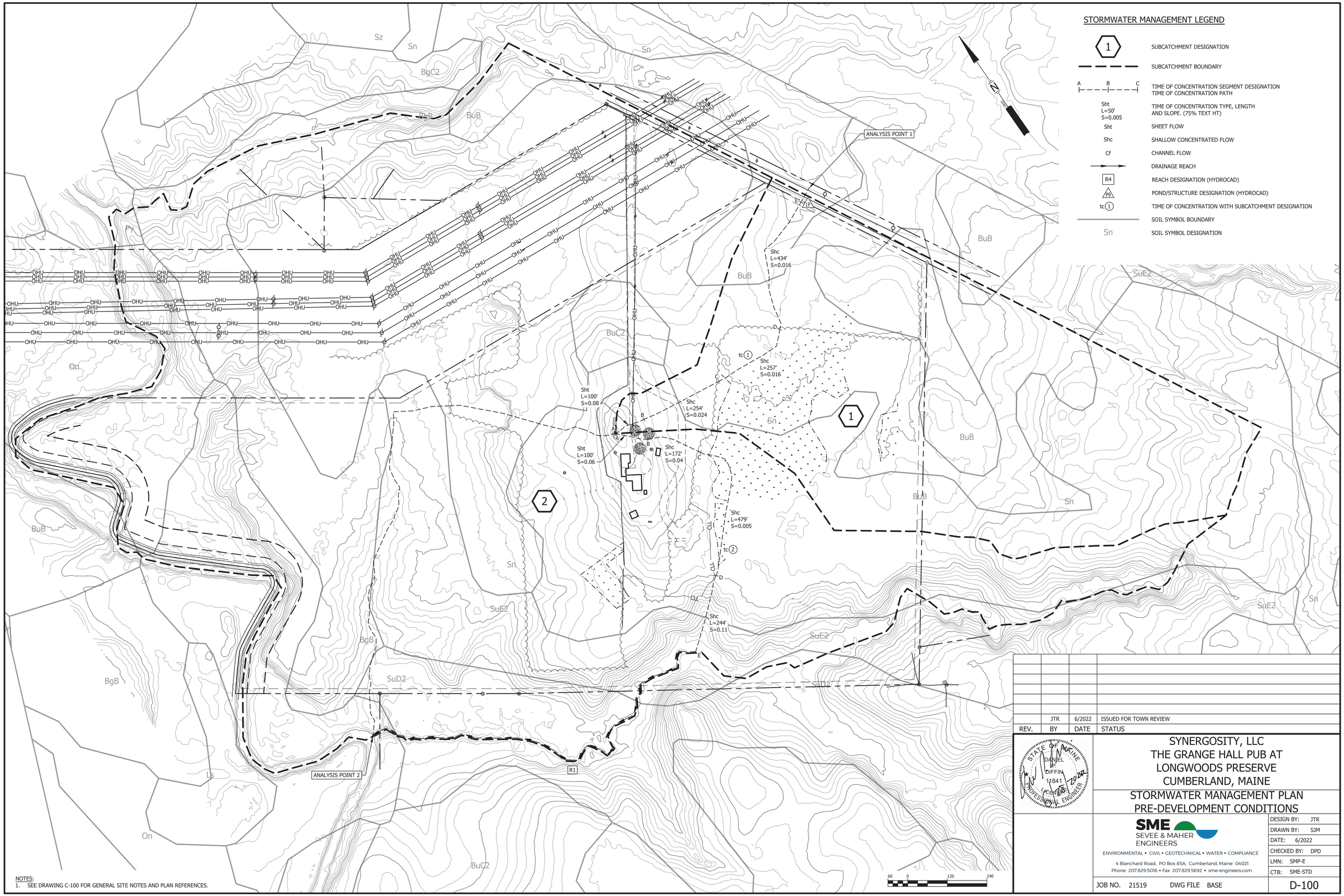
SYNERGOSITY, LLC
THE GRANGE HALL PUB AT
LONGWOODS PRESERVE
CUMBERLAND, MAINE

SECTIONS AND DETAILS

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

DESIGN BY:	BB
DRAWN BY:	SJM
DATE:	6/2022
CHECKED BY:	DPD
LMN:	NONE
CTB:	SME-STD
JOB NO.	21519
DWG FILE	DETAILS

C-303



NOTES:
1. SEE DRAWING C-100 FOR GENERAL SITE NOTES AND PLAN REFERENCES.

REV.	BY	DATE	STATUS
	JTR	6/2022	ISSUED FOR TOWN REVIEW

STATE OF MAINE
DANIEL P. DIFFIN
11841
LICENSED PROFESSIONAL ENGINEER
2022

SYNERGOSITY, LLC
THE GRANGE HALL PUB AT LONGWOODS PRESERVE
CUMBERLAND, MAINE
STORMWATER MANAGEMENT PLAN
PRE-DEVELOPMENT CONDITIONS

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

DESIGN BY:	JTR
DRAWN BY:	SJM
DATE:	6/2022
CHECKED BY:	DPD
LMN:	SMP-E
CTB:	SME-STD

JOB NO. 21519 DWG FILE BASE

D-100

STORMWATER MANAGEMENT LEGEND

- 2 — SUBCATCHMENT DESIGNATION
- SUBCATCHMENT BOUNDARY
- A B C — TIME OF CONCENTRATION SEGMENT DESIGNATION / TIME OF CONCENTRATION PATH
- Sht L=100' S=0.035 — TIME OF CONCENTRATION TYPE, LENGTH AND SLOPE
- Sht — SHEET FLOW
- Shc — SHALLOW CONCENTRATED FLOW
- Cf — CHANNEL FLOW
- DRAINAGE REACH
- R4 — REACH DESIGNATION (HYDROCAD)
- P9 — POND/STRUCTURE DESIGNATION (HYDROCAD)
- tc 2 — TIME OF CONCENTRATION WITH SUBCATCHMENT DESIGNATION
- SOIL SYMBOL BOUNDARY
- Sn — SOIL SYMBOL DESIGNATION

ANALYSIS POINT 1

ANALYSIS POINT 2

SC-1

SC-2

Sht L=100' S=0.02

Shc L=147' S=0.014

Shc L=249' S=0.016

Shc L=14' S=0.01

Shc L=64' S=0.015

Shc L=36' S=0.015

Sht L=100' S=0.06

Shc L=82' S=0.075

Shc L=42' S=0.01

Shc L=449' S=0.05.

Shc L=434' S=0.016

Shc L=243' S=0.11

R1

Sz Sn BgC2 BuB Py On Ls BuC SuE2 SuD2 BgB

NOTES:
1. SEE DRAWING C-100 FOR GENERAL SITE NOTES AND PLAN REFERENCES.
2. THE CONCEPTUAL TRAIL SYSTEM WILL BE LOCATED IN THE FIELD BY THE CHEBEAGUE AND CUMBERLAND LAND TRUST IN COORDINATION WITH SYNERGOSITY TRAILS WILL BE FOOT PATHS.

60 0 120 240

REV.	BY	DATE	STATUS
	JTR	6/2022	ISSUED FOR TOWN REVIEW

STATE OF MAINE DANIEL P. DIFFIN 11841 REGISTERED PROFESSIONAL ENGINEER 6/30/22

SYNERGOSITY, LLC
THE GRANGE HALL PUB AT LONGWOODS PRESERVE
CUMBERLAND, MAINE
STORMWATER MANAGEMENT PLAN
POST DEVELOPMENT CONDITIONS

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

DESIGN BY:	JTR
DRAWN BY:	SJM
DATE:	6/2022
CHECKED BY:	DPD
LMN:	SMP-P
CTB:	SME-STD
JOB NO. 21519	DWG FILE BASE
D-101	

SURVEYOR'S NOTES

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.

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

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

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

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.

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.

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

THE SOURCE OF BEARINGS FOR THIS LAND SURVEY WAS N.A.D. GRID NORTH 1983 LOCATED IN THE WEST ZONE.

THE PROPERTY SURVEYED IS DESCRIBED IN A DEED TO DANIEL VILLACI DATED 5-13-2002 BOOK 17630, PAGE 14 AND 16 RECORDED IN THE LOCAL REGISTRY OF DEEDS.

THE PROPERTY IS DEPICTED ON THE TOWN ASSESSOR'S MAP R3 AS LOTS 6A AND 13.

LEGEND

EXISTING	DESCRIPTION	PROPOSED
	PROPERTY LINE	
	ADJOINER LINE	
	BUILDING SETBACK	
	EASEMENT	
	CENTER LINE	
⊡	MONUMENT	■
◎	IRON PIPE	
◉	IRON ROD	
◎	5/8" IRON REBAR	●
◎	IRON REBAR WITH CAP	
⊕	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	
124	CONTOURS	
W	WATER	
S	SEWER	
SD	STORM DRAIN	
E	ELECTRIC LINES	
	FLAG POLE	
	UTILITY POLE	
W	POTABLE WELL	
	CULVERT	
x	FENCE LINE	
	CONIFEROUS TREE	
	DECIDUOUS TREE	
	TREE STUMP	
	SHRUB BUSHES	
	BENCH MARK	
	SURVEY CONTROL	
	OPUS GPS CONTROL	
	POSSIBLE WELL LOCATION	
+ 24.81	SPOT GRADE ELEVATION	

FORMERLY
DANIEL VALLACCI
BOOK 6362 BOOK 132

FOUND HELD
1-1/8" IRON PIPE
RUSTED AT BASE
30" ABOVE GRADE

N55°12'38"W
437' +-

BOOK 12 BOOK 192

FOUND HELD
1-1/4" IRON PIPE
AT FENCE CORNER
21" ABOVE GRADE

N55°12'38"W
421.76'

FOUND
1" GALVINIZED
IRON PIPE
21" ABOVE GRADE

NOW OR FORMERLY
ELWIN HANSEN
BOOK 3029 BOOK 502

PLAN BOOK 167 PAGE 1

MAGNETIC MERIDIAN 15°03'40" WEST OF GRID
GRID CONVERGENCE WITH TRUE NORTH N 00°03'47" E

EAST BRANCH PISCATAQUA RIVER

1668' +- ALONG CENTER

TIE LINE N04°43'30"W
1162.40'

BOOK 17630 BOOK 14

S55°10'35"E
185' +-

S55°10'35"E
800.00'

NOW OR FORMERLY
CENTRAL MAINE POWER CO.
BOOK 2281 BOOK 494

FOUND HELD
1-1/4" IRON PIPE
WITH PLUG IN TOP
14" ABOVE GRADE

TOWN OF FALMOUTH

TOWN OF CUMBERLAND

N56°33'06"W
1213.64'

TWIN MEADOWS
PLAN BOOK 205 PAGE 688

FORMERLY
ROBERTO BERTELLE
BOOK 3640 BOOK 172

TP-3

TP-1

TP-2

FIELD

WOODED

BOOK 17630 PAGE 16

CONCRETE

POLE SHED

BENCH MARK
NAIL BASE OF
BARN
ELEVATION 79.35'
N.A.V.D. 1988

DRIVE

42"

18"

8"

LEAN TO

WOODED

LOT AREA
61.56 Acres

S35°50'29"W
1278.58'

FORMERLY
PHILIP L. STANHOPE
BOOK 2932 BOOK 385

PLAN OF LAND
ON
LONGWOODS ROAD & STANHOPE LANE
IN
CUMBERLAND MAINE
BY DANIAL LAPOINTE APRIL 2005

C.M.P. EASEMENT
BOOK 1989 PAGE 434

S85°43'08"E
1288.21'

450.00'

NOW OR FORMERLY
CENTRAL MAINE POWER CO.
BOOK 2310 BOOK 495

FIELD

NOW OR FORMERLY
TODD SHALLOW
BOOK 34990 BOOK 348

FOUND HELD
5/8" IRON REBAR
0" ABOVE GRADE
PLS 1183

S28°52'05"E
546.85'

LONGWOODS ROAD STATE ROUTE 9

FOUND HELD
5"X5" GRANITE MONUMENT
0" ABOVE GRADE
BROKEN OFF, LOCATED BASE
BOOK 2310 PAGE 495

PLAN BOOK 198 PAGE 161

N55°10'35"W
106.66'

N35°02'41"E
156.06'

NOW OR FORMERLY
FRANK E. OULTON, JR.
EDWARD B. OULTON
BOOK 3173 BOOK 50
0.83 Acre

N85°43'08"W
293.15'

S53°43'30"E
358.63'

NOW OR FORMERLY
ROBERT CRAWFORD
BOOK 26346 BOOK 25

NOW OR FORMERLY
TODD SHALLOW
BOOK 34990 BOOK 348

FOUND HELD
5/8" COPPER ROD
WITH CAP
6" ABOVE GRADE
BOOK 2310 PAGE 495

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

No.	Revision	Date

Scale: 1" = 100'
Project No: 2021058
AutoCAD Release: 2021
Drawn By: DB
Field Date: 7-28-2021
Plan Date: 8-31-2021

EXISTING CONDITIONS SURVEY
FOR
ALEXANDER TIMPSON
OF
76 LONGWOODS ROAD
CUMBERLAND MAINE

1

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

STATE OF MAINE
DAVID BOUFFARD
2282
PROFESSIONAL LAND SURVEYOR
David Bouffard

Maine Department of Transportation

Janet T. Mills
Governor

Driveway/Entrance Permit

Bruce A. Van Note
Commissioner

Permit Number: 31044 - **Entrance ID:** 1

OWNER

Name: **Alexander Timpson**
Address: **173 Spurwink Road**
Scarborough, ME 04074
Telephone: **(207)415-7273**

Date Printed: **June 29, 2022**

LOCATION

Route: **0009X, Longwoods Road**
Municipality: **Cumberland**
County: **Cumberland**
Tax Map: **R03** Lot Number: **6A and 13**
Culvert Size: **15 inches**
Culvert Type: **plastic**
Culvert Length: **40 feet**
Date of Permit: **June 29, 2022**
Approved Entrance Width: **20 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 **Restaurant, farmers market, gathering hall, and access to public trail.** at a point **3667** feet **North** from **Townline Falmouth/Cumberland,** 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: 43.769321N, -70.249277W.

S - This entrance permit is for a 120 seat Fine Dining Restaurant (LUC 931) and a 55 acre Public Park (LUC 411).

S - In the town of Cumberland on the easterly side of Route 9, the centerline being approximately 3667 feet northeasterly of the Falmouth/Cumberland Townline and approximately 30 feet northeasterly of utility pole 37.

Approved by: Van Fall Date: 6-29-2022

STANDARD CONDITIONS AND APPROVAL

1. Provide, erect and maintain all necessary barricades, lights, warning signs and other devices as directed by MaineDOT to properly safeguard traffic while the construction is in progress.

2. At no time cause the highway to be closed to traffic

3. Where the driveway is located within a curb, curb and gutter, and/or sidewalk section, completely remove the existing curb, curb and gutter, and/or sidewalk as may be required to create the driveway and restore drainage. All driveways abutting sidewalk sections shall meet the requirements set forth in the Americans with Disabilities Act of 1990, 42 U.S.C. Sec. 12131 et seq.

4. Obtain, have delivered to the site, and install any culverts and/or drainage structures which may be necessary for drainage, the size, type and length as called for in the permit pursuant to 23 M.R.S.A. Sec. 705. All culverts and/or drainage structures shall be new.

5. Start construction of the proposed driveway within twenty-four (24) months of the date of permit issuance and substantially complete construction of the proposed driveway within twelve months of commencement of construction.

6. Comply with all applicable federal, state and municipal regulations and ordinances.

7. Do not alter, without the express written consent of the MaineDOT, any culverts or drainage swales within the MaineDOT right of way.

8. File a copy of the approved driveway permit with the affected municipality or LURC, as appropriate within 5 business days of receiving the MaineDOT approval.

9. Construct and maintain the driveway side slopes to be no steeper than the adjacent roadway side slopes, but in no case to be steeper than 3 horizontal to 1 vertical, unless the side slope is behind existing roadway guardrail, in which case it shall be no steeper than 2 horizontal to 1 vertical.

10. Notify the MaineDOT of a proposed change of use served by the driveway when increase in traffic flow is expected to occur. This does not exempt the need for obtaining a Traffic Movement Permit (TMP) if trip generation meets or exceeds 100 passenger car equivalents (PCE) during the peak hour of the day.

11. Construct or implement and maintain erosion and sedimentation measures sufficient to protect MaineDOT facilities.

12. Driveways shall be designed such that all maneuvering and parking of any vehicles will take place outside the highway right-of-way and where vehicles will exit the premises without backing onto the highway traveled way or shoulders. All driveways will have a turnaround area to accomodate vehicles using the premises.

13. Closing any portion of a highway or roadway including lanes, shoulders, sidewalks, bike lanes, or ATV access routes is not permitted without MaineDOT approval.

FURTHER CONDITION OF THE PERMIT

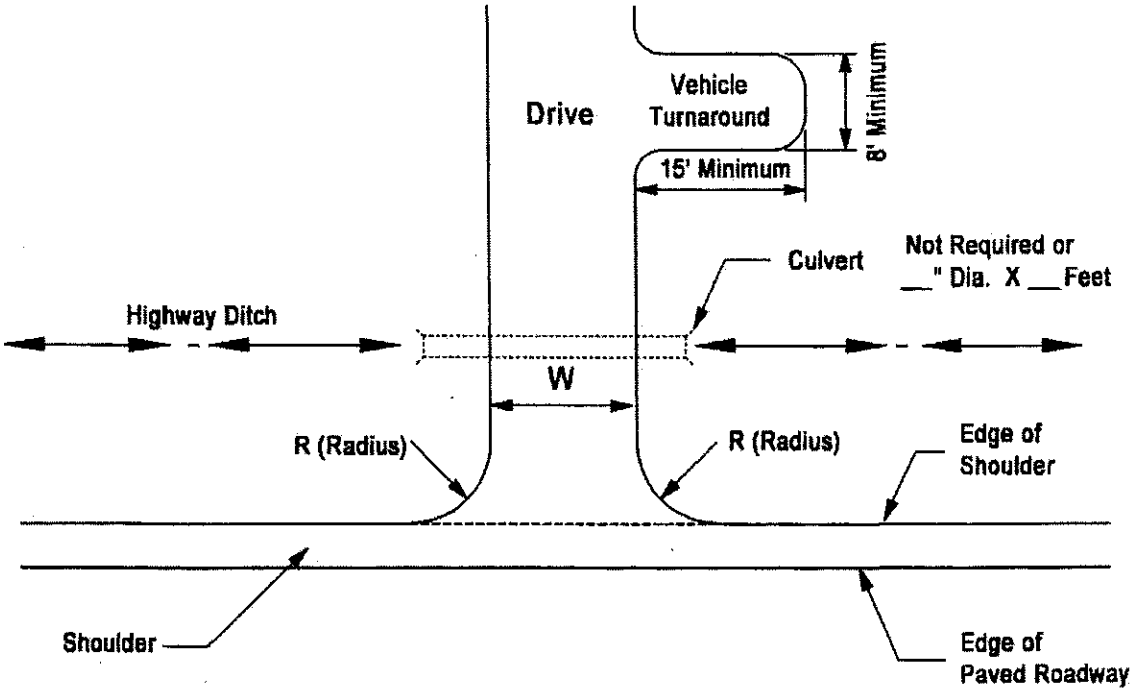
The owner shall assume, the defense of, and pay all damages, fines, and penalties for which he/she shall become liable, and shall indemnify and safe harmless said Department, its representatives, agents and employees from liability, actions against all suits, claims, damages for wrongful death, personal injuries or property damage suffered by any person or association which results from the willful or negligent action or inaction of the owner/applicant (agent) and in proceedings of every kind arising out of the construction and maintenance of said entrance(s), including snow removal.

Nothing herein shall, nor is intended to, waive any defense, immunity or limitation of liability which may be available to the MaineDOT, their officers, agents or employees under the Maine Tort Claims Act or any other privileges and/or immunities provided by law. It is a further condition that the owner will agree to keep the right of way inviolate for public highway purposes and no signs (other than traffic signs and signals), posters, billboards, roadside stands, culvert end walls or private installations shall be permitted within Right of Way limits.

State of Maine
Department of Transportation

Entrance / Driveway Details

PLAN

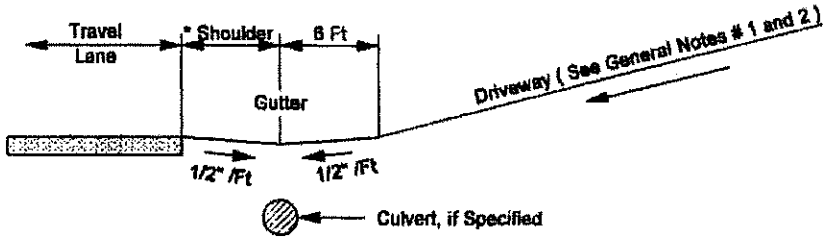


GENERAL NOTES -

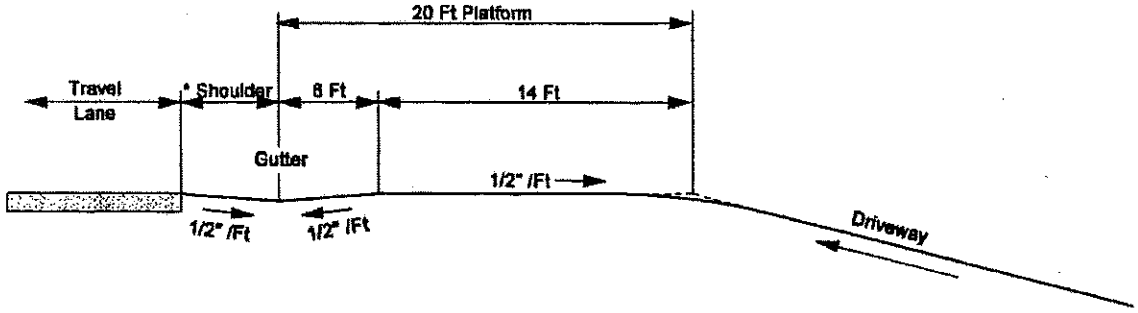
1. ALL RESIDENTAL OR COMMERCIAL DRIVES WITH 10% GRADE OR MORE SLOPING DOWN TOWARDS THE HIGHWAY SHALL BE PAVED TO THE RIGHT OF WAY LINE, AS A MINIMUM, INCUDING SHOULDER, IF GRAVEL AND HAVE DITCHES TO CONTROL RUNOFF.
2. DRIVES SLOPING TO THE HIGHWAY SHALL BE CROWNED (1/2" PER FT. MINIMUM).
3. TO THE MAXIMUM EXTENT PRACTICAL, THE ENTRANCE MUST BE CONSTRUCTED PERPENDICULAR TO THE HIGHWAY AT THE POINT OF ACCESS. EXCEPT WHERE CURBING EXISTS OR IS PROPOSED, THE MINIMUM RADIUS ON THE EDGES OF THE ENTRANCE MUST BE 10 FEET OR AS OTHERWISE REQUIRED AS SHOWN.
4. ENTRANCES/DRIVEWAYS WILL BE BUILT WITH AN ADEQUATE TURN-AROUND AREA ON SITE TO ALLOW ALL VEHICLES TO MANUVER AND PARK WITHOUT BACKING ONTO THE HIGHWAY. THIS TURN-AROUND SHALL BE AT LEAST 8 FEET WIDE BY 15 FEET LONG.
5. ENTRANCES/DRIVEWAYS AND OTHER ASSOCIATED SITE WORK WHICH DIRECTS WATER (RUNOFF) TOWARD THE HIGHWAY MUST BE CONSTRUCTED, CROWNED STABILIZED AND MAINTAINED WITH MATERIALS AND APPROPRIATE TEMPORARY/PERMANENT EROSION CONTROL MATERIALS IN ACCORDANCE WITH MDOT BEST MANAGEMENT PRACTICES.
6. THE PROFILE OF THE ENTRANCES MUST COMPLY WITH THE DETAILS SHOWN ON PAGE 2.

MDOT Entrance / Driveway Details, Continued

PROFILE
Details



NOTE :
Grade of Existing Shoulder Should Be Maintained To Create A Gutter With a Minimum Of Three Inches Below The Edge Of Traveled Way.
* Distance Of The Gutter From The Edge Of Traveled Way Should Be The Same As Existing Shoulder Or A Minimum Of 4 Feet.



Driveway Cross Section